BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 687 OF 2023

IN THE MATTER OF: -

In Re: Air Quality Index in Various Cities

Along with Original Application No. 663 OF 2023

News Item published in the Indian Express dated 07.10.2023 titled "GRAP Stage I kicks in as air quality dips to poor condition likely to prevail till Sunday"

Along with Original Application No. 1228 OF 2024

News Item titled "Lancet study links alarming mortality rates to poor air quality 12 strategies to combat country's air pollution crisis" appearing in the Indian Express dated 13.09.2024

Along with Original Application No. 90 OF 2025

Dr. Sanjay Kulshresthra vs. Union of India & Ors.

Along with Original Application No. 646/2024

News Item titled "How Partial Combustion Fuels Your Bad Air Woes" appearing in The Times of India dated 02.05.2024

INDEX OF JUDGMENTS AND ORDERS REFERRED IN THE COMPILATION DATED 02.07.2025 FILED BY THE AMICUS CURIAE

S. NO.	VOLUME	PAGE NO.
1.	VOLUME - I	1941-3272
2.	VOLUME – II	3273-4427
3.	VOLUME - III	4428-5418

PAPER BOOK
[FOR INDEX SEE INSIDE]

AMICUS CURIAE

SHRI SANJAY UPADHYAY
[SENIOR ADVOCATE]

DATE: 25.07.2025

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 687 OF 2023

IN THE MATTER OF: -

In Re: Air Quality Index in Various Cities

Along with Original Application No. 663 OF 2023

News Item published in the Indian Express dated 07.10.2023 titled "GRAP Stage I kicks in as air quality dips to poor condition likely to prevail till Sunday"

Along with Original Application No. 1228 OF 2024

News Item titled "Lancet study links alarming mortality rates to poor air quality 12 strategies to combat country's air pollution crisis" appearing in the Indian Express dated 13.09.2024

Along with Original Application No. 90 OF 2025

Dr. Sanjay Kulshresthra vs. Union of India & Ors.

Along with Original Application No. 646/2024

News Item titled "How Partial Combustion Fuels Your Bad Air Woes" appearing in The Times of India dated 02.05.2024

INDEX OF JUDGMENTS AND ORDERS REFERRED IN THE COMPILATION DATED 02.07.2025 FILED BY THE AMICUS CURIAE

VOLUME - I			
GENERAL INDUSTRIAL POLLUTION			
S. No.	Judgment/ Order Date	Case Details	Page No.
1.	10.11.2016	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	1945-1967
2.	18.12.2017	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	1968-1995
3.	27.07.2018	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	1996-1999
4.	26.10.2018	Ajay Khera v. Container Corporation of India Ltd. (CONCOR) OA No. 568/2016 (NGT PB)	2000-2011
5.	10.07.2019	News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels OA No. 1038/2018 (NGT PB)	2012-2032
6.	27.03.2023	Sanjay Kumar v. State of Uttar Pradesh OA No. 19/2021 (NGT PB)	2033-2070

A. BRICK KILNS			
7.	28.04.2015	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	2071-2080
8.	10.11.2016	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	2081-2103
9.	18.12.2017	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	2104- 2131
10.	17.03.2020	Utkarsh Panwar v. Central Pollution Control Board O.A. 1016/2019 (NGT PB)	2132-2146
11.	15.10.2020	Utkarsh Panwar v. Central Pollution Control Board OA No. 1016/2019 (NGT PB)	2147-2183
12.	17.02.2021	Utkarsh Panwar v. Central Pollution Control Board OA No. 1016/2019 (NGT PB)	2184-2229
13.	22.03.2021	Dalchand Yadav v. DSY Brick Field Company OA No. 72/2021 (NGT PB)	2230-2232
14.	12.08.2021	Mukesh Kumar Agarwal v. Central Pollution Control Board OA No. 93/2021(NGT PB)	2233-2290
15.	10.03.2022	Dinesh Chahal v. Union of India OA No. 1088/2018 (NGT PB)	2291-2312
16.	09.05.2022	Mukesh Kumar Aggarwal v. Central Pollution Control Board OA No. 93/2021 (NGT PB)	2313-2333
17.	11.07.2022	Hakam Singh v. State of Rajasthan OA No. 262/2020 (NGT PB)	2334-2341
18.	20.02.2024	Ram Dass v. State of Rajasthan OA No. 67/2022 (NGT CZ)	2342-2434
B. STONE CRUSHERS			
19.	12.07.2013	M/s. Gokulam Blue Metals v. Tamil Nadu Pollution Control Board Appeal No. 42/2013 (NGT SZ)	2435-2448
20.	31.10.2018	Sardar Patel Jan Chetna Education Society v. State of Haryana OA No. 843/2018 (NGT PB)	2449-2450
21.	03.12.2020	Mahendra Singh v. State of Haryana O.A No. 667/2018, 679/2018 & 599/2019 (NGT PB)	2451-2470
22.	26.10.2021	Vinod Kumar Jangra v. State of Haryana OA No. 607/2018 (NGT PB)	2471-2505
23.	18.01.2023	Mahendra Singh v. State of Haryana O.A No. 667/2018, 679/2018 & 599/2019 (NGT PB)	2506-2534
24.	30.01.2023	Deepak Kumar v. State of Uttarakhand Appeal No. 39/2022 (NGT PB)	2535-2553
25.	14.02.2025	Syed Arshad Nasar v. Union of India OA No. 23/2017 (NGT EZ)	2554-2602
C. THERMAL POWER PLANTS			
26.	30.09.2021	Dharmesh Shah v. Union of India OA No. 30/2021 (NGT SZ)	2603-2633
27.	08.11.2024	Subhender v. State of Haryana	2634-2672

		OA No. 612/2022 (NGT PB)	
D. HOT MIX PLANTS			
28.	09.09.2021	Sanjay Kumar v. State of Uttar Pradesh OA No. 19/2021 (NGT PB)	2673-2697
29.	27.03.2023	Sanjay Kumar v. State of Uttar Pradesh OA No. 19/2021 (NGT PB)	2698-2735
30.	16.07.2024	Ankur Sharma v. State of West Bengal OA No. 83/2023 (NGT EZ)	2736-2753
E. OTHER INDUSTRIES			
31.	06.03.2019	Bahubhai Ramubhai Saini v. Gujarat Pollution Control Board OA No. 20/2017 (NGT PB)	2754-2775
32.	07.11.2022	Social Action for Forest & Environment (SAFE) v. Union of India O.A. No. 400/2019 (NGT PB)	2776-2784
33.	09.05.2024	Chandrashekhar Khawade v. State of Jharkhand & Ors OA No. 125/2023 (NGT EZ)	2785-2804
DEVELOPMENT AND GREENING			
A. CONSTRUCTION, DEMOLITION, C&D WASTE, INFRASTRUCTURE, DUST AND GREENING			
34.	04.12.2014	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	2805-2826
35.	10.04.2015	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	2827-2838
36.	04.12.2015 10.04.2015 14.08.2015 11.12.2015 06.01.2016 01.03.2016 04.11.2016 08.11.2016 10.11.2016 17.11.2016 20.04.2017 09.11.2017 11.11.2017 14.11.2017 17.11.2017 18.12.2017	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	2839-2860 2861-2872 2873-2877 2878-2885 2886-2890 2891-2895 2896-2899 2900-2904 2905-2927 2928-2933 2934-2938 2939-2949 2950-2961 2962-2967 2968-2977 2978-3005
37.	16.10.2019	Om Dutt Sharma, President, Surya Enclave Welfare Society v. State of Punjab OA No. 339/2019 (NGT PB)	3006-3008
38.	23.12.2021	V.B.R. Menon v. Chief Secretary to Government of Tamil Nadu OA No. 138/2020 (NGT SZ	3009-3057
39	04.12.2014	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	3058-3079
40	04.12.2014	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	3080-3101
41.	29.05.2024	Citizens of Area Sabha v. Maharashtra Pollution Control Board In re: News item appearing in Pukar	3102-3112

		News dated 27.12.2023 titled "Pune faces rising concerns over Increased garbage burning and poor air quality" OA No. 34/2024 (NGT WZ)	
B. DEVELOPMENT OF CARBON SINKS/ AFFORESTATION			
42.	04.12.2014 10.04.2015 11.12.2015 10.11.2016 18.12.2017	Vardhaman Kaushik v. Union of India OA No. 21/2014 (NGT PB)	3113-3134 3135-3146 3147-3154 3155-3177 3178-3205
43.	03.10.2020	S.R. Virk v. Central Pollution Control Board OA No. 283/2020 (NGT PB)	3206-3210
44.	08.04.2021	In Re: News item published in "The Times of India" Authored by Shri Vishwa Mohan Titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15" OA No. 681/2018 (NGT PB)	3211-3272

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

M.A. No. 284 of 2015, M.A. No. 755 of 2016, M.A. No. 756 of 2016, M.A. No.766 of 2016, M.A. No. 847 of 2016, M.A. No. 848 of 2016, M.A. No. 924 of 2016, M.A. No. 892 of 2016, M.A. No. 974 of 2016, M.A. No. 979 of 2016, M.A. No. 983 of 2016, M.A. No. 984 of 2016, M.A. No. 967 of 2016, M.A. No. 986 of 2016 & M.A. No. 1050 of 2016
In
Original Application No. 21/2014
And
M.A. No. 156 of 2016
In
Original Application No. 21/2014
And
Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016, M.A. NO. 1142/2016, M.A. NO. 1134/2016, M.A. NO. 1135/2016, M.A. NO. 1136/2016, M.A. NO. 1137/2016, M.A. NO. 1138/2016, M.A. NO. 1155/2016 & M.A. NO. 1162/2016)
And
Original Application No. 95/2014
(M.A. No. 1156/2016)
And
Original Application No. 303/2015
And
Original Application No. 181 /2013
(M.A. No. 824/2015)
And
Original Application No. 609 /2016

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. Of NCT of Delhi & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. RANJAN CHATTERJEE, EXPERT MEMBER

Present: Applicant: Mr. Sanjay Upadhyay and Mr. Salik Shafiq, Advs. Ms. Diya Kapur, Adv. And Petitioner in Person and Mr. Nikhil Ratti Kapoor, Advs.
Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Mr. Rajiv Bansal, Mr. Kush Sharma, Mr. Anurag Tripathi and Mr. Anirudh, Advs. for DDA
Mr. Pritpal Singh Nijjar, Mr. Amit Kumar and Mr. Siju Thomas, Advs.
Mr. Himanshu Kaushik, Adv.
Mr. D. Rajeshwar Rao, Mr. Charajeet Singh, Advs., Delhi Police and Transport Deptt.
Mr. Rajul Shrivastava, with Ms Ayushi Sharma, Advs. MPPCB
Mr. Anurag Kumar, Adv. For Ms. Sakshi Popli, Adv. NDMC
Mr, Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. for State of A.P.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Atul Jha Adv. for State of Chattisgarh
Mr. Devraj Ashok, Adv. for State of Karnataka
Mr. Ardhendumauli Kumar Prasad, Mr. Panshul Chandrachud and Mr. Jaydip Pati, Advs.
Mr. Balendu Shekhar and Mr. Vivek Jaiswal, Advs. for EDMC
Mr. Ram Sajivan Maurya, SMD and Minining Officer and Mr. Ajit Kumar Pandey District Gonda
Mr. Pinky Anand, ASG with Mr. Balendu Shekhar, Mr. Rajesh Ranjan, Ms. Somya Rathore and Ms. Smidha Mehra, Advs. for MoRTH and Ministry of Heavy Industries, MoEF
Mr. Edward Balho, Ms. Elix Gangmel and Mr. K. Luikang Michael, Advs. for State of Nagaland
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advs.
Ms. Puja Kalra, Adv. for NDMC, SDMC
Ms. Bhavana Duhoon, Advs. for National Highways Authority of India
Mr. Sanjeev Ralli with Mr. Trinayan Sonowal, Advs. for Intervener (Chandni Chowk Vyapar Mandal)
Mr. Mahesh Dutt Tripathi, Adv. for Delhi cantonment Board
Mr. Anil Soni, AAG and Mr. Naginder Beniwal, Advs. for State of Punjab
Mr. Ashish Negi, Adv. for Ms. Richa Kapoor, Advs. for State of Punjab
Mr. Suryanarayan Singh, Addl. AAG
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for GNCTD,
Mr. Narender Pal Singh with Dr. M.P. George and Mr. Dinesh Jindal, LO, DPCC
Ms. Alpana Poddar, Adv. and Mr. Bhupinder Kr. LA., Central Pollution Control Board
Mr. Mukesh Verma, Adv.for MPCB
Mr. Vinay P. Singh, Adv. for Mercedese Benz.
Mr. Amit Agarwal and Ms. Asha Basu, Adv. for West Bengal Pollution Control Board
Ms. Puja Singh, Adv. for Hemantika Wahi, Adv. for State of Gujarat & GSPCB
Mr. Hemant Jain, Ms. Usha Jain and Mr. K. Sunil, and Mr. Aviral Mittal, Advs.
Mr. Sumit Kishore, Adv. for PNGRB
Mr. P. Venkat Reddy and Mr. Prashant Kr. Tyani, Advs. for State of Telengana
Mr. Ravindra Kr. Kashyap and Mr. Gudipti G. Kashyap, Advs. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K2 International
Ms. Priyanka Sinha Advs for State of Jharkhand
Mr. Anuj Sarma, Adv. For State of Goa
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advs.
Mr. Sandeep Narain and Ms. Natasha Sarawat and Ms. Khushboo Bari and Mr. Bipin Das, Advs. for Tata Motors Ltd.M. A. No. 172 of 2016
Mr. Gopal Singh and Ms. Varsha Poddar, Advs.
Mr. Anil Grover AAG and Mr. Rahul Khurana, Adv. Mr. Sandeep Yadav, Adv. for State of Haryana, HSPCB, MCF, MCG, HUDA
Mr. Raj Kumar, Adv.

Mr. Narender Pal Singh, Adv. and Mr. Dinesh Jindel, LO, DPCC
Mr. Priyanaka Swami, Adv. for Nagar Nigam Ghaziabad
Mr. Sarurabh Rajpal, and Mr. Adhiraj Singh, Advs. for Rajasthan Pollution Control Board with Secretary Environment, Rajasthan Mr. R.K. Grover
Mr. Taruna A. Prasad, adv. for MoEF
Mr. R. Rakesh Sharma and Mr. M. Marutha Samy, Advs. for State of Tamil Nadu and TNPCB
Mr. V.K. Shukla, Adv. from State of M.P.
Mr. Hemant Jain with Ms. Usha Jain and Mr. K. Sunil and Mr. Amiral Mittal, Advs.
Mrs. Rani Chhabra and Ms. Priyanka Samy, Advs. In MA 358/2016 and 545/2016
Mr. Yatendra Sharma and Mr. Satyarat Sharma, adv. in M. A. No. 979/2016
Ms. Rasna Kaukat, adv. for Manushi Sangathan
Mr. Anoop Verma, Mr. Anil Soni, AAG with Mr. Naginder Benipal, Adv. in M. A. Nos. 983 & 984
Ms. Arushi Khandelwal, Adv. in M. A. No. 976/16
Mr. Ankit Verma, Adv. For State of Uttar Pradesh
Mr. Sunil K. Jain AOR and Mr. Punya Garg, adv. in M. A. No. 949/16
Mr. Darpan Wadhwa, and Mr. Arjun Syal, Advs. in M.A. 1078/1097/1080/1091/1092, 1134, 1135, 1136, 1137, 1138/2016, Mr.Yatender Sharma and Satyajeet 979/16
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. for State of Sikkim
Mr. Soumyajit Pani, Adv. for State of Odisha
Mr. Vijay K. Sondhi and M,s. Cauveri Birbal Ms. Divya Sharma Ms. Avantika, Mr. Aranyak Pathak and Ms. Nayamat Sistani, Advs.
Mr. Sapam Biswajit Meiti and Mr. Naresh Kumar Gaur, Advs. for State of Manipur
Mr. Om Prakash, Adv. Ministry of Railways
Ms. Neha Makhija, Adv. for Mr. Gaurav Dubey, Adv. in MA Nos. 1082 & 1083
Mr. Pranav A. Kapur, Mr. Siju Thomas and Mr. Amit Kumar, Advs. in MA 783/2016
Mr. Vinod S. Bhardwaj, Adv.
Mr. A.R. Takkar, Mr. Ankur Sharma and Ms. Shriya Takkar, Advs.
Mr. Joydeep Mazumdar and Mr. Debojyoti Bhattacharya, Advs.
Mr. Nishe Rajen Shonker and Mr. Gajendra Khichi, Advs.
Mr. Manoj Mittal and Mr. Tahay Ayde, Advs.
Mr. Pragyan Sharma and Ms. Ananditi Kumar, Advs. For State of Mizoram
Mr. Sarthak Chaturvedi and Mr. Rohit Pandey, Advs. for Andaman & Nicobar Administration
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Anand S. Pathak, Mr. Amit Kumar Mishra and Ms. Hima Lawrence, Adv.

	Date and Remarks	Orders of the Tribunal
	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Air quality in Delhi and its surrounding areas touched a new height in the last 10 days or so. It adversely affected the public health and persons of all generations without exception. The Ambient Air Quality was so hazardous that it affected the Eyes, ENT, upper Respiratory track and Lungs, particularly to school going

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	children, infants, office going persons and obviously the poor strata of society suffered endlessly. It is appropriate at this stage to refer to the Ambient Air Quality parameters that were recorded by the Central Pollution Control Board, Delhi Pollution Control Committee and the State Boards of the neighbouring States particularly Haryana, Uttar Pradesh, Punjab and Rajasthan. The standard norms for PM_{10} is 100 µg/m^3 and for $PM_{2.5}$ 60 µg/m^3. These values were found to be utterly violated and it recorded the value of PM_{10} as 1690 µg/m^3 and $PM_{2.5}$ as 885 µg/m^3 at Anand Vihar, Delhi The average value recorded for Delhi for PM_{10} were 950 µg/m^3 and for $PM_{2.5}$ 590 µg/m^3 on 30th October, 2016. According to the NCT, Delhi on 31st October, 2016 recorded value of PM_{10} 1684 µg/m^3 and 1331 µg/m^3, respectively. In Faridabad, even on 07th November, 2016 the recorded values were 414 µg/m^3 and 985 µg/m^3 respectively. In Ghaziabad and NOIDA on different dates, the value recorded for PM_{10} was 720 µg/m^3, 820 µg/m^3 and 910 µg/m3 respectively. Even on Mandir Marg, New Delhi on 02nd November, 2016 the $PM_{2.5}$ value recorded was 985 µg/m^3. In district Alwar, Rajasthan the value recorded was 188 µg/m^3 for PM_{10}. However, the Learned Counsel appearing for the State of Rajasthan submits that they do not have instruments available for measuring $PM_{2.5}$. In Bhiwari on 28th October, 2016 the value of PM10 was recorded as 508 µg/m^3. This data provided by different States shows that Ambient Air Quality in all these areas is hazardous to human health. In the light of the above statistics, the Tribunal was compelled to direct personal appearance of the concerned

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Secretaries from each State and NCT, Delhi. All these officers appeared before the Tribunal and the matter was heard for three days continuously. One major disclosure that came to the forefront was that all concerned officers conceded that there was hardly any proper enforcement and implementation of the laws in force and the Judgments of the Hon'ble Supreme Court of India and this Tribunal. However, hardly any suggestions came forward from any quarters as to how the implementation should be made more effective and result oriented. There are seven major contributors of air pollution in all these States more particularly NCT, Delhi. These are:- 1. Construction activity and carriage of construction material. 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. All these contributory pollutants were deliberated upon at length before this Tribunal from time to time and detailed orders covering all the facets of air pollution were covered under different orders of the Tribunal. We may refer to the orders of the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015, 10th April,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2015, 28th April, 2015, 18th May, 2015 and 11th December, 2015. All these orders/judgments dealt with the various sources of pollution except agriculture residue burning. This aspect was dealt with in the comprehensive judgment of the Tribunal in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors in Execution Application No. 12 of 2016 In Original Application No. 118 of 2013 decided on 10th December, 2015. The judgment in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors provided for precautionary, preventive as well as incentive oriented steps that the State of Punjab was required to take to ensure that this menace would be stopped at the earliest. The judgement provided for punitive action, and incentive to farmers to stop burning of Crop/Agriculture residue. The State of Punjab was called upon to provide incentive including the requisite machines as stated in the Judgment for extraction of agriculture residue from the field and its transportation to power generation plants, Cement Plants, Companies manufacturing Board from agriculture residue and from Bio-mass plants including reducing ethanol. We must notice at this stage itself that all the States particularly the State of Punjab has not been able to implement the Judgment in its true spirit and substance. It is conceded before us that the residue of nearly 70% of the agricultural land under paddy cultivation was put on fire during the period immediately after the harvesting. Similarly in Haryana there was burning of agricultural residue but may be at a little lower scale. This committee shall work specifically under the orders of the Tribunal.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The State of Uttar Pradesh and State of Rajasthan were no exception, though their contribution to the pollution was not greater than other States. This aspect needs to be examined and rigorous steps need to be taken by the respective States to ensure that there is no agriculture/crop burning any more in the future. We would be passing directions in that behalf separately. We may also notice here that the World Health Organisation (for short 'WHO') has published its report in September, 2016. They have published a list of 20 most polluted cities in the world. Out of these 10 cities are located in India. These are Delhi, heading the table, Gwalior, Patna, Kanpur, Allahabad, Alwar, Firozabad, Raipur, Ludhiana and Khanna. A study has also been conducted by I.I.T., Kanpur, on behalf of NCT, Delhi, and it is stated that out of the sources of pollution which we have already mentioned, above 22.70% has been contributed by the transport sector. It is estimated that 66 % of this pollution is resulting from diesel trucks, buses and diesel vehicles. The study also shows, along with other studies, that level of $PM_{2.5}$ and PM_{10} is almost 17 times of the prescribed limits and has serious adverse impact on the public health. The Ministry of Environment, Forest and Climate Change has also brought out the air quality index and it has termed 431 $\mu g/m^3$ PM_{10} as 'severe pollution' as stated by the Learned ASG. This shows that the 'severe category' carved out by Ministry of Environment, Forest and Climate Change has been left much behind as the value of PM_{10} has touched the value of 1990 $\mu g/m^3$ in Delhi. This is the extent and kind of pollution that the citizens of Delhi are exposed to.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The basic and fundamental question that arises for consideration of this Tribunal is whether the State Government and more particularly NCT, Delhi can provide any justification acceptable scientifically in law as to why the people of Delhi should be exposed to such severe pollution and have endlessly suffered from one disease or the other. This equally applies to other States as well. The Hon'ble Supreme Court of India decades back had declared that Article 21 of Constitution of India has to be expanded so as to include right to decent and clean environment as a fundamental right. Fundamental right is the right provided by the Constitution to the citizens and it could claim its enforcement to which the State can hardly raise a defense particularly of its inability to enforce laws on an environmental front. We must say that since past three days not even a single point has been raised before the Tribunal which could even be remotely comprehended and be a reasonable ground on the part of these authorities for not protecting environment in relation to this zone of the country and particularly in NCT, Delhi. The main plank of the officers who were present in person along with their learned counsel of respective States had only expressed their inability to implement. This ought to be the last submission that could be made in response to an action for enforcement of fundamental rights. We find no merit in any of the submissions advanced to express inability to enforce the law. The judgment of the Hon'ble Supreme Court of India and the Tribunal particularly when they are specific, unambiguous and have provided complete mechanism for enforcement of judgments and orders. The State owes a

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	constitutional duty to protect public health and to provide at least clean air for its citizens to breathe. The principle of inter-generational equity does not support any development even if it is carried under the doctrine of sustainable development where the next generation would be exposed to the worst environmental and ecological environment. The children of today have a right to breathe clean air and play in the play ground rather than be ordered to be shut down in their respective homes. The present generation in any field including in the field of Governance owes a duty in law and on morality to provide cleaner and better earth to its next generation. Times have come where all concerned authorities irrespective of their stature must show concern to improve the environment and Ambient Air Quality in these States and more particularly in the NCT, Delhi. As we have already noticed, the Ambient Air Quality in these States and particularly in NCT, Delhi/NCR, Delhi have reached the limit which are unimaginable, unacceptable and are a clear indication of negligence on the part of the concerned authority to the disadvantage of the human health of the citizens. The prescribed limit of PM_{10} and $PM_{2.5}$ is 100 $\mu g/m^3$ and 60 $\mu g/m^3$ respectively have been grossly exceeded. The experts appearing before us submit that the daily average of these values is even lower that is 60 $\mu g/m^3$ and 40 $\mu g/m^3$ respectively. If the daily average is to be taken into consideration then the violation is nearly 20 times in excess. Viewed from any rational angle, this is disastrous. It may be appropriate that the concerned authoirities including the Central Pollution Control Board has located

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	at the air pollution in somewhat different way. It appears that to attain the prescribed standards as of now would be a dream difficult to achieve as of today. The normal pollution in contra distinction to severe or Environmental Emergency has to be examined and controlled by taking different and distinct measures, depending upon the situation e.g. where the Particulate Matters values are in excess of 431 $\mu g/m^3$ in case of PM_{10} and 251 $\mu g/m^3$ in the case of $PM_{2.5}$. Therefore, the pollution has to be treated as severe. To put it in other words, emergent measures have to be taken to control the air pollution in any of these States particularly in NCT, Delhi, once it crosses the above limits. These limits have been suggested by the expert appearing before the Tribunal with reference to the Air Quality Index of NCT, Delhi. Normal steps to be taken to prevent and control air pollution and providing cleaner air quality to the people of these States and Delhi. Even if they are below the above standards, but once they cross the prescribed standards, then it must be the duty of the States and NCT, Delhi to take emergent measures which would even include the providing of such emergent preventive measures that may require enforceability of highest degree in the interest of public health and environment. In the light of the above discussion, now we proceed to record the directions that has to be passed in the interest of environment, public health and tranquility of Ambient Air Quality and to implement the fundamental right that is granted to the citizens of India. All the judgments and orders passed by the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015,

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	10th April, 2015, 18th May, 2015, 28th April, 2015 and 11th December, 2015 in the of Vardhaman Kaushik Vs. Union of India & Ors. In Original Application No. 21/2014 and 10th December, 2015 in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention Control) Authority & Ors. shall be applicable, mutatis mutandis, to the orders passed in the case of respective States and NCT, Delhi. All the States of Punjab, Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi as already noticed, these directions and orders provided for all preventive, precautionary, punitive and enforceable directions which would protect and ensure that the sources of pollution as afore-indicated do not cause air pollution and bring the Ambient Air Quality to the values as has been seen in the last 10 days in the States and particularly NCT, Delhi. All the concerned Officers, Authorities, Legal Authorities, Pollution Control Boards and other Corporations etc. would be responsible for proper implementation and enforcement of the directions contained in these orders in relation to different sources of pollution. We constitute the following centralized monitoring Committee and State Monitoring Committee for ensuring proper implementation of the judgments and the laws relating to prevention and control of air pollution :- 1. The Centralised Monitoring Committee shall consist of:- a. Secretary, Ministry of Environment, Forest and Climate Change (Chairman). b. Chief Secretaries of the States of Punjab,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi. c. Member Secretary of the Central Pollution Control Board and the Member Secretaries of the State Pollution Control Boards. d. Professor Mukesh Khare from I.I.T., Delhi. e. Member Secretary of each State Pollution Boards would be at liberty to bring one expert with him, if they so desire. f. Additional Director General of Health Services to be nominated by the Union Secretary, Health. This committee would meet once in two months and by rotation in all the States including NCT, Delhi, where the first meeting would be held. a. This Committee would supervise implementation of all the directions contained in the judgment of the Tribunal in relation to various sources of pollution, particularly agriculture residue burning. b. It shall also provide guidelines or directions to the State Committee for prevention and control of air pollution in relation to all its aspects, not limiting to the directions contained hereinabove and in the orders referred above. c. The Committee shall take implementation Status Report from the State Committees, and if necessary, get it verified through

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	independent sources and then submit its final report after every three months to the Tribunal. The Committee will also record its satisfaction or otherwise with regard to implementation and enforcement of the directions issued. d. In the event the Committee finds that any officer belonging to any cadre, authority, Pollution Control Board or even by independent statutory body has failed to implement the directions, orders, judgments and the law in relation to control of air pollution, it shall recommend initiation of disciplinary proceedings against that official without hesitation or reservation. We make it clear that the officer against whom such a Committee recommends disciplinary, should be independent of the proceeding that this Tribunal may initiate against such defaulting officials/officer of any State/NCT, Delhi. If technical experts of the Committee make any suggestion and the same is found relevant, then the committee shall record and bring it to the notice of the Tribunal. **<u>State Level Committee.</u>** Following shall be the composition of State Level Committees: 1. Chief Secretary as the Chairperson,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2. Secretary Environment, 3. Secretary Urban Development and Housing, 4. Member Secretary of the Pollution Control Board of the States, 5. Chairman of the Development Authority of the District/State, 6. Secretary of the Department responsible for Developing Agency and Corporations of the State, 7. Director of Medical Services who is a professional shall be the Member of the Committee, Commissioner/Additional DG of Delhi Police of NCT of Delhi and similar officers from the other States. This Committee shall be responsible for enforcement of the directions/orders/judgments and the law in relation to prevention and control of air pollution more particularly judgment afore-referred. It will be the duty of this Committee to verify that the directions are actually implemented at the ground level and would not leave the things on mere paper. This Committee shall prepare action plan in consonance with the advance circular the same and ensure their implementation. The Committee shall also publicise requisite matter through media or otherwise, particularly in relation to burning of agriculture residue. It will inform the farmers of the benefits and the incentives that are available to them in consonance with the orders afore-referred for not burning of agriculture residue. It should be informed to them that it is not a mere liablity but could become useable asset and bring

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	financial benefit to them. We also direct that the concerned State/NCT, Delhi and the State Committees shall constitute a special task force to ensure that there is no burning of waste of any kind, roads are mechanically cleaned and there is no undue traffic congestion in the city particularly during the period of environmental emergency. The Chairman of the Centralised as well as State Committee shall be at liberty to invite or summon any Officer/Expert/ Official from any other department or Ministry or Research Organisation for carrying on the business and object of the Committee more effectively. If invited no officer/Expert of any department or Ministry or Research Organisation would avoid to appear before the Committee and provide its required input. The state level committee shall hold its meeting every month. The First meeting of the centralised Committee Leaded by Secretary Environment would be held on 17th November, 2016 while that of the State Level Committees would be held on 24th November, 2016. The State level committee shall submit the report to the centralised committee at least three days in advance to the date of the meeting of that committee. **Independent Clause** The most important aspect in relation to which we require to issue directions is the situation of the States

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	and particularly NCT of Delhi as faced in the last 10 days where the air pollution enters an alarming situation that is severe pollution. Then immediate steps are required to be taken as an 'environmental emergency'. We have already noticed on the advice of experts that where $P.M_{10}$ exceeds the value of 431µ/M^3 and $P.M_{2.5}$ 251 Microgram Per Cubic Meter, then it is a situation of 'severe pollution'. If we exceed those of values reached 500 or 300 respectively then it is a case of 'environmental emergency'. The State owes a Constitutional Statutory and public law obligation to protect the Air Pollution and provide to its citizen at least breathable air if not absolute clean air to breathe. If the situation reaches that level of these States and particularly NCT of Delhi shall take besides all other preventive and controlling measures of pollution as indicated in the orders/judgments and law particularly orders afore-referred inter-alia but more particularly it would take following measures without delay and default. 1. It shall ensure that the water is sprinkled through helicopters all over the city and other areas where the values are found to be in excess of the above standards. 2. It shall immediately provide happy seeders in the agricultural fields to ensure removal of agricultural residue and its utilization at the concerned quarters including Power Generation Plants, Bio-Mass Plants, and Cement plants, Industries manufacturing Building and allied products. 3. The State Government and NCT of Delhi shall issue

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	the order to all such companies, plants and public undertakings to discharge their Corporate Social responsibility and collect the agriculture residue from the field of farmers while providing them with money as consideration for lifting of the agricultural residue. 4. All the stone crusher working in the area shall be directed to shutdown forthwith. 5. All the Power Generation Plants, Brick kiln, Hot Mix Plant, if found to be emitting in excess of prescribed standards, should be ordered to be shut down temporarily and till they take remedial measures and bring the standards within particular limit. Thermal plants, Waste to Energy Plants also may be shut down only if they violate the parameters or otherwise. 6. All the construction, demolition activities and transportation of construction material shall be stopped temporarily till the ambient air quality standards are brought down below the severe pollution standards afore-stated. 7. The authority would ensure that the DG sets if in operation anywhere should be adhering to the prescribed norms. In the event of default they should be not only shut down but even confiscated. **General Directions.** 1. The committee afore-referred shall prepare a complete action plan for environmental emergency as well as prevention and control of air pollution, wherever parameters are found to

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	be in excess of prescribed standards. 2. This action plan should be strictly in consonance with the judgement and orders afore-referred. Of course the Committees are at liberty to provide any additional measures that are required to be taken. 3. The action plan so prepared shall be submitted to the Central Committee which will approve the same and fix the period for its implementation in regular course of business of the concerned authority, Corporations, etc. 4. Each of the states shall in its very first meeting notify one district which has major land use as agriculture. This district could be taken as a model district for implementation of the direction and orders in relation to complete stoppage of burning of agriculture/crop residue. The Committee will ensure that all the incentive in terms of the judgement are provided with utmost priority. 5. There should be all preventive, precautionary and effective steps taken well in advance to the next harvest season. 6. It shall then submit a specific report upon field inspection whether there has been complete extinguishment of the practice of crop burning in that area or not, and the reasons thereof. Then it shall implement the scheme in rest of the States in a gradual manner. 7. All the States Governments, Public Authorities and Development Agencies shall introduce

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	vacuum cleaning machines for removal of dust and waste from the roads in a gradual manner. Cleaning of dust manually should be stopped. Mechanical cleaning of the roads should be introduced. Manual cleaning of dust only helps in re-generation of pollution and does not effectively cause cleaning of roads or air either. 8. Police Authorities and the local bodies should ensure that wherever mechanised cleaning of dust is introduced, at the relevant time the vehicles ought not to be parked on either side of the roads. 9. It should be ensured that there should be no leaves, municipal solid waste, plastic, agriculture residue, oil and oil products are burnt in open or otherwise. Strict punitive action should be taken in accordance with the orders of the Tribunal, if any person is found to be violating these directions and orders passed by the Tribunal. 10. 50% of the staff of the Corporations, Committees, Development Agencies and the concerned department of the Government should be on field inspection to ensure proper and effective implementation of the directions. The staff on field duty shall submit a report to the Officer in-charge, who would then submit a report to the State Committee, bring to its notice whether the implementation and effectiveness of the orders and directions by the said authorities was satisfactory or not.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	11. The Traffic Police, PWD and all public authorities shall ensure that there is free flow of traffic and there are no undue jams on the traffic lights or otherwise. 12. The person who violates the directions of the Tribunal in regard to vehicular pollution should be strictly made liable in terms of the judgement of the Tribunal for payment of environmental compensation. This compensation could be recovered by the concerned department and representative of the authorities including the Police. 13. We have already noticed in our judgement that on the basis of the data available, nearly three lakhs litres of petrol is burnt in NCT of Delhi everyday by stationery vehicles in the traffic jam or the traffic light. The Committee shall consider this aspect with utmost priority and submit its suggestion to the Tribunal for orders. 14. We direct all the State Governments, NCT of Delhi also to issue guidelines with regard to manufacturing, sale and burning of crackers in the jurisdiction of the respective States/NCT of Delhi. Such direction must be taken into consideration that the crackers if permitted are of the nature which would generate least smoke and produce least noise. It should be within the prescribed parameters. 15. All authorities concerned should create social awareness particularly in schools and colleges

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	as to the dis-advantage and adverse impact on public health of indiscriminate burning of crackers on different festive seasons. 16. We also direct the State Governments and NCT of Delhi particularly the State of Punjab to consider withdrawal of incentive provided to the agriculturists who are found to be defaulting and burning agriculture/crop residue. We take note of the fact that the Government of Punjab has already issued Notification dated 22nd October, 2013, wherein burning of agriculture/crop residue has been prohibited. 17. The order of the Tribunal in relation to all diesel vehicles more than 10 years of age and petrol vehicles which are more than 15 years of age shall not ply on the roads of NCT of Delhi, shall be enforced rigorously. The other States are directed to take decision, in relation particularly to diesel vehicles which are of more than 10 years of age. 18. We direct NCT of Delhi, DDA, all Corporations and PWD to ensure that all its parks, flyovers, roads around the government building, there is greenery and study has been conducted and found that if greenery is spread over all the flyovers and roads of NCT of Delhi, it will help in increasing of oxygen by 20%. It will help a large number of people to breathe fresh air. Efforts should be made to cover open land with green grass.

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	19. All the concerned authorities shall ensure that the waste dumping sites are not put on fire, under any circumstances. 20. We grant liberty to all the government departments, PWD etc to bring before the Tribunal offenders or defaulting persons with complete details. If such list is filed, the Tribunal shall issue notice to them for payment of environmental compensation and for passing of such other punitive orders as may be necessary in the facts and circumstances of the case. 21. The Committee would also recommend the steps that various authorities are required to take for providing health care and immediate treatment to the public who suffer from effects of air pollution. 22. All the amounts collected under the orders of the Tribunal for environmental compensation should be utilized only for the purpose of prevention and control of air and water pollution in NCT of Delhi and the concerned States subject to the orders of the Tribunal. The copy of this order be furnished by dasti. List the matter for further directions on 9th January, 2017. List all the miscellaneous applications of 16th November, 2016 at 3 PM. ……,CP (Swatanter Kumar)

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	.....,JM (Dr. Jawad Rahim) .....,JM (Raghuvendra S. Rathore) .....,EM (Ranjan Chatterjee)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(Only Noticees – Sarojini Nagar)
And
Original Application No. 21/2014

(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, M.A. No. 1361/2017, M.A. No. 1366/2017, M.A. No. 1371/2017, M.A. No. 1375/2017, M.A. No. 1387/2017, M.A. No. 1384/2017, M.A. No. 1431/2017, M.A. No. 14 40/2017, M.A. No. 1452/2017, M.A. No. 1453/2017, M.A. No. 1454/2017, M.A. No. 1455/2017, M.A. No. 1456/2017, M.A. No. 1457/2017, M.A. No. 1458/2017, M.A. No. 1459/2017, M.A. No. 1461/2017, M.A. No. 1460/2017, M.A. No. 1465/2017 M.A. No. 1466/2017, M.A. No. 1467/2017 , M.A. No. 1476/2017 , M.A. No. 1486/2017 , M.A. No. 148 7 /2017 , M.A. No. 148 8 /2017 , M.A. No. 14 89 /2017 , M.A. No. 14 90 /2017 M.A. No. 1493/2017, M.A. No. 1494/2017, M.A. No. 1495/2017 & M.A. No. 1496/2017)
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016
(M.A. No. 1388/2017 & M.A. No. 1389/2017)

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D.SALVI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: **Applicant :** **Mr. Sanjay Upadhyay Ms. Upama Bhattacharjee, and Mr. Saumitra Jaiswal,Advs.**
Mr. Shivam Bajaj., Adv in M.A. No. 1384
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan and Mr. Rahul Sharma and Mr. Tarun, advs
Mr. Pinaki Mishra, Sr. Adv, Mr. Sudhir Mishra and Ms. Ritwick Nanda, ADv
Mr. S.M. Ali, Special Sec., Dr. Anil Kumar, Director, Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Mr. Arjun S. adv.
Mr. Gaurav Dubey, Adv.
Mr. Amit Dubey, Mr. Karan Cjawla Adv.
Mr. Gunyan S. Jain, adv
MR. Ankit Tyagi, Adv.
Mr. Udaibir Singh Kochar Adv.
Mr. Debarshi Bhuyan Adv
Mr. Shiv Mangal Sharma, AAG, Mr. Saurabh Rajpal and Ms. Sikha Sandhu Mr. Adhiraj Singh Rajwat, Advs. Mr. R. K. Gorver Sec. Environment Rajsastha

Mr. Bhanwar Pal Singh Jadon and Dr. Sandeep Singh, Adv.
Mr. Pradeep Misra and Mr. Daleep Kr. Dhyani, Advs.
Mr. Vijay Sondhi, Ms. Cauveri Birbal, Mr. Sarvajeet Kumar Thakur, Advs.
Mr. Soumyajit Pani, Adv wth Mr. Chittaranjan Singh, Advs.
Dr. Sandeep Singh and Mr. Vinay Pal, Advs.
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Anshuman Srivastava, Adv.
Mr. Krtika Sachdeva and Mr. Mukesh Kumar, Advs
Mr. Raman Yadav and Ms. Varnita Rastogi, Advs. for GDA
Mr. Nikhil Singhav, Ms. Nikita Pandey and Mr. Mohit Seth and Ms. Kanak Bose, Advs.
Ms. Monica Lakhanpal, Applicant in person and Mr. Vaibhav Gaggar and Ms. Sumedha Darg, Advs.
Mr. Aman Sarma and Mr. S.S. Rebello, Advs.
Mr. Amit Agarwal, Ms. Asha Basu Adv. for WBPCB
Ms. Deep Shikha Bharati, Adv. for MoEF
Mr. Shuvodeep Roy Adv. for State of Assam
Mr. V. K. Shukla and Ms. Vijay Laxmi, Advs. for State of M.P.
Mr. Pradeep Misra, Mr. Daleep Dhyani, Advs. for UPPCB
Mr. Sumit Kishore, Adv. for PNGRB
Ms. Priyanka Sinha, Ms. Ajita Tandon Adv.
Mr. Rajul Shrivastava, Adv. for MPPCB
Mr. Kshitiz Ahuja, Adv.
Mr. Gaurav Dubey, Adv.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, AAG for State of Himachal Pradesh
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Devraj Ashok, Adv.
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Piyush Sachdev, Mr. Abhinandini Yadav Advs. for State of West Bengal
Ms. Priyanka sinha and Ms. Ajita Tondon, Adv. for Jharkhand
Mr. D. Rajeshwar Rao, Adv.
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan Gaur, Advs
Mr. Rajneesh Bhardwa Mr. Rahul Sharma and Mr. Gaurav Dubey advs
Mr. Arjun Syal, Mr. Shreyan Das Adv.
Mr. Rajkumar, Adv with Mr. Bhupender Ms.Preeti, L.A for CPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar, Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv
Mr. Rakesh Sharma Mr. V. Mowli, Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma, Adv. for MPCB
Ms. Sugandha Batra, Adv.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. R.S. Suri, Sr. Adv. and Mr. Varun Khanna, Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeep Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Arjun Sawhney adv in M. a. No. 1435/2017
Ms. S. Ghosh, Adv., Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Advs.
Mr. Apurua Kumar adv.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, and Ms. Prity, Advs.for CECB
Mr. Tarveen Singh Nanda, Mr. Anchit Sharma and Mr. Satumita Ghosh, for Delhi Cantonment Board

Mr. Soumyajit Pani and Mr. Chittaranjan Singh, Adv for State of Odisha,
Mr. Om Prakash, Adv.
Mr. Gautam singh and Ms.. Shibani Ghosh advs.
Mr. Nishe Rajen Shonker and Ms. Anu K. Joy, Advs. for State of Kerala.
Mr. Parag Tripathi, Sr. Adv., Mr. R.S. Suri, Sr. Adv and MR. Abeer Kumar, Adv.
Mr. Jayesh Gaurav, Adv.
Ms. Hemantika Wahi and Ms. Puja Singh Advs.
Dr. Sandeep Singh Adv. and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. Dileep Poolakkot, Adv.
Mrs. Rani Chibber and Ms. Priyanka Sony, Advs.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Ms. Sumedha Dang, Adv.
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam and State of Uttar Pradesh
Mr. Shivam Bajaj Adv.
Ms. Aditi Singh Adv. for Narender Pal Singh Adv and Mr. Dinesh Jindel LO
Dr. Sanjay Kulshreshtha, Applicant in person
Mr. Rishabh Sharma, Advs.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya, Mr. Ravi Gopal Advs. for East Delhi Municipal Corporation
Mr. Shubham Bhalla, Adv.
Mr. Pragyan Pradip Sharma, Adv Ms. Nitesh , Advs.
Mr. S.M. Sharma and Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Mr. Kamlajeet Singh AAG
Mr. Nagiender Benipal, Adv
Ms. Yogmaya Agnihotri, Adv., Ms. Prity, Adv.
Dr. Abhishek Atrey, Adv.
Ms. Priyanka Ghorawat, Adv.
Ms. Shashi Juneja Adv.
Mr. A.R. Takkar, with Mr. Amarjeet & Ms. Shriya Takkar, Advs. for Ambica Steel Ltd.
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & Mr. G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao and Mr. Abhinav Srivastav, Adv for Delhi Police
Ms. Alpana Poddar and Mr. Bhupendra Kumar, LA and Mr. Kamal Bandhu, ALO
Ms. Puja Kalra, Adv.
Mr. Ankur Chhibber and Mr. Nitish Negi, Advs.
Mr. Kamaljeet Singh, AAG
Mr. Udaibir Singh Kochar Adv
Mr. Gautam Dhamija, Adv.
Mr. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhardwaj, Mr. Raj Kishan Gaur, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar, Mr. Sandeep Mishra Advs.
Mr. Ajay Kumar Misra, Sr. Adv., Mr. Vandil Misha and Ms. Anuradha D. Mishra, Advs.
Mr. Y.D. Sharma, Adv.
MR. Krishna Menon, Mr. Gautam Bhanja and Mr. Daniya Nayyar, Advs.
Mr. Pinaki Misra, Sr. Adv. and Mr. Manoj Kumar and Ms. Geeta Das, Adv.
Mr. Sanchar Anand and Mr. Apoorv Singhal, Advs.
Mr. Jitendra Kumar Tripathi and Mr. simar Pal, Advs.
Mr. Shibashish Mishra and Mr. sylona Mohapatra, Advs.
Ms. Kritika Sachdeva and Ms. Somya Rathore, Advs.
Mr. Naginder Benipal, Adv. for PPCB
Mr. Pinaki Misra and Mr. Mayank Das, Advs. for NBCC
Ms. Shyel T. and Mr. Rishabh Sharma,. Advs.
Mr. Manoj Kumar Das adv.
Ms. Sugandama Batra, Adv.
Mr. Arun K. Sinha, Advs.

Mr. Rajueesh Bhardwaj and Mr. Aj Kishan Gaur, Advs.
Mr. M. Paikaray and Mr. S. Panda and Mr. A. K. Panda, Advs.
Mr. Shubham Bhalla and Ms. Roopam Rai, Advs.
Mr. Arun Monga and Ms. Divya Sharma, Advs.
Mr. Roshmani KH, Mr. Sapam Biswajit , Adv.
Mr. Ajit Sharma and Mr. Adnan Siddiqui, Advs.
Mr. Leishangthe Roshmani Adv.
Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Mr. Satamita Ghosh, Advs.
Mr. Ardhendhumauli, Kr. Prasad, Mr. Shashank Saxena, Advs.
Mr. Anil Grover, AAG, Mr. Rahul Khurana, Adv. with S. Narayan, Member, Secretary, HSPCB
Mr. Mukul Singh, Adv. for MoEF.
Mr. Amit Agrawal, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item Nos. 27-32 **December 18, 2017**	When this matter came up for hearing in the earlier part of the day, we had passed the following order: We have heard the learned Counsel appearing for the various stakeholders, State Governments, local authorities and the Applicant. We have also perused the action plans/affidavits submitted on behalf of the States of Uttar Pradesh, Rajasthan, Haryana, Punjab, NCT of Delhi, MoEF&CC and the Applicant. Keeping in view the limitation of time, we would dictate the detailed order during the course of remaining day. Thus now, we proceed to record the detailed order. All the States concerned with NCR Delhi i.e. NCT of Delhi, State of Uttar Pradesh, State of Rajasthan, State of Haryana and State of Punjab have filed their Action Plans in furtherance to the orders of the Tribunal. It is stated that these Action Plans have been prepared with reference to the Graded Response Action Plan (for short, "GRAP"), directions issued by Courts as well as judgments of the Tribunal in *Vardhman Kaushik vs. Union of India* . There are two fundamental aspects that need to be considered by the Tribunal for issuance of the directions in preventing and controlling the air pollution in NCR of Delhi. Firstly, that the Tribunal has passed a detailed judgment dated 10th November, 2016 in the case of *Vardhman Kaushik vs.*

	Item Nos. 27-32 **December 18, 2017**	*Union of India*, in Original Application No. 21 of 2014 which deals with all the sources of air pollution and the preventive steps that should be taken by all the concerned stakeholders including different Departments of the States. Secondly, the Tribunal had also passed a separate judgment dated 10th December, 2015 in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.,* Original Application No. 118 of 2013 in relation to the crop residue burning in these States to prevent and control the deterioration of ambient air quality as a result of indiscriminate crop residue burning. The GRAP has provided detailed guidelines. The concerned State Governments have not been able to implement these directions in their true spirit. The non-implementation of these directions is largely attributable to inaction and non-cooperation between the various departments of the State and the Governments of the different States. If the ambient air quality of NCR of Delhi has to be improved then there has to be a common framework, including all precautionary, preventive and punitive measures which should be uniformly applied by all the States. The various State Governments have classified the pollution levels under different categories. Each category has been assigned the lowest as well as the highest value in that category. There is no unanimity in such categorization. For instance, the Delhi Government has under Category–I, which is supposed to be the minimum has provided the value of PM_{10} greater than 500 $\mu g/m^3$ and $PM_{2.5}$ greater than 300 $\mu g/m^3$ to start taking the steps that are stated under this category. According

	Item Nos. 27-32 **December 18, 2017**	to the State of Uttar Pradesh they will start taking steps once the value is greater than 61 µg/m^3 and less than 90 µg/m^3 of $PM_{2.5}$ and PM_{10} is more than 101 µg/m^3 and less than 250 µg/m^3. Similarly, the other States have also provided different prescribed value. We may notice that value of PM_{10} is 100 µg/m^3 while the $PM_{2.5}$ is 60 µg/m^3. We may notice that these are not the only two pollutants which are responsible for causing pollution and adversely affecting the human health. There are other constituents i.e. SO_2, NOX, Hydro-Carbon, CO, BTEX, VOC and other components which have direct impact on human health. Thus, an approach has to be adopted which is more precautionary and preventive rather than curative. Importantly, the authorities are bound to take recourse of precautionary principle and ensure decent and clean environment to the public at large, living in NCR Delhi and in fact all over the country. It is commonly conceded before the Tribunal by all the stakeholders that there is very bleak possibility of bringing the ambient air quality of NCT of Delhi/NCR Delhi within the prescribed parameters of PM_{10} at 100 mg and $PM_{2.5}$ at 60 including the values of other pollutants that we have referred above. The State of Punjab has not even filed an action plan as contemplated under the orders of the Tribunal. It has just filed an affidavit stating that they would be installing ambient air quality monitoring stations that would measure 12 parameters on real time basis. Despite the fact that all the State Governments were directed to file action plans taking into consideration the

	Item Nos. 27-32 **December 18, 2017**	guidelines provided in GRAP, the judgments of the Courts and the Tribunal, as afore-stated, all the State Governments have filed the action plans which are not only at substantial variance, but in fact, go contra to each other. It is not only difficult but impossible to reconcile all these plans. The measures or steps to be taken under the respective action plans are entirely at variance even with regard to the same categorization. States of Uttar Pradesh, Rajasthan and Haryana have framed four categories while NCT of Delhi has framed three categories relatable to different values of ambient air quality in their action plans. We may notice that vide Notification dated 4th July, 2016, the Central Government in furtherance to the order of the Hon'ble Supreme Court of India dated 7th January, 1998 passed in W.P. (C) No. 13029 of 1985 reconstituted the Environmental Pollution (Prevention and Control) Authority (for short, "EPCA"), realizing that the high level of air pollution in NCR Delhi/NCT of Delhi was a matter of serious concern and required urgent measure. In compliance to the order of the Hon'ble Supreme Court dated 2nd December, 2016, the Central Government *vide* its Notification dated 12th January, 2017 reconstituted EPCA as implementing authority for GRAP. During the pendency of this application on different occasions, ambient air quality reports were filed by the CPCB, DPCC and even the Applicants and all the reports clearly demonstrate that all the parameters were found to be excessive.

	Item Nos. 27-32 **December 18, 2017**	We would just refer to the reports placed on record by the CPCB prepared on the basis of the data collected by it from October 2015 to January 2016. This report has categorized the pollution levels into good, satisfactory, moderately polluted, poor, very poor, severe and severe+ where the value of $PM_{2.5}$ in ambient air quality would be more than 300 µg/m^3. Strangely, at no point of time, the ambient air quality was found to be good in NCR Delhi. In fact, it was found to be poor and severe and above 60% in the month of October, 2015, 73% in November 2015, 67% in December 2015 and 68% in January 2016. Similarly, values of ambient air quality in relation to PM_{10} was found to be excessive for 66% in the month of October 2015, 87% for November 2015, 75% for December 2015 and 72% for January 2016. This statistics clearly shows that all the time, the ambient air quality of NCT of Delhi is polluted and for most of the period of the month it is severe and above. This is the quality of air that we are providing to the people living in NCR Delhi and NCT of Delhi. It is a clear violation of their fundamental right. The Supreme Court of India has declared right to decent and clean environment as a fundamental right within the ambit and scope of Article 21 of the Constitution of India. The Legislature enacted the laws for protection of environment and natural resources. The Constitution of India in terms of Article 47 (A) and 15 (A) (g) read with Article 21 mandated the State to protect the environment and imposed fundamental duty upon the

	Item Nos. 27-32 **December 18, 2017**	citizens to protect the environment and the natural resources and the judiciary to ensure the protection of the fundamental rights granted to the citizens of India. That is the stature provided to protection of environment, ecology and the natural resources in our country. The right to life has been infringed with impunity by the persons, Authorities and States upon whom lay Constitutional and statutory obligations to provide decent and clean environment to the public at large, particularly in relation to inhaling of clean air and drinking clean water. The Central Pollution Control Board has provided monitoring stations in various parts of NCT of Delhi, the analysis reports clearly show persistent hazardous ambient air quality not only in NCT of Delhi but even in NCR of Delhi and other parts of the country. It is undisputable and, in fact, has been exhibited in various platforms including display sites of Central Pollution Control Board and Delhi Pollution Control Committee where the value of PM_{10} and $PM_{2.5}$ is in flagrant violation to the prescribed value. It is surprising that the Central Pollution Control Board, Delhi Pollution Control Committee and other State Boards have not even bothered to test all the 8 parameters in the samples collected by them. Some of States claim though they have tested their parameters however, none of the display board displays results. The components like SO_2, NO_2, CO and Ozone which have a serious impact on the quality of the ambient air more often not remained ignored. Undoubtedly, they have serious impacts on human health as well.

	Item Nos. 27-32 **December 18, 2017**	The doctrine of preventive and precautionary principle with greater emphasis on inter generational equity has been violated, ignored at every relevant stage. The fundamental rights particularly which relates to right to life cannot be subjected to economic limitation. More often than not, the Supreme Court has held that the normally economic limitations cannot be raised as a defence to fundamental right, particularly right to life. We are informed that certain directions have been issued by the administration which certainly are not adequate and they do not comply with the judgment of the Tribunal, despite the fact that the matter was kept pending and various applications have been filed for different purposes. There is no Authority which is able to show the effective compliance of the directions contained in the judgment, this coupled with the above situation and apparent non-cooperation and no coordination amongst the various wings of the States and its instrumentalities has led to environmental degradation. In the judgements of *Vardhman Kaushik vs. Union of India & Ors.,* O.A. No. 21 of 2014 decided on 10th November, 2016, *Vikrant Kumar Tongad vs. Union of India & Ors.,* O.A. No. 118 of 2013 decided on 10th December, 2015, this Tribunal had passed directions in greater detail stating the steps/measures that should be taken by the State Governments, local authorities and the concerned stakeholders for improving the ambient air quality in and around NCT of Delhi. It is not necessary for us to refer to those orders at this stage. Suffices it to note that the orders were passed in great detail with specific

	Item Nos. 27-32 **December 18, 2017**	directions but unfortunately they remained un-complied. Amongst other, seven major contributors of air pollution are as under: 1. Construction activity and carriage of construction material 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and thermal power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. In this judgment, the Tribunal had noticed all the sources of pollution of ambient air quality and the manner in which preventive and precautionary steps are to be taken for tackling the pollution from each source. The judgment also directed taking of punitive steps/actions wherever the situation demanded and/or there was violation of the directions passed by the Tribunal. We are of the considered view that there is no dearth of existing laws, guidelines and directions of the Court in relation to prevention and control of pollution of the ambient air quality in NCT of Delhi but it is the implementation of laws and directions that is entirely wanting. Now, we will deal with the fundamental issues arising for consideration of the Tribunal in the present case. This relates to categorization. 'Categorization' has

	Item Nos. 27-32 **December 18, 2017**	all through been a matter of debate before different *forums,* including the authorities which had the statutory responsibility for prevention and control of air pollution. The CPCB has already created six categories which refer to different levels of pollution and these are good, satisfactory, moderately polluted, poor, very poor, severe and above severe. The GRAP has formulated five categories, i.e., severe+ or emergency, severe, very poor, moderate to poor and moderate. The different States have differently categorized its level of pollution and there is no uniformity. It needs to be noticed here that as per the GRAP, if $PM_{2.5}$ is between 61 µg/m^3 to 90 µg/m^3 and PM_{10} is 101 µg/m^3-250 µg/m^3, it would be treated as of moderate pollution. Government of NCT of Delhi though refers to the GRAP but while providing parameters of category-I when the action would start for prevention and control of pollution, the values reflected for that category of the Ambient Air Quality is PM_{10} less than 500 µg/m^3 and $PM_{2.5}$ less than 300 µg/m^3, which means that hardly any action would be taken with reference to the Precautionary Principle when the values exceed the prescribed values, i.e., above 100 µg/m^3 in the case of PM_{10} and 60 µg/m^3 in the case of $PM_{2.5}$. In our considered view, we feel that within the prescribed framework of GRAP and the CPCB, this concept of categorization needs clarity and certainty. The Tribunal consider it appropriate and, therefore, direct that there shall be four categories in relation to pollution of AAQ and also states the steps that must be taken to prevent and control of such pollution. The pollution levels in ambient air quality can fairly be

	Item Nos. 27-32 **December 18, 2017**	classified as follows: 1) Category I (Average): When PM_{10} is more than 100 $\mu g/m^3$ but below 300 $\mu g/m^3$ and $PM_{2.5}$ is more than 60 $\mu g/m^3$ but below 180 $\mu g/m^3$. 2) Category II (Severe): When PM_{10} is more than 300 $\mu g/m^3$ but below 700 $\mu g/m^3$ and $PM_{2.5}$ is more than 180 $\mu g/m^3$ but below 400 $\mu g/m^3$. 3) Category III (Critical): When PM_{10} is more than 700 $\mu g/m^3$ but below 1000 $\mu g/m^3$ and $PM_{2.5}$ is more than 400 $\mu g/m^3$ but less than 600 $\mu g/m^3$. 4) Category IV (Environmental Emergency): When PM_{10} is above 1000 $\mu g/m^3$ and $PM_{2.5}$ is above 600 $\mu g/m^3$. The levels of pollutants in the AAQ have direct nexus to public health. Higher pollutants in the AAQ have higher health impacts and risks to life. The need for complying with the precautionary principle and take timely action to prevent higher pollution has been emphasized in the above and even the previous orders of the Tribunal. It is the need of hour that all authorities and stakeholders must make concerted efforts to tackle major environmental problems of the present times. This can be tackled only by taking varied but appropriate steps at the appropriate stage. It is expected of all concerned, including the State and the citizens, to equally participate in tackling these environmental menaces. Collective responsibility can only provide the solution in resolving this. At the very outset, we reiterate the directions issued by this Tribunal in its judgments of *Vikrant Kumar*

	Item Nos. 27-32 **December 18, 2017**	*Tongad* and *Vardhaman Kaushik* (supra) and order dated 4th December, 2014 in *Vardhman Kaushik* and direct that all those directions shall apply *mutatis mutandi* and be read as part of this judgement. Therefore, we state the steps/measures that should be taken by State Governments, local authorities, stakeholders including the people at large, relatable to a particular category afore-stated. 1) Action/Steps to be taken when the pollution level fall in Category I: a) All concerned should make every effort to increase the green/forest cover. There shall be complete prohibition of burning of garbage, biomass and/or any kind of waste anywhere. Violation thereof would invite the penalty of ₹5000/- for each default (order dated 28th April, 2015). The respective Corporations, Local Authorities, Pollution Control Boards and police authorities would be responsible for ensuring this compliance. b) The Pollution Control Boards, Local Authorities and the State Governments should ensure stringent enforcement of all pollution laws, particularly, in relation to the industries or activities which cause emissions into the air for carrying on their activity. There should be regular inspection of Thermal Power Plants through the respective Pollution Control Boards and the Local Authorities to ensure that the Thermal Power

	Item Nos. 27-32 **December 18, 2017**	Plants are not emitting any gases or substances in excess of prescribed limit. c) The States and its instrumentalities shall encourage composting of biomass. d) Mechanized sweeping of roads. e) Regular checking of vehicles to ensure that they are maintaining their emissions within the prescribed values. f) Organizing public awareness programmes for prevention and control of air pollution. g) The vehicles which are more than 10 years old in the case of diesel and 15 years old in the case of petrol, should not be permitted to ply on the roads and they should be seized. Such vehicles should be deregistered by the concerned RTO. Steps should be taken to ensure free flow of traffic. Overloading of heavy vehicles should not be permitted and the vehicles which are found to be overloaded should be challaned and they should also pay environmental compensation in terms of the order dated 7th October, 2015 of the Tribunal. Strict vigilance should be maintained for visible emissions likely to cause air pollution and appropriate action be taken, without delay and default. The Government shall also provide the due incentive for scrapping of old cars as well as provide concession in registration of new cars to such car owners (order dated 28th July, 2016). h) All State Governments and their instrumentalities including public authorities shall ensure that

	Item Nos. 27-32 **December 18, 2017**	there is no crop residue burning in the agricultural fields or anywhere else. Due incentives and even machines like happy seeder, etc. should be provided to the farmers wherever necessary and recourse to punitive provisions should be taken. The State Government, its instrumentalities and the monitoring Committees shall take effective steps through publicity (print or electronic media) to inform the farmers at large the adverse impacts of burning of crop residue upon the environment, public health and the soil on the one hand. While on the other, utilising crop residue for providing them some income for productive and beneficial purposes like fuel in plants, bio-mass or thermal, manufacturing of boards, compact wood and such other useful items. i) When the car/vehicle stops on red traffic lights, the owner/driver of the vehicle should be directed to put off ignition of the car. For this purpose, the traffic police and other regulating agencies should propagate and advice the driver of the vehicle to take such precautionary steps. In the event of default, the traffic police should enforce the same in accordance with law as it would prevent avoidable vehicular emissions. j) All State Governments should identify and provide alternative routes for heavy vehicles outside the cities so that there is no traffic congestion in the city, particularly, NCT of Delhi. The heavy transport

	Item Nos. 27-32 **December 18, 2017**	vehicles whose final destination is not Delhi but enter Delhi en-route, shall not be permitted to enter Delhi. Such traffic should be diverted from Sonipat and Panipat. k) All efforts should be made to operationalise Western Expressway and Eastern Expressway. NHAI, Central Government and the concerned State Governments shall fully cooperate and provide assistance for the same. l) The State Government and all its instrumentalities shall endure their best to introduce battery and electric mass transportation system, incentives/ concession shall be provided for buying the hybrid vehicles. m) The State Government and the concerned departments should take effective steps to enhance public transport facilities and provide due infrastructure in that behalf. It will be ensured that public transport become more user-friendly. Due prevention should be taken to ensure that empty buses do not ply on the roads, proper time table relatable to the passenger peak load should be prepared by DTC and all other stakeholders. The State Governments, transport authorities and all other concerned agencies particularly NCT of Delhi, shall provide destination buses which will have not more than three bus stops within the colony of its origin and then would go non-stop to its point of termination. The destination buses could be ordinary buses

	Item Nos. 27-32 **December 18, 2017**	but preferably should be air conditioner buses. This direction must be complied with now, without delay and default (order dated 20th April, 2017). n) In this behalf the other directions stated in the order of the Tribunal dated 4th December, 2014 should also be complied with in terms of the order of the Hon'ble Supreme Court and this Tribunal. No vehicles which are BS-I, BS-II compliance would be permitted to ply on the roads, this will include heavy as well as light vehicles. o) The Government and all its concerned departments shall put a cap on the number of vehicles of all kinds that can ply in NCT of Delhi. Government should formulate policy of putting higher registration fee and road tax on purchase of second vehicle by the same person, body, company, society or trust. p) No parking should be permitted on the metalled roads. Parking at Multi-level or earmarked parking should be encouraged and incentives be provided in that behalf. q) All builders involved in construction of buildings, howsoever, small or big would ensure compliance to the laws in force and the directions of the Tribunal. No dust should be emitted during demolition. No construction material should be kept on the roads. The construction material inside the plot should also be kept in covered conditions and labour should be provided with all

	Item Nos. 27-32 **December 18, 2017**	anti-pollution gears during the course of construction. The State Governments, Pollution Control Boards and local authorities shall maintain due vigil in this regard (order dated 4th December, 2014). r) Regulation of hours and vehicles for loading and unloading of vehicles particularly in the congested area (order dated 16th March, 2015). s) All steps shall be taken by the State Governments, Horticulture Department, Corporation, Directorate of Education and all the private schools that to ensure increase of green belt in their respective schools within a period of one month from the date of pronouncement of this order. Large number of trees should be planted. 2) Category II (Severe)-Action and measures to be taken and penalties to be imposed: 1. All the steps directed under category I shall continue to be strictly enforced in relation to this category as well. 2. All the brick kilns, thermal plants and heavy industries which are causing emissions would be instantaneously stopped and inspected by Pollution Control Board and all other concerned authorities and if their emissions are found to be beyond the prescribed standards, such plants shall be directed to be shut down. 3. Intensifying public transport service and taking rigorous steps for avoiding traffic congestion particularly at peak hours.

	Item Nos. 27-32 **December 18, 2017**	4. Increasing the frequency of public transport, mechanized cleaning of roads and seizure of any diesel generator found emitting in excess of prescribed standards and no permission for its usage for any purpose whatsoever. 5. There shall be complete prohibition on burning of any material, waste or bio-mass. The Government shall issue warning to the public at large requiring them to take appropriate precautionary steps and not to expose themselves to the high pollutants during particular hours of the day. 6. The Government shall immediately take steps for segregating the office time for various offices including the Government Departments. The Government shall provide destination buses and make every effort to discourage the use of private vehicles, including two-wheelers, cars and heavy vehicles. 7. All necessary steps should be taken to ensure that the construction activity is carried on strictly as per prescribed guidelines and the directions of the Tribunal. The transportation of the construction material should also be strictly in accordance with the directions issued earlier such as ensuring that carrying of construction material of any kind, particularly sand, cement, etc., is done after properly covering the transportation vehicle. In default, the concerned Government, Board and the local authority shall invoke the penal directions in regard to payment of environmental compensation

	Item Nos. 27-32 **December 18, 2017**	at the rate of ₹5,000/- per event for transporting material in violation of directions and ₹50,000/- in relation to storage of construction material of any kind (order dated 11th December, 2015). 8. All State Governments should identify and provide alternative route where there is no traffic congestion in the city, particularly, NCT of Delhi so that the heavy transport vehicles whose final destination is not Delhi but en-route they enter Delhi, shall not be permitted to enter Delhi and such traffic would be diverted from Sonipat and Panipat. In the event they enter Delhi then they shall be liable to pay environmental compensation at the rate of ₹700/- for 2 axles, ₹500/- for 4 axle and ₹1000/- for 3 axles. 3) Category III Critical (Measures required to be taken)- Category III would relate to pollution of ambient air quality, i.e., severe and high and without exception have serious adverse impacts on public health and environment. Thus, the measures that are required to be taken under this category have to be preventive and punitive both. 1. All the directions contained under category I and II shall be enforced without default and delay. All those directions shall *mutatis mutandi* apply under this category as well. 2. The construction shall be stopped immediately and no construction would be permitted during the duration when the PM_{10} is falling under this category, particularly,

	Item Nos. 27-32 **December 18, 2017**	towards the higher value i.e. 1000 μg/m^3 or $PM_{2.5}$ is towards higher value of 600 μg/m^3. 3. There shall be complete prohibition on burning of crop residue and all the departments concerned, particularly, the Pollution Control Board and the Government Department would take recourse to the punitive provisions for payment of environmental compensation in terms of the judgement of this Tribunal in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.* dated 10th December, 2015. Officers who are found to be avoiding performance of their statutory duties in consonance with these directions would be liable to departmental action in accordance with law. 4. There shall be complete prohibition on transportation of construction material during the relevant period. 5. To avoid traffic congestion and consequential air pollution, the scheme of odd and even shall be implemented by the respective State Governments/Departments of the State. 4) Category IV (Environmental Emergency): The directions and steps directed hereinafter shall be carried out by the State Governments, concerned Departments, Local Authorities and all the stakeholders, when PM_{10} exceeds 1000μg/m^3 and $PM_{2.5}$ exceeds 600μg/m^3, respectively. 1. All the directions under category I, II and III, respectively shall apply *mutatis mutandis* even to this category. All State Governments would

	Item Nos. 27-32 **December 18, 2017**	comply with all such directions. Besides, we also issue the following directions. i) There would be a complete prohibition on all kind of construction activity and transportation of construction material. The default or violation of directions would incur penalty/environmental compensation to the extent of Rs. 1 Lakh for every default. ii) All the brick kilns functioning in NCR Delhi shall be closed. iii) There will be complete and absolute prohibition on burning of all agricultural residues. Penal actions shall be taken and environmental compensation imposed in accordance with the orders on the defaulters/offenders. iv) All the Thermal Power Plants in NCT of Delhi shall not operate. v) There shall be complete prohibition and ban on lifting, transportation and generation of fly ash. The concerned State Government and Authorities shall sprinkle water from the high rising buildings or through helicopters to ensure that excessive parameters are immediately brought down to reasonable limits. vi) There shall be complete prohibition on use of DG sets. The trucks and heavy vehicles carrying material including trailers shall be

	Item Nos. 27-32 **December 18, 2017**	prohibited from entering NCT of Delhi. Only the heavy vehicles carrying essential goods like medicine, food etc. would be permitted, while all other heavy vehicles will not be permitted to enter NCT of Delhi for the duration of Environmental Emergency. vii) Whenever there is environmental emergency, i.e., PM_{10} exceeds 1000 $\mu g/m^3$ and $PM_{2.5}$ exceeds 600 $\mu g/m^3$ then the NCT of Delhi shall consider and pass appropriate orders in regard to closure of the schools for that period. The period for which the schools remain closed as a result of passing of such order would be treated non-working days and would not contribute towards the percentage of attendance. The schools would be provided with an option to run on weekend following the closure period, if they so desire. viii) The Central Government and NCT of Delhi and all other State Governments shall issue guidelines in relation to use of bursting of crackers including kind of crackers that can be burst and the area where such activity would be prohibited and/or permitted, duration thereof and under what event and circumstances. There shall be complete prohibition on bursting of crackers. Such guidelines shall

		be issued within a period of two months from the date of passing of this order. **GENERAL DIRECTIONS:** 1. All the above directions and the directions contained in the orders of the Tribunal dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 all in the case of *Vardhaman Kaushik* (supra) and 10th December, 2015 in the case of *Vikrant Kumar Tongad* (supra) shall be implemented and enforced by the concerned State Governments, its Departments, instrumentalities, local authorities and all the stakeholders, without delay and default. 2. Implementation of these directions is mandatory and no authority shall have any discretion to vary their implementation in any form. They shall come into force and be implemented automatically with reference to the extent of pollution in the ambient air quality of NCT of Delhi 3. Odd and Even Scheme shall be applied in terms of these directions without any exception. No Authority would be entitled to use any discretion in enforcement of this direction. 4. The State Governments and all concerned agencies particularly the Pollution Control Boards shall prosecute by filing appropriate complaints in terms of Section 15 of the Environment (Protection) Act, 1986, against the defaulters and offenders of these directions and the environmental laws in force,

NATIONAL GREEN TRIBUNAL, NEW DELHI

		without delay and default. 5. The environmental compensation imposed in terms of these directions against any defaulter or violator shall be recovered in accordance with law by the concerned State, Agencies, Boards, Local Authorities, etc., without delay and default. 6. The environmental compensation collected under the directions of the Tribunal in terms of orders/judgement dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 in the case of *Vardhman Kaushik vs. Union of India & Ors.*, O.A. No. 21 of 2014 and dated 10th December, 2015 in the case of *Vikrant Kumar Tongad vs. Union of India & Ors.*, O.A. No. 118 of 2013 and this order shall be kept in separate account and will be utilized for implementing projects in terms of these directions and for prevention and control of air pollution in NCT of Delhi. 7. Every laxity, dereliction of duty and non-compliance of these directions by the officers/officials shall lead to initiation of proceedings as well as action for violating the orders of the Tribunal before the Tribunal and in accordance with law. 8. Copy of this order and all the above referred orders should be placed before any agency and/or Committee constituted by the Government for prevention and control of pollution of ambient air quality in NCR/NCT of Delhi. It will be appropriate

		that the authorities/agency/committees would have advantage of having the orders of the Tribunal before them as a base document so as to facilitate execution and enforcement thereof. 9. The Authority or any other Committee would be free to take such steps or measures as they may deem necessary for cleaning ambient air quality of NCR/NCT of Delhi, in addition to the directions contained in this order and other orders afore-stated. However, they should not act and pass directions which are in derogation to the orders of the Courts and this Tribunal. 10. The Secretary, Environment of every State and the Member Secretary of that State Pollution Control Board shall file in every three months a comprehensive report before the Tribunal, without default. In this report ambient air quality standards in relation to all pollutants upon analysis shall be reported and also the measures/steps taken by that State in relation to prevention and control of air pollution, in accordance with directions contained in this judgement. In the event the report is not filed, the concerned officers shall be liable to be proceeded against in accordance with law for violating the orders of the Tribunal. We further, direct that copy of this order be circulated to the Chief Secretaries, Central Pollution Control Board, State Pollution Control Boards, MoEF&CC and all other Committees constituted, without any delay.

		The application is thus disposed of without any order as to cost. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. Nagin Nanda)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 44 of 2018
(Earlier O.A. No. 21 of 2014)

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India

CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. SATYAWAN SINGH GARBYAL, EXPERT MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: Applicant: Mr. Sanjay Upadhyay, Mr. Sumitra Jaiswal, and Ms. Upama Bhattacharjee, Advs.
Mr. Amber Sachdeva, in person (M.A. No. 744/2018)
Mr. Milan Deep Singh, Mr. Arjun Sawhney, Advs. For applicant in M.A. NO. 902 and 912/2018

Respondents: Mrs. G. Indira, Adv. for UT of Andaman and Nicobar Administration
Mr. Edward Balho and Ms. Hoineithiam, Advs. for State of Nagaland
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar and Mr. Sandeep Mishra, Advs. for GNCTD
Ms. Nidhi Mohan Parashar and Mr. Umang Kumar Singh, Advs.
Mr. M. Paikaray, Adv.
Mr. Jayesh Gaurav, Adv.
Mr. Gaurav Dubey, Adv.
Mr. R. Rakesh Sharma, Adv. and Mr. V. Mowli, Adv. for State of Tamil Nadu and TNPCB
Mr. Pradeep Misra, Mr. Daleep Dhayani, Advs. For UPPCB
Ms. Priyanka Sinha and Ms. Shrishti Sinha, Advs.
MS. Hemantika Wahi and Ms. Puja Singh, Advs.
Mr. Purshottam Kr.Jha, Adv.
Mr. Tayenjam Momo Singh, Adv.
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. For DTC
Mr. Anchit Sharma, Ms. Satmita Ghosh an dMr. Dipankar WAdhwa, ADvs. For DCB
Mr. Sandeep Singh and Mr. Vinay Pal, Advs. For State of UP
Mr. Puja Kalra and Mr. Virendra Singh, Advs. for NDMC and SDMC
Mr. Sumit Kishore, Adv. For PNGRB
Ms. Sakshi Popli, Adv. for NDMC
Mr. Rajkumar, Adv. CPCB
Mr. Girdhari Singh and Mr. Robin Bhati, Advs.
Mr. Rakesh Dewan, Adv.
Mr. Naginder Benipal, Adv.
Mr. K. Entaloi Sema and Ms. Nandini Singla, Advs.
Ms. Yogmaya Agnihotri and Ms. Prity, Advs. for CECB
Mr. V.K. Shukla, Ms. Vijay Laxmi, Advs. for State of M.P.
Mr. Purshuttam Kr. Jha, Adv.
Mr. Atul Jha, Adv. for state of Chhattisgarh
Mr. Shuvodeep Roy and Mr. Rituraj Biswas, Advs. For State of Tripura
Mr. Shuvodeep Roy, Mr. Vinayak Gupta, Advs.
Mr. Girdhari Singh, Mr. Robin Bhati, Advs.
Mr. Nishe Rajen Shonker, Adv. for State of Kerala
Mr. J. Rajesh for Mr. Ankur Chhibber, Advs.
Mr. Leishangthem Roshmani Kh. Adv. for State of Manipur

Mr. Sandeep Narain and Mr. Anjali Agarwal, Advs. for SIAH
Mr. Anuj Sarma and Ms. Niharika, Advs. for State of Goa and Goa State PCB
Mr. Mukul Singh, Adv. for MOEF & CC
Mr. Manish Kumar, Adv. for State of HP
Ms. Anu K. Joy and Ms. Nish Ranjan Shonker, Advs.
Mr. Alim Anwar, Advs
Mr. Anil Grover, AAG Haryana with Mr. Saurabh Sachdeva and Mr. Mishal Viz., Advs.
Mr. Rajneesh Bhardwaj, Mr. Raj Kishan Gaur and Mr. Rahul Sharma, Advs.
Mr. Narender Pal Singh, Ms. Aditi Singh, Advs. And Mr. Dinesh Jindal, LO, DPCC
Mr. Raja Chatterjee, Mr. Piyush Sachdev, Mr. Abhinandini, Ms. Asha Basu and Ms. Aradhita Ghosh Mondal, Advs. for state of West Bengal
Ms. Asha Nayar Basu and Ms. Aradhita Ghosh Mondal, Advs.
Mr. Devraj Ashok, Adv.
Mrs. Anuradha, Mr. Avneesh, Ms. Anuradha and Ms. Simran Jeet, Advs. for State of Sikkim
Mr. Guntur Prabhakar, Mr. Guntur Pramod Kumar, Mr. Prashant Mathur, Adv for State of A.P
Mrs. Aruna Mathur, Mr. Avnessh Arputham, Ms. Simran Jeet and Ms. Anuradha Arputham, Advs. For state of Sikkim
Mr. Balendu Shekhar, Mr. Sriansh Prakash and Mr. Rajkumar Maurya, Advs. For EDMC
Mr. Anil Shrivastav, Mr. Rituraj Biswas an dMs. Sujaya Bardhan, Advs. For State of Arunachal Pradesh
Mr. R. P. Pahwa, adv.
Mr. Raman Yadav, adv and Ms. Varnita Rastogi, Adv For G.D.A
Mr. Mukesh Verma, Adv.
Mr. Kamaljeet Singh, AAG
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Prateek Gautam and Ms. Fiza Saluja, Advs.
Mr. Jogy Scaria and Ms. Beena Victor, Advs.
Mr. Gaurav Dubey, Adv.
Mr. Gaurav Agarwal, Adv. for GDA
Mr. Rajneesh Bhardwaj, Mr. Raj Kishan Gaur and Mr. Rahul Sharma, Advs. For Applicants in MAs.
Mr. Ravi Sikri Sr. Adv., Mr. Deepak, Mr. Shraym Das and Mr. Arjun Syel, Applicants in MAs.
Ms, Bhoomika Nanda, Adv. for Applicant in MA
Mr. S.P. Singh Mahlaj, Adv. for Applicant in MA
Mr. Tarang Gupta, Adv. for Applicant in MA
Ms. Sonia Dubey, Ms. Kanchan Yadav and Ms. Surbhi Anand, Advs.
Mr. P. Venkat Reddy and Mr Prashant Tyagi, Advs.
Ms. Kritika Shukla, Adv. for NHAI
Mr. Ravindra Kumar, Adv. for Gr. Noida Authority
Mr. J. Rajesh, Adv.
Mr. Shoeb Alam, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item No. 11 **July 27, 2018** **A**	1. The matter of air pollution in Delhi and NCR was taken up for consideration by this Tribunal *vide* order dated 18th December, 2017. The Tribunal considered the Graded Response Action Plan (GRAP) notified by the

	Item No. 11 **July 27, 2018** **A**	Central Government apart from other issues. On 17.11.2017, the Tribunal, inter-alia, directed the States of Rajasthan, Uttar Pradesh, Punjab, Haryana and NCT of Delhi to file action plans based on GRAPs, orders of this Tribunal and orders of the Hon'ble Supreme Court. The plan should have nexus to the level of pollution and mention step for preventing and controlling the pollution without waiting for any order. 2. The Central Pollution Control Board, Delhi Pollution Control Committee and State Pollution Control Boards were also directed to file ambient air quality analysis on monthly basis. 3. On 18.12.2017, the Action Plans filed before the Tribunal were considered and the categories of average, severe, critical and environmental emergency were indicated as follows: 1. "*Category I (Average): When PM10 is more than 100 µg/m3 but below 300 µg/m3 and PM2.5 is more than 60 µg/m3 but below 180 µg/m3.* 2. *Category II (Severe): When PM10 is more than 300 µg/m3 but below 700 µg/m3 and PM2.5 is more than 180 µg/m3 but below 400 µg/m3.* 3. *Category III (Critical): When PM10 is more than 700 µg/m3 but below 1000 µg/m3 and PM2.5 is more than 400 µg/m3 but less than 600 µg/m3.* 4. *Category IV (Environmental Emergency): When PM10 is above 1000 µg/m3 and PM2.5 is above 600 µg/m3."* 4. Certain directions were also issued for tackling the air pollution, including direction to file before this Tribunal a comprehensive reports about ambient air quality standard and the measures taken for improvement. 5. Accordingly, such reports have been filed which have been placed for consideration today. 6. We are of the view that there is need for change in

	Item No. 11 **July 27, 2018** **A**	the procedure earlier laid down to the effect that the GRAP already notified with further modification in the light of orders of this Tribunal, needs to be fully implemented and action taken in terms thereof. Further reports in the matter be filed before the Central Pollution Control Board and the same be monitored by the CPCB. If any further directions required, the Central Pollution Control Board may act in accordance with law or matter brought before this Tribunal. We also make clear that the Monitoring Committees already constituted in terms of the order dated 11.10.2016 will continue to perform their duties as before. With the above observations, Original Application No. 44 of 2018 stands disposed of. ……., CP (Adarsh Kumar Goel) ……,JM (S.P. Wangdi) ……,EM (Dr. Satyawan Singh Garbyal) ……,EM (Dr. Nagin Nanda) 27.07.2018

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 568 of 2016

Ajay Khera Vs. Container Corporation of India Limited & Ors.

CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present:	**Applicant:**	**Mr. Sanjay Upadhayay, Adv. Mr. Saumitra Jaiswal and Ms. Upama Bhattacharjee, Advs.**
	Respondent No. 1:	**Mr. Pinaki Mishra, Sr. Adv., and Ms. Swati Jain, Adv.**
	Respondent No. 4	**Mr. Tarunvir Singh Kheha and Mr. Sandeep Mishra Advs.** **Mr. Attin Shankar Rastogi and Mr. Prateek Yadav, Advs. for MoEF** **Mr. Om Prakash, Adv. for Ministry of Railways.**

	Date and Remarks	Orders of the Tribunal
	Item No. 01 **October 26, 2018** **A**	1. This application seeks direction to shift operation of respondent No. 1 – Container Corporation of India Limited (CONCOR), which is under control of respondent No. 2, Railway Board from Delhi to a location outside Delhi. Further directions are sought to prohibit entry of the containers to the depot if such containers are not bound for Delhi; to utilize CNG run/ battery operated Fork Lifts/Reach Stackers/ Empty Handlers and small vehicles; to run electric trains rather than diesel locomotives in out of Delhi; to prohibit entry of truck and trailers which are not BS – IV compliant in Delhi for transportation from the depot; to utilize CNG run small vehicles or small trucks for transportation. 2. According to the applicant, air pollution is increasing in Delhi by movement of heavy vehicles which require remedial measures to be taken. Location of the depot at Delhi is unnecessary. The containers transported upto to the said Depot having

	Item No. 01 **October 26, 2018** **A**	destination outside Delhi like Ludhiana, Mandi Gobindgarh, Greater Noida, NOIDA, Ghaziabad, Gurgaon, Bhiwandi and Alwar should not be transported to Delhi. On account of congestion of pollution, location of the depot was earlier shifted from Pragati Maidan, in the year 1983, and finally to the present location in the year 1992. The Depot handles about 3 lac containers per year. Transportation of such containers results in traffic jams. Heavy road congestion leads to air and noise pollution, especially when fuel used is diesel. It also leads to parking problems. Exporters are bringing containers from far of places to Delhi, even though such depots are available elsewhere, such as Dadri and Kathuwas. 3. The applicant has relied upon observations in the meeting of the Environment Pollution (Prevention & Control) Authority (EPCA) held on 28.08.2010 requiring the CONCOR to inform whether congestion and pollution on account of location of the container Depot can be reduced. 4. Reliance has also been placed on the observations in the order of the NGT dated 04.12.2014 in Original Application No. 21/2014, Vardhaman Kaushik Vs. Union of India & Ors. The Tribunal directed consideration of shifting of the site to avoid traffic jams and obstruction to free flow of traffic resulting in air pollution. In the same matter, on 25.05.2015, the learned ASG appearing for the Depot was asked to take instructions whether the same could be shifted from the present location. 5. Reference has also been made to the news item published in Indian Express dated 21.04.2015 under the

	Item No. 01 **October 26, 2018** **A**	heading 'Why Tughlakabad depot is toxic heart of South Delhi'. It is stated that 10,000 trucks ply to the container Depot every night to transfer goods to North and West of India including giant containers, many of them 20-feet long units. Victims are the people living in the near vicinity. 6. On 09.10.2015, in W.P. (Civil) 13029/1985, M.C. Mehta Vs. Union of India,[1] the Hon'ble Supreme Court passed an order to the effect that commercial traffic for destinations other than Delhi should use alternative routes and such vehicles entering in Delhi would be required to pay cess at the specified rate. 7. Reference was also made to the observation of the SDM in an inquiry report dated 29.06.2018 to the effect that question whether existence of the Depot is a nuisance to the safety of the people and the environment needs consideration. The inquiry was held on account of the incident which took place on 06.05.2017 resulting in leakage of chemical affecting public health. The Depot has also restricted the hazardous use. 8. Reference has also been made to the Handling of Cargo in Customs Areas Regulations, 2009 framed under Section 141 of the Customs Act, 1962, requiring that the site for handling, import and export of goods in the custom area should be safe for the projected capacity.

[1] (2016) 2 SCC 33, W.P. (Civil) 13029/1985, M.C. Mehta Vs. Union of India, dated 09.10.2015

	Item No. 01 **October 26, 2018** **A**	9. On behalf of respondent No. 1, an affidavit was filed on 11.11.2016, stating that the applicant was an interested party, being the Chief Executive Officer of the SKIL Infrastructure Limited, which was building a private port and had also developed a Container Freight Station and was, thus, a rival in the trade. According to the said respondent, location of the depot was not required to be shifted. Only 1500 trucks are used for the last mile connectivity, which is 1.74% of total vehicles crossing Delhi borders daily. Relocation of the terminal will result in greater pollution and congestion, as more number of vehicles will come to Delhi to meet needs of the Delhi residents. At present, only those containers are transported to Delhi where the address of the consignee is of Delhi. The respondent No. 1 has no information of real or ultimate consignee. Satellite terminals have been setup at Dadri, Rewari, Ballabhgarh and Khatuwas to curtail the catchment area of Depot at Delhi. Terminal has also been developed in outskirts of the city like Anand Vihar, Nizamuddin and Delhi Cantonment. 10. The MOEF&CC, in its affidavit, has stated that comprehensive directions have been issued on the subject of air quality on 29.12.2015 to all the NCR, States/UTs. Review meetings are held at various levels. Order of the Hon'ble Supreme Court restricting entry of heavy trucks was being followed. EPCA has been re-constituted on 07.07.2016. Noise pollution rules have been amended from time to time.

	Item No. 01 **October 26, 2018** **A**	11. Having regard to the concern for environment protection, we ignore the plea against locus or motive of the applicant as such plea is no bar to jurisdiction of this Tribunal. 12. The respondent No. 1 Depot is certainly contributing to the pollution but the larger question is the priority to be accorded to focus for abatement. Respondent No. 1 is not the sole contributor to the pollution. Control of air pollution requires comprehensive plan. Steps to reduce the number of vehicles or to shift to fuels like CNG, Electric and Hybrid etc. and also to regulate the extent of population to be permitted to stay or number of vehicles to be added for sustainable development and sustainable environment are matters of serious policy making. Any piecemeal direction, for restricting a particular activity except when such activity is clearly illegal or prohibited under the planning rules may not be appropriate. The Hon'ble Supreme Court on *M.C Mehta v. UOI* [2] expressed distress over the unregulated and uncontrollable vehicular traffic in Delhi causing pollution. We may note that the Hon'ble Supreme Court in the matter of *M.C. Mehta Vs. Union of India*[3], directed shifting of polluting industries from Delhi which has also been the subject matter of consideration by this Tribunal in Doaba Paryavaran Samiti v. State of UP & Ors.[4], M/s. Rahul Ion-Tech Ltd.

[2] (2001) 3 SCC 756, M.C. Mehta Vs. Union of India & Ors., W.P. (C) No. 4677 of 1985, dated 26.03.2001
[3] *(2004) 6 SCC 588*, M.C. Mehta Vs. Union of India, W.P. (C) No. 4677 of 1985, dated 07.05.2004
[4] Order dated 08.08.2018 in O.A. No. 231/2014.

	Item No. 01 **October 26, 2018** **A**	V. U.P. Pollution Control Board[5], CNH Industrial (India) Pvt. Ltd. v. Uttar Pradesh Pollution Control Board & Anr.[6], Jitendra Rana v. State of U.P. & Ors.[7] and ECE Industries Limited v. State of Uttar Pradesh Pollution Control Board & Anr.[8] 13. We, thus, do not find it appropriate to straightaway direct shifting of the depot of respondent No. 1. However, the said Depot must gradually phase out diesel vehicles, cargo trucks and shift to Electric, Hybrid and CNG vehicles in a phased manner. There must also be logistic plan in such a manner that primarily Delhi bound cargo is brought to ICD/TKD and vehicles are not parked on the roads leading to ICD. The ICD may also arrange a dedicated parking inside its complex. Handling procedure may be improved in the light of latest safety norms. CONCOR shall ensure the effective implementation of "on site" and "off site" emergency plan as mandated under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000, as amended by Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 by way of adequate monitoring, training and supervision at regular intervals so that recurrence of such events is prevented and eliminated. 14. We have been informed during the hearing that large number of deaths take place every year in the country on account of air pollution. It is undisputed that air pollution is a matter of serious concern. The

[5] Order dated 25.09.2018 in Appeal No. 189/2018
[6] Order dated 10.08.2018 in Appeal No. 133/2018
[7] Order dated 10.10.2018 in O.A. No. 714/2018
[8] Order dated 16.08.2018 in Appeal No. 134/2018

	Item No. 01 **October 26, 2018** **A**	Hon'ble Supreme Court in M.C. Mehta v. Union of India[9] expressed distress over the unregulated and uncontrolled vehicular traffic causing pollution in Delhi. As per WHO list, out of the 10 most polluted cities in the world, 9 are in India.[10] Almost 7 million deaths were caused by household and outdoor pollution in the year 2016.[11] Large number of people suffer diseases such as lung and heart diseases. As per official figures, there are 102 "non attainment cities" in India where air quality exceeds the prescribed norms which issue has been subject matter of order of this Tribunal dated 08.10.2018 in Original Application No. 681/2018, "*News Item Published In 'The Times of India' Authored by Shri. Vishwa Mohan Titled "NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15"*. 15. Delhi is over polluted and figures quite high in the ranking of most polluted cities. There is no study about the capacity of the city in respect of the extent of population which can be accommodated and number of vehicles which can be handled by the roads of Delhi. The Master Plan for Delhi 2021 also does not assess the urban/physical carrying capacity of the NCT of Delhi despite noting a reduction in the carrying capacity of amenities such as drainage. However, no specific emphasis is laid on determination of carrying capacity of the city on the basis of factors such as

[9] (2001) 3 SCC 756, M.C. Mehta Vs. Union of India & Ors., dated 26.03.2001
[10] https://www.cnbc.com/2018/05/03/here-are-the-worlds-10-most-polluted-cities--9-are-in-india.html
[11] https://www.indiatoday.in/education-today/gk-current-affairs/story/14-worlds-most-polluted-15-cities-india-kanpur-tops-who-list-1224730-2018-05-02

	Item No. 01 **October 26, 2018** **A**	availability of land, air and water resources for the increasing population in the light of principles of sustainable development and Intergeneration equity. 16. Conscious of the threat posed to limited natural resources due to their overuse, this Tribunal in *Metro Transit Pvt. Ltd Vs. South Delhi Municipal corporation & Ors.* [12] directed the Ministry of Transport to take initiative to assess the number of vehicles to be permitted proportionate to the capacity of the roads in the city in the larger interest of environment. This Tribunal has also directed in *SPOKE Vs. M/s. Kasauli Glaxie Resorts and other connected matters*[13] to frame guidelines with respect to carrying capacity assessment for similarly placed hill stations as Kasauli and Eco-Sensitive Zone (ESZ) notified by MoEF&CC to check hazards of unregulated development threatening the fragile ecology. In *D.V. Girish v. Union of India & Ors.*[14] this Tribunal has directed the Ministry of Urban Development and MOEF& CC to conduct detailed carrying capacity study to assess the impact of factors such as construction of resorts, new civil structures, availability of water resources, power lines, soil erosion, extraction of ground water, waste generation and handling, road traffic and pollution and evolve a management plan for preservation of Chikkmangaluru district. Further, in Social Action for Forest and Environment (*SAFE) & Ors. v. Union of India and Ors.*[15]

[12] Order dated 23.10.2018 in OA No. 773/2018
[13] Order dated 05.10.2018 in O.A. No. 218/2017
[14] Order dated 30.07.2018 in O.A. No. 462/2018
[15] Order dated 10.12.2015 in O.A.No. 87/2015

	Item No. 01 **October 26, 2018** **A**	it was observed that the relevance of the concept of carrying capacity to the concept of sustainability adds to its value for organizing the management framework. In the light of the current scenario, a similar assessment is necessitated in NCT Delhi. 17. As a yardstick of sustainability, urban carrying capacity is an important conceptual underpinning that must guide a welfare state in promoting sustainable urban development. The concept of "carrying capacity" addresses the question as to how many people can be permitted into any area without the risk of degrading the environment of the area. A dynamic city policy based on carrying capacity assessment is essential to ameliorate the conditions for urban development and residents living quality. Urban carrying capacity is needed to be developed to balance the demands on the resources on the one hand and the capacity of such resources consistent with the need for environment protection. This is the need for sustainable development. Severely straining and degrading the available natural resources of a particular area without regard to capacity assessment is causing irreversible damage to the ecology in terms of pollution of air, water and earth. What would happen to the traffic flow if all roads become parking? What happens to the road travelers, if there is no adequate oxygen in the air on account of excessive vehicles and congestion? How would unlimited housing be provided to people if the land resources are exhausted at particular place? How

	Item No. 01 **October 26, 2018** **A**	will water and waste disposal needs be met, if there is unplanned population density in a particular city? These questions require serious consideration. "Urban disease" frequently besetting the cities such as traffic congestion, housing shortage, lack of amenity, pose actual challenges and impediments to sustainable development. While emergency measures such as the odd-even scheme, limiting the flow of tourist vehicles and restraining the timing of fire crackers may help momentarily such as is contemplated under the 'Graded Response Action Plan', long term assessment of physical and environmental carrying capacity and devising measures to restrict overuse on reaching optimum capacity is inevitable to ensure sustainable development. Without such assessment and action, the very survival of people is threatened what to talk of working towards Sustainable Development Goals, 2030 to tackle climate change may remain only a dream. Sustainable development is essential policy and strategy for continued economic and social development without detriment to the environment and natural resources on the quality of which continued activity and further development depend[16]. Natural resources have got to be tapped for the purposes of social development but one cannot forget at the same time that tapping of resources have to be done with realistic approach to capacity of a city or area so that environment may not be affected in any serious way;

[16] (2002) 10 SCC 606 T.N. Godavarman Thirumulpad Vs. Union of India, , dated 30.10.2002

	Item No. 01 **October 26, 2018** **A**	so that there may not be depletion of water resources. Long-term planning must be undertaken consistent with capacity assessment. It has always to be remembered that the air and water are not without limitation[17]. 18. Accordingly, we consider it necessary to direct assessment of carrying capacity for the NCT Delhi as well as other major cities particularly 102 "non-attainment cities" within reasonable time preferably in one year. Such study can be in phases depending on priority areas having pollution hot spots. Such assessment must specifically study capacity in terms of number of vehicles, extent of population, extent of different nature of activities – institutional, industrial, commercial etc. 19. The Ministry of Urban Development in coordination with the Central Pollution Control Board, Ministry of Transport and other concerned Ministries, the Authorities such as Planning Commission as well the States may carry out such study with the assistance of experts in the field. Methodology to do so may be worked out within two months. 20. As a result of such study, further policy decisions may be taken by concerned Authorities for comprehensive action for checking air pollution in the interest of public health. This may also result in regulation of logistics and infrastructure. The CPCB may act as nodal agency.

[17] 1986 Supp (1) SCC 517 Rural Litigation & Entitlement Kendra, Dehradun Vs. Stat of UP (Doon Valley Case), AIR 1987 SC 359, dated 18.12.1986

	Item No. 01 **October 26, 2018** **A**	21. The application stands disposed off. A copy of this order be sent to CPCB. An interim report may be furnished by the CPCB within three months. 22. The ICD may also submit action taken report on phasing out of diesel vehicles and cargo truck and shifting to electric, hybrid and CNG vehicles and arranging a dedicated parking inside the complex. 23. Put up for further consideration of the report in the third week of February, 2019. ……, CP (Adarsh Kumar Goel) ……,JM (S.P. Wangdi) ……,EM (Dr. Nagin Nanda) 26.10.2018

Item No. 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 1038/2018

News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels"

Date of hearing: 10.07.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s): NONE

For Respondent (s): Mr. Pradeep Misra, Advocate for UPPCB
Mr. TVS Raghavendra Sreyas, Advocate for APPCB
Mr. Dhanajay Baijal, Advocate for TSPCB
Mr. Jogy Scaria, Advocate for KSPCB
Ms. Sakshi Popli, Advocate for DPCC
Mr. Rajkumar, Advocate for CPCB

ORDER

1. The issue for consideration is the remedial action against the polluting industries in the identified polluting industrial clusters. The Tribunal, vide order dated 13.12.2018, treated the news item published in "The Asian Age" dated 06.12.2018 authored by Mr. Sanjay Kaw titled "CPCB to rank industrial units on pollution levels" as an application in view of substantial question of environment which could be dealt with by the Tribunal under Sections 14, 15 and 20 of the National Green Tribunal Act, 2010.

2. We may note the background of the issue briefly. The Central Pollution Control Board (CPCB) in exercise of its statutory functions under the Air (Prevention and Control of Pollution) Act, 1981 (the Air

Act), the Water (Prevention and Control of Pollution) Act, 1974 (the Water Act) and the Environment (Protection) Act, 1986 (the EPA Act) carried out the physical study of the industrial clusters in the country with reference to the Comprehensive Environmental Pollution Index (CEPI) which includes weightages on nature of pollutants, ambient pollutant concentrations, receptors (number of people affected) and additional high risk element. On the basis of the study jointly carried out by the CPCB and State PCBs in 2009-10, 88 industrial clusters were notified as Polluted Industrial Areas (PIAs). These PIAs were ranked as 'critically polluted area' (CPA), 'severely polluted area' (SPA) and 'other polluted areas' (OPAs), depending upon the CEPI scores of each of these industrial areas. Where the CEPI score crossed 70, the areas are designated as CPAs, where the index was between 60-70, they are designated as SPAs and those below 60 as OPAs. As per the CPCB's monitoring of industrial clusters based on CEPI-2009, 43 industrial clusters in 16 cities were identified as CPAs and 32 were identified as SPAs. The CPAs and SPAs were to bring the pollution levels within the norms by formulating and implementing an action plan with short term and long term measures within one year or more. New units in the said areas were prohibited but such ban was later on lifted.

3. In 2016, the criterion for determining CEPI was revised. CPCB revised its CEPI criteria and laid out components which included, scale of industrial activity, scale of exceedance of environmental quality (level of exposure), health related statistics and compliance status of industries.

4. On 26.04.2016, the CPCB issued directions under Section 18 of the Air Act and the Water Act to the SPCB of Andhra Pradesh, Telangana,

Uttar Pradesh, Karnataka, Punjab, Jharkhand, Haryana, Gujarat, Govt. of NCT Delhi, Tamil Nadu, Maharashtra, Madhya Pradesh, Rajasthan, Chhattisgarh, West Bengal, Kerala, requiring continuous environmental quality monitoring in all CPAs and SPAs, installation of Continuous Ambient Air Quality Monitoring Stations (CAAQMS), Continuous Water Quality Monitoring Stations (CWQMS) for CEPI score evaluation as per revised formulae and to formulate their action plans before 15.06.2016. The polluting sources were required to be notified in public domain on websites, environmental quality data was also to be placed in public domain, State Governments were to notify the scaled maps of the industrial areas. The object of placing such data in public domain was to give warning for bringing the pollution levels within the prescribed limits. The polluted clusters were to be kept in mind for permitting setting up of further industries or expanding of the existing industries.

5. Based on the CEPI-2016 criterion, CPCB carried out further monitoring in the year 2017-18 where it was found that number of identified polluted industrial clusters went up to 100. The said number includes 38 critically polluted, 31 severely polluted and remaining 31 as other polluted areas.

6. The Tribunal vide order dated 13.12.2018 directed all the State Pollution Control Boards/Committees (PCCs) to finalize time bound action plans within three months so as to bring all polluted industrial clusters within the safe parameters under the provisions of the Air Act and the Water Act. The SPCBs and CPCB were free to take coercive measures, including recovery of compensation for damages to the environment on 'Polluter Pays' principle and also to adopt precautionary measures on 'Precautionary' principle. The CPCB was

directed to serve a copy of the above mentioned order to all the SPCBs who were to furnish the same to the respective Chief Secretaries of the States for necessary action. The MoEF&CC was directed to take steps on the basis of report of the CPCB. Action taken reports were to be furnished by the CPCB and the MoEF&CC to this Tribunal before 31.05.2019. In the States, action plans were to be prepared by Committees headed by the Chief Secretaries.

7. Ill effects of industrial pollution on the environment and public health are well acknowledged. This has made it necessary to strictly apply the principles of 'Sustainable Development' and permit any activity to be carried out without degrading the environment. The statutory scheme under the Air Act, the Water Act and the EPA Act provides for standards for air and water quality which must be maintained and violation thereof is a criminal offence[1]. Any violation has to be visited with stopping of polluting activity, prosecution and compensation for restoration of environment. Accordingly, in the order dated 13.12.2018 this Tribunal observed:

> *"5. Purpose of economic development in any region is to provide opportunities for improved living by removing poverty and unemployment. While industrial development invariably creates more jobs in any region, such development has to be sustainable and compliant with the norms of environment. In absence of this awakening or tendency for monitoring, industrialization has led to environmental degradation on account of industrial pollution. It is imperative to ensure that steps are taken to check such pollution to uphold statutory norms. Adequate and effective pollution control methods are necessary.*
>
> *6. Dust, smoke, fume and toxic gas emissions occur as a result of highly polluting industries such as thermal power plants, coal mines, cement, sponge iron, steel and ferrow alloys, petroleum and chemicals unless right technology is used and precaution taken. Industry specific clusters have not only become hazardous but*

[1] Section 7 read with Section 15 of the EPA Act, Section 24 read with Section 41 and Section 45A of the Water Act, Section 21 and Section 22 read with Section 37 of the Air Act.

also cause irreparable damage to our ecology and environment, often breaching the environment's carrying capacity, adversely affecting public health.

7. In Karnataka Industrial Areas Development Board vs. C. Kenchappa & Ors[2], the Hon'ble Supreme Court observed, as guiding rules for Sustainable Development, that humanity must take no more from nature than man can replenish and that people must adopt lifestyles and development paths that work within the nature's limit. In Vellore Citizens Welfare Forum Vs. Union of India, the Hon'ble Supreme Court recognized the Precautionary Principle and explained that environmental measures by the State Government and the statutory authorities must anticipate, prevent and attack the causes of environmental degradation.

8. This Tribunal has applied the same principles in deciding matters before it in terms of Section 20 of the National Green Tribunal Act 2010.

13. The action plan to be prepared in the States may be done by the Committee constituted by the Chief Secretary within one month from today as several Departments may be involved in the exercise. The final preparation of the action plan including its execution may be overseen by the Chief Secretary of the concerned State, along with the other connected major environmental issues of the States, such as pollution of river stretches, non-attainment cities in terms of air quality and solid waste management, utilization of treated sewage, covered by order of this Tribunal dated 20.09.2018 in Original Application No. 673/2018, News Item Published in 'The Hindu' authored by Shri. Jacob Koshy titled "More river stretches are now critically polluted: CPCB", order dated 08.10.2018 in Original Application No. 681/2018, News Item Published In 'The Times of India' Authored by Shri. Vishwa Mohan Titled "NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15", order dated 20.08.2018 in Original Application No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016 and order dated 27.11.2018 in Original Application No. 148/2016, Mahesh Chandra Saxena Vs. South Delhi Municipal Corporation & Ors. The Chief Secretary will take meetings on all these issues once in three months (quarterly) and will forward Report to NGT by e-mail."

8. We may also note that on 16.01.2019, while considering the issue of compliance of Solid Waste Management Rules, 2016 and other Waste Management Rules in *O.A. No. 606/2018, Compliance of MSW Rules, 2016,* the Tribunal required the presence of the Chief Secretaries in

[2] (2006) 6 SSC 383

person after monitoring the subjects mentioned in the said order which included polluted industrial clusters.

9. Accordingly, the Chief Secretaries appeared before this Tribunal and filed their respective versions on the subject. They have been asked to take necessary steps to enforce the environment norms and furnish periodical reports to this Tribunal. The directions include monitoring of important environmental issues including the issue of polluted industrial clusters by a Central Monitoring Committee with representatives from the Central Government and the Chief Secretaries of the States, undertaking carrying capacity study of the areas where violation of environmental norms is established, training programme of the officers concerned with the enforcement of the environmental norms, preparation of annual environmental plan for the country giving status of gaps in compliance of environmental norms.[3] The Tribunal noted the private studies which may need to be verified assessing the number of deaths and diseases from pollution[4]:

> *"38. Death attributable to pollution to be 2.51 million in 2015, highest in the world. Air pollution, the number of deaths in India from ambient air pollution was 1.09 million, while deaths from household air pollution from solid fuels were 0.97 million. In the case of water pollution, 0.5 million deaths were caused by unsafe water source, while unsafe sanitation caused 0.32 million deaths. Deaths from air pollution were a result of diseases such as heart disease, stroke, lung cancer, and chronic obstructive pulmonary disease (COPD). Pollution has been responsible for the most non-communicable disease deaths. India ranks a dismal 110 of 149 countries on the Sustainable Development Index. With rapid urbanization, the country is facing massive waste management challenge. Over 377 million urban people live in 7,935 towns and cities and generate 62 million tonnes of municipal solid waste per annum. Only 43 million tonnes (MT) of the waste is collected, 11.9 MT is treated and 31 MT is dumped in landfill sites. An alarming 80% of India's surface water is polluted. Indian cities generate 10 billion gallons or 38 billion litres of municipal waste water every day, out of which only 29% of it is treated.*
>
> *40. In case extent of convictions for the environment related offences do not correspond to the extent of crime, paradigm shift in*

[3] O.A 606/2018, order dated 17.05.2019, at para 27
[4] *Ibid*

policies and strategies for implementation of law may need to be considered. Similarly, the mechanism for recovery of compensation may need to be revised on that pattern. Such review of policy cannot be left to the Local Bodies or the Pollution Control Boards but has to be at highest level in the State and further review at the national level. As noted in some of the studies, the ranking of the country in compliance of environmental norms needs to be brought to respectable higher position which may be possible only if there is change in policies and strategies for implementation of necessary norms at every level in right direction. The scale of compensation needs to be suitably revised so that the same is deterrent and adequate to meet the cost of reversing the pollution."

10. Some of the States have also filed their reports in the present proceedings apart from the reports of the Chief Secretaries mentioned above. Further, a report has also been filed by the CPCB. According to the CPCB report, order dated 13.12.2018 stands served to all the State PCBs and the PCCs. The CPCB with the concurrence of MoEF&CC carried out environmental quality monitoring in 21 States across the country in respect of the said 100 industrial clusters based on the revised CEPI-2016, by engaging the services of approved laboratories. The said reports have been analysed. Further information has been sought from the State PCBs/ PCCs. Comprehensive exercise and consultative process has been undertaken and CEPI scores of all the 100 Polluted Industrial Areas (PIAs) were submitted to MoEF&CC on 11.01.2019 and the MoEF&CC replied in letter dated 25.02.2019 that there are some gaps in the information. Further information relating to such gaps were sought from the States by the MoEF&CC. Thereafter, updated CEPI scores for all 100 PIAs have been submitted by CPCB to MoEF&CC on 10.04.2019. The CPCB has also prepared a protocol and submitted the same to the MoEF&CC on 17.05.2019 for consideration and appropriate action.

11. During the hearing today, a copy of the letter dated 17.05.2019 was handed over by the Learned Counsel for the CPCB, indicating the

latest CEPI scores for 100 polluted industrial areas/clusters monitored during 2018. The said scores are as follows:

The CEPI Scores in descending order for Industrial Areas/Clusters monitored during 2018

Sl. No.	Name of Polluted Industrial Areas (PIAs)	Air	Water	Land	* CEPI Score	# Status of Environment
1.	Tarapur(Maharashtra)	72.00	89.00	59.25	93.69	Ac_Wc_Ls
2.	Najafgarh-Drain basin including Anand Parbat, Naraina, Okhla, Wazirpur(Delhi)	85.25	86.00	55.75	92.65	Ac_Wc_Ls
3.	Mathura(Uttar Pradesh)	86.00	81.00	45.00	91.10	Ac_Wc_Ln
4.	Kanpur(Uttar Pradesh)	66.00	85.00	45.00	89.46	Ac_Wc_Ln
5.	Vadodara(Gujarat)	82.00	80.75	48.75	89.09	Ac_Wc_Ln
6.	Moradabad(Uttar Pradesh)	76.00	71.50	68.75	87.80	Ac_Wc_Lc
7.	Varanasi-Mirzapur(Uttar Pradesh)	67.50	80.00	39.63	85.35	Ac_Wc_Ln
8.	Bulandsahar-Khurza(Uttar Pradesh)	79.50	76.00	36.75	85.23	Ac_Wc_Ln
9.	Gurgaon(Haryana)	70.00	80.00	36.75	85.15	Ac_Wc_Ln
10.	Manali (Tamil Nadu)	59.75	72.25	71.75	84.15	As_Wc_Lc
11.	Panipat(Haryana)	66.00	72.75	60.00	83.54	Ac_Wc_Lc
12.	Firozabad(Uttar Pradesh)	76.00	72.00	32.50	81.62	Ac_Wc_Ln
13.	Udham Singh Nagar (Uttarakhand)	33.00	79.50	26.00	81.26	An_Wc_Ln
14.	Jodhpur (Rajasthan)	67.00	66.00	65.00	81.16	Ac_Wc_Lc
15.	Pali (Rajasthan)	66.00	65.00	65.50	80.48	Ac_Wc_Lc
16.	Ankleshwar (Gujarat)	72.00	57.50	51.00	80.21	Ac_Ws_Ls
17.	Gajraula Area(Uttar Pradesh)	71.00	70.00	45.00	80.14	Ac_Wc_Ln
18.	Vapi (Gujarat)	66.00	75.00	30.00	79.95	Ac_Wc_Ln
19.	Siltara Industrial Area (Chhattisgarh)	76.00	51.75	31.75	79.94	Ac_Ws_Ln
20.	Bhiwadi (Rajasthan)	66.50	71.00	44.75	79.63	Ac_Wc_Ln
21.	Vellore -North Arcot (Tamil Nadu)	49.00	75.00	35.75	79.38	An_Wc_Ln
22.	Sanganer Industrial Area (Rajasthan)	65.00	71.88	39.50	79.10	Ac_Wc_Ln
23.	Byrnihat (Assam)	67.00	70.50	39.50	78.31	Ac_Wc_Ln
24.	Peenya(Karnataka)	41.00	66.00	70.00	78.12	An_Wc_Lc
25.	Jaipur (Rajasthan)	61.88	71.88	31.75	77.40	Ac_Wc_Ln
26.	Surat (Gujarat)	46.00	68.25	56.00	76.43	An_Wc_Ls
27.	Chandrapur (Maharashtra)	75.00	23.75	23.75	76.41	Ac_Wn_Ln
28.	Agra(Uttar Pradesh)	60.00	66.88	47.00	76.22	Ac_Wc_Ln
29.	Pattancheru Bollaram	56.00	70.00	32.25	75.42	As_Wc_Ln

	(Telangana)					
30.	Jalandhar (Punjab)	53.50	66.88	44.50	74.76	As_Wc_Ln
31.	Ludhiana (Punjab)	53.50	71.00	16.00	73.48	As_Wc_Ln
32.	Tiruppur (Tamil Nadu)	33.00	65.00	64.00	72.39	An_Wc_Lc
33.	Ghaziabad(Uttar Pradesh)	57.50	66.00	32.25	72.30	As_Wc_Ln
34.	Mettur (Tamil Nadu)	41.25	19.38	69.38	71.82	An_Wn_Lc
35.	KIADB Industrial Area, Jigini, Anekal (Bengaluru)	52.00	66.00	28.25	70.99	As_Wc_Ln
36.	Vatva(Gujarat)	57.00	66.00	25.50	70.94	As_Wc_Ln
37.	Raipur (Chhattisgarh)	67.00	45.75	25.00	70.77	Ac_Wn_Ln
38.	Rajkot(Gujarat)	51.75	61.50	45.75	70.62	As_Wc_Ln
39.	Aurangabad(Maharashtra)	45.00	65.38	28.75	69.85	An_Wc_Ln
40.	Dombivali (Maharashtra)	62.00	63.50	27.25	69.67	Ac_Wc_Ln
41.	Nashik(Maharashtra)	56.50	60.00	42.00	69.49	As_Wc_Ln
42.	Batala (Punjab)	63.00	62.75	25.50	68.92	Ac_Wc_Ln
43.	Noida(Uttar Pradesh)	59.75	62.75	27.00	68.76	As_Wc_Ln
44.	Baddi(Himachal Pradesh)	63.00	63.75	19.75	68.26	Ac_Wc_Ln
45.	Vijayawada(Andhra Pradesh)	60.50	49.25	38.75	68.04	Ac_Wn_Ln
46.	Bandel (West Bengal)	59.50	47.00	42.75	67.64	As_Wn_Ln
47.	Ramgarh(Jharkhand)	56.75	50.00	46.25	66.75	As_Ws_Ln
48.	Kukatpally (Telangana)	43.75	61.00	32.00	66.46	An_Wc_Ln
49.	Ib-Valley (Orissa)	48.75	59.00	36.75	66.35	An_Ws_Ln
50.	Tuticorin (Tamil Nadu)	29.75	46.00	61.00	66.34	An_Wn_Lc
51.	Navi Mumbai(Maharashtra)	56.00	63.00	16.00	66.32	As_Wc_Ln
52.	Meerut(Uttar Pradesh)	52.00	65.00	6.00	66.09	As_Wc_Ln
53.	Parwanoo(Himachal Pradesh)	19.00	61.88	53.75	65.77	An_Wc_Ls
54.	Kala Amb(Himachal Pradesh)	17.00	64.00	27.75	65.70	An_Wc_Ln
55.	Bidar(Karnataka)	31.00	60.00	45.50	65.64	An_Wc_Ln
56.	Durgapur (West Bengal)	62.50	43.50	18.75	65.56	Ac_Wn_Ln
57.	Aligarh(Uttar Pradesh)	56.25	61.88	11.88	64.42	As_Wc_Ln
58.	Hajipur(Bihar)	57.50	41.13	39.25	64.36	As_Wn_Ln
59.	Hazaribagh(Jharkhand)	61.00	20.00	41.00	64.20	Ac_Wn_Ln
60.	Coimbatore (Tamil Nadu)	47.25	53.75	45.25	63.64	An_Ws_Ln
61.	Singrauli (UP & MP)	45.00	57.25	27.75	62.59	An_Ws_Ln
62.	Cuddalore (Tamil Nadu)	25.00	58.25	41.25	62.56	An_Ws_Ln
63.	Faridabad(Haryana)	55.25	53.75	28.75	62.17	As_Ws_Ln
64.	Bhavnagar (Gujarat)	61.00	15.50	15.50	61.94	Ac_Wn_Ln
65.	Howrah (West Bengal)	60.50	20.00	16.00	61.76	Ac_Wn_Ln
66.	Paradeep (Orissa)	43.00	57.50	17.00	60.61	An_Ws_Ln
67.	Erode (Tamil Nadu)	34.13	47.00	52.75	60.33	An_Wn_Ls
68.	Saraikela (Jharkhand)	57.75	17.50	34.00	60.26	As_Wn_Ln

69.	Kattedan(Telangana)	42.25	50.75	45.25	60.17	An_Ws_Ln
70.	Dhanbad(Jharkhand)	43.00	57.50	12.50	59.78	An_Ws_Ln
71.	Indore(Madhya Pradesh)	18.50	56.88	20.75	58.53	An_Ws_Ln
72.	Bhadravati(Karnataka)	45.00	52.00	30.00	58.48	An_Ws_Ln
73.	Mandideep (Madhya Pradesh)	56.00	55.25	10.00	58.43	As_Ws_Ln
74.	Mangalore(Karnataka)	15.00	54.50	54.25	58.20	An_Ws_Ls
75.	Barajamda(Jharkhand)	51.88	25.63	46.75	57.64	As_Wn_Ln
76.	Korba (Chhattisgarh)	43.75	17.75	54.00	57.57	An_Wn_Ls
77.	Ahmedabad(Gujarat)	53.50	48.50	16.00	57.11	As_Wn_Ln
78.	Haridwar (Uttarakhand)	50.75	52.38	13.75	55.70	As_Ws_Ln
79.	Asansol (West Bengal)	54.00	16.25	13.75	55.03	As_Wn_Ln
80.	Chembur(Maharashtra)	52.25	50.75	10.00	54.67	As_Ws_Ln
81.	Morbi (Gujarat)	51.00	47.25	14.00	54.24	As_Wn_Ln
82.	Mandi Govindgarh (Punjab)	23.75	53.75	1.50	53.91	An_Ws_Ln
83.	Raichur(Karnataka)	32.75	47.88	32.50	53.42	An_Wn_Ln
84.	West Singhbhum(Jharkhand)	51.88	25.88	11.25	53.28	As_Wn_Ln
85.	Greater Kochin (Kerala)	47.38	35.88	29.50	52.94	An_Wn_Ln
86.	Pimpari-Chinchwad(Maharashtra)	52.00	6.25	5.25	52.16	As_Wn_Ln
87.	Gwalior (Madhya Pradesh)	50.00	43.13	7.75	51.67	As_Wn_Ln
88.	Junagarh (Gujarat)	47.00	25.00	35.00	51.64	An_Wn_Ln
89.	Jajpur (Orissa)	43.50	26.25	41.25	49.62	An_Wn_Ln
90.	Nagda –Ratlam (Madhya Pradesh)	12.00	47.00	28.00	48.78	An_Wn_Ln
91.	Jamshedpur(Jharkhand)	46.00	19.25	20.25	48.10	An_Wn_Ln
92.	Mahad(Maharashtra)	41.00	35.75	29.00	47.12	An_Wn_Ln
93.	Bhillai-Durg (Chhattisgarh)	43.00	32.75	19.75	46.69	An_Wn_Ln
94.	Angul Talchar (Orissa)	44.75	13.25	23.00	46.43	An_Wn_Ln
95.	Haldia (West Bengal)	45.00	35.00	3.75	45.72	An_Wn_Ln
96.	Vishakhapatam (Andhra Pradesh)	27.25	12.75	42.75	44.74	An_Wn_Ln
97.	Dewas (Madhya Pradesh)	28.00	31.63	31.75	37.79	An_Wn_Ln
98.	Jharsuguda (Orissa)	36.00	21.50	8.75	37.20	An_Wn_Ln
99.	Digboi (Assam)	23.50	25.25	6.50	26.39	An_Wn_Ln
100.	Pithampur (Madhya Pradesh)	13.50	19.50	6.75	20.23	An_Wn_Ln

12. Question for consideration is whether mere making of action plans obviates the requirement of enforcing the law. Continued polluting activities are criminal offences under the law of the land. The rule of law requires prohibiting such activities to5 safeguard the environment and the innocent victims[6].

13. The answer has to be in the negative. Once the industrial clusters have been notified as polluting, while action plans may certainly be prepared, the polluting activity, which is a criminal offence, cannot be allowed to be continued. The essence of rule of law is that no activity which is against the law is allowed to continue and the person violating the law is punished according to law.[7] Thus merely requiring improvement does not obviate the need for punishing the law violators/polluters; stopping polluting activity and recovering compensation for the damage already caused so as to recover the cost of restoration[8] is the mandate of law. This having not been done, the Tribunal is under a duty to direct the statutory regulators to perform their functions and take steps forthwith for stopping polluting activities, initiating prosecutions against the polluters and assessing and recovering compensation from such identified polluters at least for five years which is the period specified under Section 15(3) of the National Green Tribunal Act, 2010.

[5] Under Section 5 of the EPA Act, Section 31A of the Air Act and Section 33A of the Water Act, the power of Board to give directions includes the power to direct the closure, prohibition or regulation of any industry, operation or process; or the stoppage or regulation of the supply of electricity or water or any other service.

[6] https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30261-4/fulltext stating 1.24 million deaths in India in 2017, which were 12·5% of the total deaths, were attributable to air pollution, including 0.67 million from ambient particulate matter pollution and 0.48 million from household air pollution.

[7] Goa Foundation Vs. Union of India and Ors., (2014) 6 SCC 590, at para 72-75,the Supreme Court noted the power that rests with the Pollution Control Board under Section 31 A of the Air Act and Section 33 A of the Water Act and directed that the authorities should take stringent actions in line with these power in cases of polluting industries.

[8] Tirupur Dyeing Factory Owners Association Vs. Noyyal River Ayacutdars Protection Association & Ors., (2009) 9 SCC 737, in paras 26, 27, 33 & 34, the Supreme Court emphasis on developmental activities to be such that it does not compromises with the ability of the future generation to meet their needs and in this regard, authorities are to take into consideration the macro effect of wide-scale land and environmental degradation caused by absence of remedial measures.

14. We reiterate that economic development is not to be at the cost of health of the public and in violation of law of the land. Unless the polluting industries tackle the problem they have created, their operations have to be stopped/suspended.[9] Reference may be made to the judgement in the case of *Indian Council for Enviro Legal Action & Ors. Vs. Union of India & Ors.*[10]:

> *"Respondents 4 to 8 have earned the dubious distinction of being categorised as "rogue industries". They have inflicted untold misery upon the poor, unsuspecting villagers, de-spoiling their land, their water sources and their environment – all in pursuance of their private profit. They have forfeited all claims of any consideration by this Court. Accordingly, we herewith order the closure of all plants and factories of Respondents 4 to 8 located in Bichhri village. The RPCB is directed to seal all factories/units/plants of the said respondents forthwith."*

15. We may note that this Tribunal has dealt with cases of industrial pollution and exercising its jurisdiction under Sections 14, 15 and 20 of the NGT Act, 2010 directed the regulatory authorities to prohibit polluting activities, prosecute the polluters and assess and recover compensation. In the case of Morbi Industrial Cluster[11], which ranks at 81 based on its CEPI score, (where air pollution is critical though overall index places it in OPA), the Tribunal noted the air quality as shown in the inspection report furnished in the said case, to be as follows:

> *"Ambient Air Quality Status: As per National Green Tribunal committee report average ambient air quality (7 Stations) monitored PM10 = 552.66 µg/m3, PM2.5 = 289.61 µg / m3, SO2 = 152.81 µg /m3. Compared to that, Average ambient air quality monitored (4 Stations) in last 3 months (Aug- 18 to Nov-18) is PM10 = 199.1 µg /m3,*

[9] M.C Mehta (Badkhal and Surajkund Lakes Matters) vs. Union of India & Ors., (1997) 3 SCC 715 at para 10 & 11, where the Supreme Court prohibited any construction activities around the said lakes on account of precautionary principle to protect these lakes; Vellore Citizens Welfare Forum Vs. Union of India & Ors., (1996) 5 SCC 647 at para 9, where the Supreme Court discussed the rights guaranteed under Article 21 of the Constitution of India and directed that all tanneries which have not obtained the consents will be not reopened and that no new tanneries will be permitted to be open in the prohibited area.

[10] (1996) 3 SCC 212 at para 70.

[11] Order dated 06.03.2019 in Original Application No. 20/2017 (WZ), Babubhai Ramubhai Saini Vs. Gujarat Pollution Control Board & Ors.

PM2.5 = 60.6 µg /m3. Though not meeting with standards, this shows improvement in air quality of Morbi-Wankner Region."

16. Since the industries in the said area were operating in violation of Air Act, having adverse consequences on health and environment, applying the Sustainable Development and Precautionary principles, the Tribunal directed the GPCB to close all the coal gasifier industries and take steps for prosecution of such industries which violated the law and recover compensation for the damage to the public health to be assessed by a Joint Committee of GPCB, CPCB and NEERI, taking into account the cost of restoration of the environment and the element of deterrence.[12]

17. The Tribunal observed:

" 22. Purpose of economic development in any region is to provide opportunities for improved living by removing poverty and unemployment. While industrial development invariably creates more jobs in any region, such development has to be sustainable and compliant with the norms of environment. In absence of this awakening or tendency for monitoring, industrialization has led to environmental degradation on account of industrial pollution. It is imperative to ensure that steps are taken to check such pollution to uphold statutory norms. Adequate and effective pollution control methods are necessary.

23. We may also note that as per data compiled by the CPCB Morbi Wankaner is one of the polluted industrial clusters. Vide order dated 13.12.2018 in Original Application No. 1038/2018, this Tribunal considered the subject matter of critically polluted industrial clusters and directed preparation of action plans by the respective States for remedying the situation.

24. Even though, this area is polluted but not 'critically polluted', the same may not be covered by the said order, but the fact remains that there is high amount of pollution as shown by the latest report of the GPCB quoted above in para no. 13. PM10 is equal to 552.66 and PM2.5 is equal to 289.61. Stringent

[12] Order dated 06.03.2019 in Original Application No. 20/2017 (WZ), Babubhai Ramubhai Saini Vs. Gujarat Pollution Control Board & Ors.

measures are, thus, required in the interest of protection of environment and public health.

25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage to the environment and public health. This amount may be assessed by a Committee with representatives of CPCB, GPCB and NEERI. The CPCB will be the nodal agency for coordination and compliance. The Committee may suggest restoration plan."

18. The Tribunal also considered the case of pollution in the Taloja industrial area[13] which finds mention under the title 'Navi Mumbai' at rank 51 based on its CEPI score. High level of pollution was found on the basis of joint inspection conducted by the CPCB and the Maharashtra PCB dated 02.01.2018, as the CETP was not functioning properly. The Maharashtra State PCB gave notice to 92 industries for closure. Apart from requiring the CETP operators to deposit a sum of Rs. 10 crores as compensation, steps were required to be taken to remedy the pollution. The Tribunal held that only option was to permit only such industries to function which had stand alone ETP and are fully compliant with the norms and to close the industries which were non-compliant.[14]

19. The Tribunal directed as follows:

> *"13. In view of above undisputed position that pollution is still continuing, the only option is to shut down the industries which are source of pollution till remedial action is taken. Learned Counsel for the MIDC as well as MPCB are unable to provide any other solution. It is made clear that mere fact that MIDC has assigned the work to a contractor does not absolve MDIC of its responsibility of operating CETP as per norms.*

[13] O.A No. 125/2018, Arvind Pundalik Mhatre v. Ministry of Environment and Forest & Climate Change & Ors.

[14] O.A No. 125/2018, Arvind Pundalik Mhatre Vs. Ministry of Environment and Forest & Climate Change & Ors., order dated 09.04.2019

> *14. Accordingly, we direct the MPCB to forthwith suspend the Consent to Operate to the industries in the area not meeting the norms and permit them to operate only after remedial steps are taken. Steps in this direction be taken within two weeks from today. Whether a particular industry is complying or not complying with the norms is the matter to be decided by the MPCB in accordance with law. Action taken report be furnished to the Committee and the Committee may take a final call in the matter, in case of any surviving issue."*

20. Taking cognizance of the untreated effluents being discharged by textile units in Tronica city, Loni area, Ghaziabad, the Tribunal in *Rashid Ali Warsi Vs. UPSIDC & Ors.*[15], directed closure of 53 units until the time CETP was made functional. Thereafter, vide order dated 13.11.2018, the Tribunal allowed operation of only those units which were later found to be achieving the norms.

21. The Tribunal in the case of *M.C Mehta vs. Union of India & Ors.*[16] dealt with the issues regarding continuous illegal discharge of untreated sewer and industrial effluents in Ganga and its tributaries and the connecting drains, apart from the dumping of solid waste, hazardous waste, plastic waste, muck and other wastes. The Tribunal after noting that leather industries at Jajmau, Banthar and Unnao were discharging untreated effluents in the river Ganga, directed that activities of such industries must be straightaway closed till they comply with the norms.[17]

22. In view of water pollution caused by absence/dysfunctional CETPs/ETPs/STPs, the Tribunal has, in the case of *Aryavart Foundation Vs. M/s Vapi Green Enviro Ltd. & Ors.*[18], directed all defaulting industries, other than green and white category, connected

[15] Order dated 25.05.2018
[16] O.A 200/2014, order dated 14.05.2019
[17] *Ibid* at Para 16 & 17
[18] O.A 95/2018, order dated 11.01.2019

with CETP, to make deposits with the CPCB towards interim environmental compensation, pending assessment of actual compensation and further action [19], on the following scale:

(i) Large Industries – Rs. 1 crore each
(ii) Medium Industries – Rs. 50 Lakhs each
(iii) Small Industries – Rs. 25 Lakhs each

23. In the present case, in view of massive exercise already done by CPCB, it is not necessary to require any further verification about the existence of pollution in the said PIAs. The Tribunal can direct that the polluting activities cannot be allowed to continue till adequate measures are taken as the Tribunal is bound to apply the 'Sustainable Development'[20], 'Precautionary'[21] and 'Polluter Pays'[22] principle under Section 20 of the National Green Tribunal Act, 2010 to protect the environment and the victims. The statutory regulatory bodies can be required to straightaway identify the particular industrial units in the said PIAs that are causing pollution, particularly those units which fall under the red and orange category and take action against them by way of closing the polluting activity, initiating prosecution and assessing and recovering compensation. Pending such assessment, interim compensation may be recovered on the scale adopted by this Tribunal in the case of Vapi industrial area[23].

[19] Para 55, of O.A 95/2018, order dated 11.01.2019
[20] M.C Mehta Vs. Union of India (1997) 2 SCC 353, where the Supreme Court of India held – The development of industry is essential for the economy of the country, but at the same time the environment and the ecosystems have to be protected. The pollution created as a consequence of development must be commensurate with the carrying capacity of our ecosystem.
[21] M.C Mehta vs. Union of India & Ors., (2009) 6 SCC 142, at para 23, 30 & 46, the Supreme Court addressed the issue of wide threat to forest ecology vis-à-vis the mining activities in the Aravalli hills and explained that it is important to evoke the precautionary principle to impose complete ban on mining in the Aravalli Range in state of Haryana.
[22] Indian Council for Enviro Legal Action & Ors. Vs. Union of India & Ors., (1996) 3 SCC 212 Para 16, Vellore Citizens Welfare Forum Vs. Union of India & Ors. (1996) 5 SCC 647 Para 12-18 – holding that "Polluter Pay" principle is 'accepted principle and part of environmental law of the country, even without specific statute. M.C Mehta Vs. Union of India & Ors., W.P (C) No. 13029/2015 order dated 24.10.2017 of the Supreme Court of India., O.A 95/2018, order dated 11.01.2019 & O.A No. 593/2017, order dated 03.08.2018: The Tribunal directed CPCB to take penal action against those accountable for failure in setting up CETPs/STPs/STPs and to recover compensation for damage to the environment,
[23] *Supra 15*

24. CPCB has compiled data of industrial clusters which are polluting in terms of air, water and other norms together. Under the law, even air pollution or water pollution or other pollution, are independent offences. The sustainable development and precautionary principle require any polluting activity to be prohibited and compensation recovered for damage caused from polluters. If there is air pollution, actionable under the Air Act, even if there is no violation of Water Act or EPA Act, such pollution cannot be ignored. There has to be prosecution, stopping of polluting activity and recovery of compensation for restoration of the environment. We have seen that even when norms of air, water and other pollution are being violated, prosecution, stopping of polluting activities and recovery of compensation is not taking place for which there is no justification. Likewise action to prohibit polluting activity, initiating prosecution and recovery of compensation is required not merely for the PIAs based on violation of norms under all the heads, but also for areas where air, water or other pollution is found individually. Thus areas not covered by PIAs are also required to be governed by our directions for enforcing the law by way of stopping polluting activity and taking other steps. The fact that such pollution is taking place is evidenced by there being acknowledged pollution in the form of 351 polluted river stretches[24] and 102 non-attainment cities[25].

25. CPCB must compile data of polluted industrial areas not confined to more than one parameters as is now being done, but also with respect to polluted areas based on water, air or other pollution individually. Compiling data for categorizing areas as polluted areas based on water pollution alone, or air pollution or other pollution

[24] O.A. 673/2018, News Item Published in 'The Hindu' authored by Shri. Jacob Koshy titled "More river stretches are now critically polluted: CPCB", Order dated 20.09.2018

[25] O.A. 681/2018, News Item Published In 'The Times of India' Authored by Shri. Vishwa Mohan Titled "NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15" order dated 08.10.2018

alone may be a step in the right direction. Let this be now done in the next three months, with the assistance of State PCBs/PCCs or other experts. In this regard we may note that dealing with the industrial water pollution, this Tribunal directed the CPCB to compile its monitoring report with reference to 97 CETPs installed in different states as this was linked to 100 PIAs also.[26]

26. Needless to state that there is no right to carry on business in violation of pollution norms and right of statutory authorities is coupled with duty. Such right, does not carry any unlimited discretion of not taking action when pollution norms are violated.

27. In view of the material compiled by the CPCB, with the assistance of SPCBs/PCCs, in respect of polluted industrial areas, where action is not being taken by statutory authorities, the Tribunal has to exercise its jurisdiction of directing performance of statutory functions and duties by the State boards/committees, following similar direction by the Apex Court[27].

28. Accordingly, we direct the CPCB in coordination with all State PCBs/PCCs to take steps in exercise of statutory powers under the Air (Prevention and Control of Pollution) Act, 1981, Water (Prevention and Control of Pollution) Act, 1974, Environment (Protection) Act, 1986 or any other law to prohibit operation of polluting activities in the said CPAs and SPAs within three months and furnish a compliance report to this Tribunal. The Central Pollution Control Board, in coordination with the State Boards/PCBs may make

[26] O.A No. 593/2017, order dated 19.02.2019, Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors.
[27] M.C Mehta (Calcutta Tanneries' Matter) Vs. Union of India & Ors., (1997) 2 SCC 411, at para 17, the Supreme Court directed the Board to take action against defaulting tanneries which, including those which had not complied with the conditions under Water Act as mentioned in their consents. In M.C Mehta Vs. Union of India & Ors., (2004) 6 SCC 588, paras 37,48, 517 69, the Supreme Court passed direction on closure of industrial units which were illegally operating and were in violation of the Master Plan.

assessment of compensation to be recovered from the said polluting units for the period of last 5 years, taking into account the cost of restoration and cost of damage to the public health and environment and the deterrence element. The scale of deterrence may be related to the period and the frequency of defaults. Such other factors as may be found relevant may also be taken into account. No further industrial activities or expansion be allowed with regard to 'red' and 'orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms. Pending assessment of compensation, interim compensation be recovered at the scale adopted by this Tribunal in the case of Vapi Industrial area as mentioned in para 22 above.

29. We further direct CPCB, with the assistance of SPCBs/PCCs or other experts, to compile information with regard to polluted industrial areas based on water pollution norms separately, air pollution norms separately and other pollution norm separately and notify such information on public domain within three months. On completing this exercise, action against identified individual polluters may be initiated on the same pattern on which direction have been issued in para 28 and furnish a report to this Tribunal in this regard also, before the next date.

30. We direct the MoEF&CC to take steps for enforcement of action plan for improvement of the situation.

31. We may also mention that hearing individual industrial unit is not considered necessary for passing the above order as the CPCB/State

PCBs must exercise their respective statutory powers by following the procedure prescribed under the statute even without intervention of this Tribunal. The Tribunal is only requiring such statutory bodies to perform their duties to uphold the law without going into an individual case[28]. Direction is with reference to data compiled, or to be compiled, by the said bodies only.

32. It is made clear that white and green or non-polluting industries which are not causing any pollution will not be affected by this order except that the parameters thereof may be monitored with a view to see that under the garb of label of white/green or otherwise, the polluting activity is not continued.

33. We direct that the CPCB will be at liberty to have an appropriate panel of Experts to augment its capacity, in case the available man-power is found to be inadequate to execute the above order and for this purpose utilise the environment funds available under the environmental compensation head. In this regard, reference may also be made to order dated 22.01.2019, of this Tribunal in O.A No. 101/2019, *Central Pollution Control Board Vs. Assam State Pollution Control Board & Ors.* which enables CPCB to utilise the environment fund for the purpose.

34. Let a compliance report be filed by the CPCB after three months but before the next date by email on judicial-ngt@gov.in.

List for further consideration on 05.11.2019.

[28] M.C Mehta Vs. Union of India & Ors., (2001) 3 SCC 756, at para 8, the Supreme Court repeated the stand that in re M.C Mehta Vs. Union of India (1998) 6 SCC 63, the Court had passed directions to all bus operators in Delhi to make a shift from diesel and other fuels to CNG, the Supreme Court's directions are all *in rem* and not *in personam*.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

July 10, 2019
Original Application No. 1038/2018
AK

Item No. 03 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(BY VIDEO CONFERENCING)

Original Application No. 19/2021
(Earlier O.A.No.618/2016)

Sanjay Kumar Applicant

Versus

State of UP & Ors. Respondent(s)

Date of hearing: 27.03.2023

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondent: Mr. Pradeep Misra & Mr. Daleep Dhyani, Advocates for UPPCB

ORDER

1. The issue for consideration is permissibility of operation of hot mix plants at Noida beyond 'carrying capacity' of the ambient air of the area as per assessment of the statutory regulators – the CPCB and the State PCB, thereby adversely affecting the environment and the public health.

2. The matter was considered by the Tribunal earlier, more than six years back, vide order dated 23.11.2016 in O.A. No. 618/2016. Considering the status of compliance and adverse impact on air quality, the Tribunal directed sealing of all the hot mix plants. As a result, many hot mix plants shifted elsewhere. Vide order dated 20.11.2019, the Tribunal directed that the remaining may remain sealed till compliance of norms. The State PCB was directed to file status report which was to be

registered as a fresh OA. Accordingly, on report dated 4.12.2020 being filed by the State PCB, the office registered the present O.A. which was considered on 24.02.2021.

3. The Tribunal held that the report does not consider the issue of carrying capacity of the area to sustain activities like hot mix plants and the siting criteria, including the inter-se distance followed so as not to violate the right of the citizens in the area to breathe fresh air. The Tribunal accordingly directed consideration of these aspects by a Joint Committee of CPCB and State PCB and to furnish a report to this Tribunal. The operative part of the order is reproduced below:

> *"3. We have considered the above report* ***which has not addressed the issue of carrying capacity of the area to sustain activities like hot mix plants and the siting criteria, including the inter-se distance followed so as not to violate the right of the citizens in the area to breathe fresh air. This observation is in the context of air quality in NCR which led to restrict activities with pollution potential. In this regard reference is made to the order dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., requiring regulation of brick kilns in the NCR in the light of the carrying capacity, till they are fired by coal generating air pollution. Question of use of cleaner fuel may require consideration in the context of hot mix plants also.***
>
> *4.* ***Let a joint Committee of the CPCB and the State PCB look into the above aspects to determine whether and to what extent and subject to what safeguards hot mix plants can be sustained following the "Sustainable Development" and "Precautionary" principles, in the interest of public health.*** *The State PCB will be nodal agency for coordination and compliance. The report be furnished to the Tribunal by 30.04.2021 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."*

4. The matter was further considered on 09.09.2021 in light of report of the joint Committee dated 22.06.2021 to the effect that supporting carrying capacity to sustain the hot mix plants in the study area was in the negative. It was ,however, suggested that in view of dependence of construction activities on hot mix plant, the existing plants be continued

subject to compliance of siting criteria. The recommendations in the report were as follows:-

> ***"3.0 RECOMMENDATIONS:***
>
> *It is to mention that this cluster of hot mix plants is the only cluster supplying raw material for pot-hole free roads, re-surfacing of roads, black topping of earthen roads to the concerned govt. agencies involved in maintenance & development of the rural/urban infrastructure in Noida & Greater Noida. Total 06 hot mix plants are in operation under direction of Hon'ble NGT, New Delhi in the said matter and are under regular monitoring of SPCB.*
>
> *i.* ***Since, the carrying capacity of the study area is estimated to be negative and therefore, following actions are suggested to support & protect the air environment:***
>
> - ***a. No new hot mix plant may be allowed to establish & operate in the area including any expansion of the existing units.***
> - ***b. The supporting infrastructure such as road needs to be improved, development of green belts and provision of water sprinkling in in the hot mix plants in order to control the fugitive dust emission.***
>
> ***ii. Siting criteria will be applicable for new establishment. Existing establishments should take appropriate environmental friendly practices. In future Hot mix plants shall be setup as per siting policy/guidelines. However, they may follow criteria as below:***
>
> - ***a. It should be located in area wherever permissible and atleast 100 meters away from residential dwellings, health centres/hospitals & schools,***
> - ***b. Atleast 200 meters away from water spread area of major watercourses like Lake, canal and major drinking water sources,***
> - ***c. Away from flood plain area of River and areas having shallow groundwater***
> - ***d. Atleast 50 meters of inter-se distance between two establishments (each establishment should provide 25 meters from each side) should be provided and developed green belt.***
> - ***e. Carrying capacity of the area may be considered while allowing new hot mix plant.***
>
> ***i. At present these plants are using diesel as a fuel, recommended installation of additional Alkali scrubber to minimize of SO_2 and NO_2 emission."***

5. Considering the above, the Tribunal held that in the interest of environment and public health and compliance of law laid down by the Hon'ble Supreme Court and earlier orders of this Tribunal, polluting

activities could not be allowed and even hot mix plants already set up could not be allowed to continue against the laid down siting criteria. With regard to the difficulty on account of closure of such activities, the Tribunal directed that available technological options be considered for which a seven Member joint Committee was constituted. The operative part of the order is reproduced below:-

> *"7. Adverse health impact of polluted air quality has been noted inter-alia in judgement of Hon'ble Supreme Court in M.C. Mehta v. UOI[1], M.C. Mehta v. UOI[2], M.C. Mehta v. UOI[3] and K. Guruprasad Rao v. State of Karnataka[4] and order of this Tribunal dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. CPCB & Ors. wherein the Tribunal directed stopping of all brick kilns in NCR beyond the assimilative carrying capacity in the air in NCR, till such brick kilns shift to PNG. Till shifting to PNG, it was directed that the brick kilns cannot operate except in limited number and only from March to June when assimilative air capacity permits such operations. The impact of air pollution on public health is noted in the order of the Hon'ble Supreme Court in Arjun Gopal & Ors. v. UOI & Ors.[5]:*

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

> *8. In view of acknowledged adverse health effects and extent of carrying capacity to sustain the polluting activity of the hot mix plants, the question is further course of action to be adopted.*

---

[1] (1998) 9 SCC 149
[2] (2000) 7 SCC 422
[3] (2002) 4 SCC 378
[4] (2012) 12 SCC 736
[5] (2017) 1 SCC 412

9. In Arjun Gopal & Ors. v. UOI & Ors.[6], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was placed in an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> *"4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 $\mu g/m^3$, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 $\mu g/m^3$ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 $\mu g/m^3$ and with an annual average $PM_{2.5}$ level of 122 $\mu g/m^3$, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> ***5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:***
>
> Tables 1 and 2 have already been reproduced in para 1 above and are not being repeated.
>
> ***xxx.....xxx .....xxx***

[6] (2017) 1 SCC 412

xxx.....xxx xxx

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues

like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

10. The precautionary principle has been elaborated in A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] as under:

“31. The “uncertainty” of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum v. Union of India [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] a three-Judge Bench of this Court referred to these changes, to the “precautionary principle” and the new concept of “burden of proof” in environmental matters. Kuldip Singh, J. after referring to the principles evolved in various international conferences and to the concept of “sustainable development”, stated that the precautionary principle, the polluter pays principle and the special concept of onus of proof have now emerged and govern the law in our country too, as is clear from Articles 47, 48-A and 51-A(g) of our Constitution and that, in fact, in the various environmental statutes, such as the Water Act, 1974 and other statutes, including the Environment (Protection) Act, 1986, these concepts are already implied. The learned Judge declared that these principles have now become part of our law. The relevant observations in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] in this behalf read as follows: (SCC p. 660, para 14)

‘14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.’

The Court observed that even otherwise, the abovesaid principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law. In fact, on the facts of the case before this Court, it

was directed that the authority to be appointed under Section 3(3) of the Environment (Protection) Act, 1986

'shall implement the "precautionary principle" and the "polluter pays principle"'.

The learned Judges also observed that the new concept which places the burden of proof on the developer or industrialist who is proposing to alter the status quo, has also become part of our environmental law.

32. The Vellore [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] judgment has referred to these principles briefly but, in our view, it is necessary to explain their meaning in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them.

33. ***A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the "assimilative capacity" rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers with the information and means necessary to avoid encroaching upon the capacity of the environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the "precautionary principle",*** *and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:*

'Principle 15.—In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.'

34. In regard to the cause for the emergence of this principle, Charmian Barton, in the article earlier referred to in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] says:

'There is nothing to prevent decision-makers from assessing the record and concluding that there is inadequate information on which to reach a determination. If it is not possible to make a decision with "some" confidence, ***then it makes sense to err on the side of caution and prevent activities that may cause serious or irreversible harm****. An informed decision can be made at a later stage when additional data is available or resources permit further research. To ensure that greater caution is taken in environmental management, implementation of the principle through judicial and legislative means is necessary.'*

In other words, the inadequacies of science is the real basis that has led to the precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible.

35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the international customary law, 'the consequences of its application in any potential situation will be influenced by the circumstances of each case'. (See First Report of Dr. Sreenivasa Rao Pemmaraju — Special Rapporteur, International Law Commission dated 3-4-1998, paras 61 to 72.)"

(emphasis in original)

"36. We shall next elaborate the new concept of burden of proof referred to in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] at p. 658. In that case, Kuldip Singh, J. stated as follows: (SCC p. 658, para 11)
'(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.'

37. It is to be noticed that while the inadequacies of science have led to the "precautionary principle", the said "precautionary principle" in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, — is placed on those who want to change the status quo (Wynne, "Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm" [(1992) 2 Global Environmental Change 111 at p. 123]). This is often termed as a reversal of the burden of proof, because otherwise in environmental cases, those opposing the change would be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the ***party attempting to preserve the status quo by maintaining a less polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden.*** *(See James M. Olson, "Shifting the Burden of Proof: How the Common Law can Safeguard Nature and Promote an Earth Ethic" [(1990) 20 Environmental Law 891 at p. 898] .) (Quoted in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] at pp. 519, 550.)*

38. The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. (See Report of

Dr Sreenivasa Rao Pemmaraju, Special Rapporteur, International Law Commission, dated 3-4-1998, Para 61.)"

(emphasis in original)

11. In Vellore Citizens' Welfare Forum case, 1996) 5 SCC 647, the Hon'ble Supreme Court banned the tanneries when it was found that they were causing immense damage to the environment. Environment protection, which is a facet of Article 21, was given supremacy over the right to carry on business enshrined in Article 19(1)(g). Following the said principle, it has been held that protection of right to health will have to be given priority. Health hazards in the form of various diseases that are the direct result of air pollution are well known. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of $PM_{2.5}$ are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life. Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial.

12. It is well known that Carrying capacity is a facet of sustainable development. It is inherent in 'Precautionary Principle' as well as in 'Inter-generational Equity'. In MC Mehta v. UOI & Ors.[7]*,* ***construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity.*** *It was observed that:-*

> ***"Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration."***

13. In Vellore Citizens' Welfare Forum v. UOI & Ors.[8]*, it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-*

> ***"****10……* ***During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems****. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.****"***

14. These observations are reiterated in (2006) 6 SCC 371.[9]

[7] (1997) 3 SCC 715
[8] (1996) 5 SCC 647
[9] Para 66 to 76

Tribunal's Approach to the subject

15. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the NGT Act and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[10] and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.[11] Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).[12]

16. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of* ***vehicular pollution[13], industrial and construction sector pollution[14], power sector pollution[15] and agricultural sector pollution[16]*** *and orders of this Tribunal dealing with the said issues[17]. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017[18] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such* ***as improvement in emission and fuel quality and other measures***

---

[10] 2019 SCC online SC 322, Para 43-47

[11] AIR 2020 (SC) 3471, Para 75

[12] (2019) 15 SCC 401

[13] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[14] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[15] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[16] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[17] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[18] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[19]

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[20]

5. ***The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.***

6. ***The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles****."*

7to13..xxx……xxxx……xxx

17. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. While under the orders of the Hon'ble Supreme Court, GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation.

18. We may also refer to direction issued by the CPCB on 27.11.2020 under Section 18 (1) (b) of the Air (Prevention & Control of Pollution) Act, 1981 for upcoming industrial units in NCR ***to use only gas*** *and also refers to an earlier order requiring even the existing industries in NCR Delhi,* ***to shift to PNG by 31.03.2019 where gas supply is available****. The relevant part of the order is quoted below:-*

---

[19] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[20] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

"xx xx xx xx

Whereas, considering the Considering deteriorating air quality in NCR-Delhi and also the fact that ***already directions have been issued to all the existing industries in NCR-Delhi to switch over to cleaner fuels, it is decided that only those new industrial units shall be allowed to set-up in NCR-Delhi, which use cleaner fuels namely, natural gas (PNG/CNG), liquefied petroleum gas, bio gas, propane, butane etc. and***

Now therefore, in view of the above and exercising the powers conferred under section 8(1)(b) of Air (Prevention and Control of Pollution) Act, 1981, you are hereby directed to allow only those new industrial units in NCR-Delhi, which are using cleaner fuels, namely, natural gas (PNG/CNG), liquefied petroleum gas, bio-gas, propane, butane etc."

19. Having regard to the above considerations, the Tribunal has passed recent orders to deal with situation arising out of air pollution caused by brick kilns in the NCR and also in the Mathura District. Order with regard to brick kilns dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., which has already been referred to in the earlier order dated 24.02.2021 wherein the Tribunal directed that the brick kilns in the NCR be regulated in the light of the carrying capacity in the interest of public health unless improved technologies used which doesn't adversely affect the air quality. The Tribunal held that may be it was a particular brick kiln maintained the standards was not enough if the air quality could not sustain such activities.

20. We may also refer to order of this Tribunal dated 01.12.2020 in O.A. No. 249/2020 whereby the Tribunal banned the fire crackers throughout India where air quality is poor and above in the interest of protection of public health. ***Extract from order dated 1.12.2020 in OA 249/2020 is reproduced below:***

"18. .....If the air quality is 'poor' and above, it has been held by the Hon'ble Supreme Court in the table quoted in para 4 above that there is danger of heart diseases, respiratory illness and other serious health impact *even before Covid. Covid is going to further aggravate the situation and therefore atleast in areas where air quality is 'poor' and above, no bursting of fire crackers should be permitted in view of 'Precautionary' principle, to be statutorily enforced by this Tribunal under Section 20 read with section 15 of the National Green Tribunal Act, 2010.*

32. .....In view of above discussion, following directions are issued:

i. There will be total ban on sale and use of all kinds of fire crackers during Covid-19 pandemic in the NCR and all cities/towns in the country ***where the ambient air quality falls under the 'poor' and above category****.*

v. We further direct that the Air Quality Monitoring Committees (AQMC) in terms of order of this Tribunal dated

08.10.2018 in OA No. 681/2018[21] to coordinate with the District Magistrates.[22] for compliance of the above directions."

21. This Tribunal, vide order dated 17.02.2021 in OA 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., considered the issue of permissibility of brick kilns beyond the assimilative carrying capacity in the NCR and in the light of the Expert Committee report. This Tribunal directed that brick kilns be allowed to operate only from March to June using Zig-zag technology only to the extent of such number of brick kilns as were found to be viable in terms of the carrying capacity.

22. In recent order dated 12.08.2021 in O.A. No. 93/2021, Mukesh Kumar Aggarwal v. Central Pollution Control Board & Anr., in the context of brick kilns in Mathura District, the Tribunal held:

"13. Applying the same principles, we are of the view that the brick kilns ought to be permitted to the extent of carrying capacity, correctly calculated, strictly as per consent conditions, siting criteria and other environment norms. When air quality standards are exceeded, only non polluting technology has to be followed. Existing guidelines have to be strictly adhered to. Precautionary principle has to be applied and non compliant activity stopped.

14&15…xxx……xxx……xxx
16. In view of earlier orders quoted above and discussion in paras 10 to 12, we are of the view that steps need to be forthwith taken to stop operation of brick kilns already found to be operating in violation of environmental norms till compliance by the State PCB in exercise of its statutory power, following due process of law, till compliance. This will include brick kilns not following consent conditions, operating in excess of carrying capacity, CPCB guidelines and orders of this Tribunal, and those violating siting guidelines. Necessary action be ensured within two months. At the same time, there is need for further study of carrying capacity, applying correct data and norms. Air quality monitoring equipments be installed in the concerned area and if online monitoring stations cannot be set up, easily available equipments be used to continuously monitor air quality. Stringent monitoring mechanism be put in place. Process of mechanically giving consents be reviewed by the State PCB in view of binding 'precautionary' principle. Public health needs to be given

[21] The said order is as follows:

"15. xxx xxx xxx
i. xxx xxx xxx
ii. The Action Plans may be prepared by six-member committee comprising of **Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State**. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination."

[22] The District Environment Committee has been directed to be constituted by this Tribunal to prepare and execute District Environment Plan vide order dated 15.07.2019 in OA No. 710/2017, Shailesh Singh vs. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors.

due preference to the need for establishment of brick kilns. Violators be strictly proceeded against by way of prosecution, recovery of compensation and preventing pollution. While determining carrying capacity, other sources contributing pollution loads may be factored in while considering concentrations of PM_{10} in microgram per cubic metre in addition to loads given in kgs. Further, mixing heights data may be referred from the nearest location of IMD station. It is also necessary to clarify reasons of high CEPI score (91.1) particularly for Air and remedial action plan."

23. In view of above discussions, we are of the opinion that in view of the report in the present matter that the carrying capacity in the area is negative i.e. the air norms are not being met, while benign activity not adding to the pollution can be allowed, polluting activity can be allowed only by ensuring that it does not add to the air pollution, by taking such stringent measures as may achieve desired result and may not adversely affect public health. Such measures may be use of appropriate technology, mitigation measures like dense forest shelter belts etc.

24. 'Sustainable Development' principle requires that the business activity should not compromise public health. This requires study of carrying capacity. In the present case, such capacity has been determined, though data considered is only of the month of June when air quality is comparatively better, compared to the winter months. Carrying capacity has not been assessed with reference to the average air quality for air quality of the months when air quality is comparatively inferior. The hot mix plants may operate even in winter, which are fast approaching. There is no justification in law for the recommendations that only new hot mix plants may not be allowed and the old hot mix plants may continue even at the cost of public health. Further, there is also no justification for the recommendation that the laid down siting criteria should apply only to new establishments. Already set up hot mix plants need not follow such criteria even if it results in damage to the public health and the environment. While the report with regard to the study can be considered for further action, the recommendations which are not in accordance with the environmental law cannot be accepted.

25. While we have no option except to enforce the environmental norms and stop hot mix plants not sustainable due to lack of carrying capacity, we are mindful of difficulty which will arise not only for the operators of such plants but also those who need such services. While GRAP is already operative which results in closure of certain polluting activities on deterioration of air quality, to maintain air standards further restrictions on polluting activities are necessary in the interest of public health. At the same time, ways and means need to be explored to sustain such activities to the extent possible without adversely affecting the public health. Since PM concentrations in the Central Indian/ Indo-Gangetic Plains are higher compared to Southern and East and North-Eastern parts of the country, to maintain regional balance in Developmental and industrial activities throughout the country and to support economy as well as the need of public, it is necessary that better technological options and advanced air pollution abatement measures are explored which enable sustainability of such activities. For this purpose, we constitute a seven member joint Committee which

will have statutory authorities and subject matter experts to look into the issue and to give science-based expert report. The Committee will comprise MoEF & CC, CPCB, State PCB, District Magistrate, Prof. Mukesh Khare, IIT Delhi, Prof. Mukesh Sharma, IIT Kanpur and Prof. Shiva Nagendran, IIT Chennai. Proceedings may be steered by the Member Secretary, CPCB. The Committee may adopt any other expert Institutions or individuals of repute. It may give its report in three months. Pending this report, UP PCB not to allow non- compliant hot mix plants in terms of GRAP and the present carrying capacity study report.

26. Thus, we direct as follows:-

i. The hot mix plants beyond carrying capacity may be closed at the earliest and as far as possible from 01.11.2021 by the statutory regulators in exercise of their jurisdiction under the Air Act, 1981 and the EP Act, 1986. In other words, no hot mix plant – old or new may be allowed beyond carrying capacity and without compliance of the laid down siting norms from 01.11.2021.

ii. ***A joint Committee comprising MoEF & CC, CPCB, State PCB, District Magistrate, Prof Mukesh Khare, IIT Delhi, Prof Mukesh Sharma, IIT Kanpur and Prof Shiva Nagendran, IIT Chennai may give a report in terms of para 25 above within three months*** *by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF."*

6. In light of above, report dated 30.01.2023 has been filed. It is stated that in view of air pollution in Indo-Gangetic Plain (IGP), development activities can be only with advance technology and management interventions, particularly during October and November. Sector specific recommendations have also been made with regard to domestic, transport and industries sectors along with enforcement strategies.

Our analysis:

7. We have given anxious consideration to the matter. We see the point in the report that prevailing situation in IGP calls for interventions in controlling and regulating unsustainable activities which may deteriorate the situation and adversely affect public health. There is exceedance of PM 2.5 during winter season taking the air quality to

'Severe' category. Apart from meteorological conditions, behavior and dispersion of pollutants particularly PM 2.5., there are contributors from other sources shown by the emission Inventory. The Committee has suggested three stage approach – (i) use of cleaner fuel, (ii) adopting efficient pollution control technologies and (iii) regulating operations as per Graded Response Action Plan (GRAP). The Committee has listed out Hot Spot Districts having poor air quality as follows:

"Table 5: List of Hotspot District with in IGP region

District	***State***
Aligarh	*Uttar Pradesh*
Kanpur	*Uttar Pradesh*
Faridabad	*Haryana*
Gautam Buddha Nagar	*Uttar Pradesh*
Mathura	*Uttar Pradesh*
Palwal	*Haryana*
Bulandshahr	*Uttar Pradesh*
Etah	*Uttar Pradesh*
Mahamaya Nagar	*Uttar Pradesh*
Kansiram Nagar	*Uttar Pradesh*
Baghpat	*Uttar Pradesh*
Ghaziabad	*Uttar Pradesh*
Meerut	*Uttar Pradesh*
Muzaffarnagar	*Uttar Pradesh*
North	*NCT of Delhi*
North East	*NCT of Delhi*
North West	*NCT of Delhi*
Panipat	*Haryana*
Sonipat	*Haryana*
Bhiwani	*Haryana*
Hisar	*Haryana*
Jhajjar	*Haryana*
Rohtak	*Haryana*
Central	*NCT of Delhi*
East	*NCT of Delhi*

New Delhi	*NCT of Delhi*
South West	*NCT of Delhi*
West	*NCT of Delhi*
South	*NCT of Delhi*
Gurgaon	*Haryana*
District	*State*
Mewat	*Haryana*
Firozpur	*Punjab*
Muktsar	*Punjab*
Sirsa	*Haryana*
Firozabad	*Uttar Pradesh*
Bardhhaman	*West Bengal*
Birbhum	*West Bengal*

8. Relevant extracts from the report are as under:-

"2.2.3 Analysis of Ambient Air Quality Data

xxx……xxx……xxx

The data for year 2019 is selected for representation of air quality status in IGP plain, the data for years 2020 and 2021 can cause biasness in our analysis due to Covid 19 pandemic and lockdown periods in both years. The data for year 2019 will be more representative for analyzing the air quality trends in IGP. The data for year 2019 is collected from CPCB air quality data management portal (https://app.cpcbccr.com/ccr/#/caaqm-dashboard-all/caaqm-landing). The seasonal variation of the PM levels is done based on seasonal bifurcation given by Sharma et al., 2021; Kumar et al., 2017. There are four major seasons Winter (Dec-Feb), Summer (Mar-May), Monsoon (Jun-Aug) and Post-Monsoon (Sep-Nov). The analysis of the collected data for seasonal variation is done on the basis of this bifurcation.

2.2.4 Identification of PM hotspots using satellite observations

The research employed satellite-based PM2.5 exposure calibrated to ground-based observations. Moderate Resolution Imaging Spectroradiometer (MRIS) data were used to determine surface PM2.5 concentrations (MODIS). MODIS can recover AOD at 10-km, 3-km, and 1-km spatial resolutions. In this study, we used the Multiangle Implementation of Atmospheric Correction (MAIAC) technique to recover AOD at 1-km resolution and converted it to PM2.5 using geographically and temporally changing scaling factors (i.e., PM2.5/AOD) from MERRA-2 data. The MERRA-2 scaling factors were compared to ground- based observations of CPCB locations. MERRA-2's diurnal scaling factor (i.e., the ratio of 24-hr PM2.5/PM2.5 during the satellite overpass) was used to transform

the satellite-derived instantaneous PM2.5 to 24-hr average PM2.5 (Joshi et al. 2021). The satellite-derived daily (24-h average) and annual PM2.5 show a R^2 of 0.8 and 0.97 and root mean square error of 25.7 and 7.2 µg/m^3, respectively against surface measurements from the Central Pollution Control Board India network. More details about the retrieval of PM2.5 from satellite data, calibration, and validation are available in (Dey et al. 2020). The satellite derived PM2.5 product is accessible from our data portal (www.saans.co.in)."

"3.1 Seasonal Variation of PM2.5 in IGP

xxx……xxx……xxx

Table 3: Seasonal Variation of PM2.5 (in µg/m^3) in IGP

Site	***Winter***	***Summer***	***Monsoon***	***Post-Monsoon***
Amritsar, Punjab	*53*	*52*	*35*	*64*
Murthal, Haryana	*85*	*73*	*59*	*58*
New Delhi (ITO)	*176*	*87*	*51*	*125*
Lucknow, Uttar Pradesh	*119*	*83*	*37*	*87*
Patna, Bihar	*208*	*66*	*37*	*116*
Kolkata, West Bengal	*175*	*64*	*38*	*66*

"3.2 Annual & Diurnal Variation of PM2.5 in IGP

xxx……xxx……xxx

The weekly diurnal variation plots for sites across IGP shows that the concentration of PM2.5 is lowest during the day between 12:00-18:00 hrs, after 18:00 hrs the concentration of PM2.5 starts increasing and peaks around midnight. During night hours (0:00-06:00_ the concentration of PM2.5 does not show much variation. Between 6:00-12:00 hrs, the concentration shows variation due to morning peak hours, the peaks are generally observed between 08:00-10:00 hrs and afterwards the PM2.5 concentration keeps decreasing till 18:00 hrs."

"6.1 General recommendations for non-industrial sectors to control the emission

6.1.1 Domestic Sector

The domestic sector contributes nearly 437 Gg of PM2.5 (19 % of the total PM2.5 emission) per year over the IGP. This emission is primarily due to the use of solid fuel and traditional Chulha in rural locations. In a highly populated country like India, giving subsidy in each individual household might not be feasible. But the rural and partly some semi urban and urban population are unwilling to use cleaner fuel (LPG) instead of free or less costly solid fuel. Hence, promoting the cleaner fuel through Pradhan Mantri Ujjwala Yojana and providing support to the economically weaker section like BPL

ration card holders should be considered. During critical winter months (November and December), if the families using solid fuel only (estimated number of families 3,60,75,200) use domestic LPG (estimated 7,21,50,401 number of domestic LPG cylinders required @two cylinders per family during the season), 108 Gg of net PM2.5 emissions can be reduced over the IGP. Another solution to control the domestic emission might be promoting improved cook stoves in the rural areas. Providing one improved cook stove can run for one or two years for a family and this can significantly reduce the emission from the domestic solid fuel burning. Cattle dung can be used as an alternative of coal in nearby coal-based industries with high PM2.5 control efficiencies and provide some financial benefit to the rural population.

6.1.2 Soil and Dust

All source apportionment and inventory studies in the region show overwhelming impact of dust especially during summer that is inevitable in these geo-climatic conditions. The net emission of soil and road dust is 225 Gg/year (~10 % of the total PM2.5 emissions over the region). Loose crustal soil and high wind effect in the Indo-Gangetic Plain contribute to this phenomenon. Dry winters/summers add to the problem. Re-suspension of road dust due to vehicular traffic is of special concern. Dust is a carrier of toxins from combustion sources and therefore, can be harmful. However, the strategy to address this problem has to be diverse and not limited to only road cleaning and sweeping. A lot of this problem is also created by mismanaged urban construction and roads. Intense rapid action should be taken to repair and building of pavements and vacuum cleaning of roads; implementation of street design guidelines for footpaths and cycle tracks with adequate vegetative buffers and paving of roads; blacktopping/ pavement of road shoulders; phase-in mechanical/ vacuum based street sweeping' introduce wet/ mechanized sweeping of roads; implementation of truck loading guidelines; use of appropriate enclosures for haul trucks; gravel paving for all haul routes; sprinkling of recycled water; water fountains at major intersections; maintenance of pothole free roads, increase in green cover on central verges and on the road sides along the right of ways, enforcement of air pollution control in concrete batching (use of water spray and wind breakers, bag filters at silos and enclosures, hoods, curtains etc.)

Towards dust management on roads and road construction projects, municipal bodies should adopt the road dust control measures. The focus should be largely on the maintenance of roads, identification of hotspots for road dust, mechanical sweeping, sprinkling and scientific disposal of collected waste. The longer-term systemic changes should require more broad-based approaches: (i) Municipal ward wise street network redevelopment plan for paving and greening as per IRC guidelines without impeding the needs of other road users including pedestrians. (ii) Hotspot action for road cleaning with GPS enabled mechanical sweepers; desilting of canals/nullah's side roads brick lining, dedicated helpline with MIS support and citizen interface to enable geo-tagging for complaints; (iii) Urban greening agenda with greening of open areas, gardens, plantation for green walling and protection of all forest areas in IGP.

The exclusive controls of urban dust should include better road conditions, paved shoulders, stabilization of soil surface, sidewalks, and unpaved portions (e.g., parking lots) to have Interlocking Concrete Block Pavement (ICBP) in the megacities over IGP. ICBP technology should be adopted for specific requirements of footpaths, parking areas, etc. It should be the priority that all existing unpaved shoulders, sidewalks, and parking lots are suitably handled and, in the future, all new road constructions incorporate these measures.

All major urban roads, State Highways and NHAI must maintain silt load of 2.0 g/m^2 or less on their roads and assess the silt load twice in a year (winter and summer) at an interval of 50 km on both sides of the road.

Railway siding should construct warehouse for storage of cement bags or other dusty material to minimize fugitive emissions during loading, unloading and storage and avoid these operations on open platforms. Mechanical handling of bags of cement or dusty material be done using conveyor belts, possibly horizontally movable belts. Enclosures in the form of flexible belt curtain may be provided on the warehouse openings used for transfer of material. Warehouse cleaning shall be done with only mechanical means (large size vacuum pump) and it shall be done on regular basis. Cement collected shall be properly stored and records be maintained. Peripheral roads for vehicle movement should be paved and these should be properly maintained.

6.1.3 Construction dust

Construction work all through the country is progressing at a fast rate and as the economy grows, it will further increase. The production of cement, along with poor conditions at the construction sites, are responsible for significant contribution in PM2.5/10. Regulations are adequate but enforcement of these needs to be strengthened (e.g. shielding off the construction sites, storage of materials, loading-unloading, paved road at the construction site) and dust from the construction work. Uses of water cannon to wash the surrounding may be partly useful but what is important is to prevent dust emissions. A condition/policy should be formulated that all building materials and surroundings (except raw cement) will have 2% moisture; this approach will solve the dust problems to a large extent.

6.1.4 Open Burning

This sector emits nearly 358 Gg PM2.5 annually (As per the EI report done in this study by IIT-Kanpur) (15.5 % of the total emission of PM2.5 over this region) and need to be addressed comprehensively. The following are some recommendations.

Crop residue burning

Our results have clearly shown that the major fraction of open burning is due to the crop residue burning. For the IGP, we cannot settle the issue of episodic air quality unless we talk about crop residue burning (CRB) in Punjab and Haryana; the estimated PM2.5 emissions from CRB is 70 Gg at the end of Kharif season is almost three times more than the Delhi's annual estimated emission. Thus,

the large CRB emission have paramount impact on the entire IGP. Plan of actions need to be taken well before and implemented. Continue with all efforts to minimize the number of CRB fires through technology, education, awareness, incentives and limit the mean number of daily fires to less than 1000 (refer to CII-NITI Aayog, 2018). Make all efforts at Block/Panchayat level to educate households not to burn any biomass including dung, encourage and promote LPG usages particularly during this period. Implement GRAP (Annexure - V) fully from October 15 to November 20 and not wait for PM2.5 levels to go above 250 µg/m^3. The GRAP has all the actions that will improve the air quality and reduce the emission to desired levels. But these actions are to be taken from October 15 to November 20, regardless of air quality in this period.

Municipal Solid Waste Burning

MSW is the major cause of air pollution not only because it is burned but also because of its improper disposal. The dumped MSW undergoes decomposition which releases H2S, NH3 and harmful volatile compounds like VOCs. The VOCs turn into particles of secondary organic aerosols and add in the formation of ozone. Although there exist MSW disposal Rules, their implementation is far from satisfactory in most urban areas.

The Cl- content, which is an indicator of MSW burning, in urban areas can vary 2-10 percent in PM10. The typical contribution of MSW burning alone is about 8-10 percent and it needs to be controlled.

Any form of garbage burning should be strictly stopped and monitored for its compliance. It will require the development of infrastructure (including access to remote and congested areas) for effective collection of MSW and disposal at the scientific landfill site. Space constraints force the municipal corporations to simply dumped and spread at the low lying area. This must be recognized that the major problem is that of collection. The option of waste to energy plants must be considered with very high pollution control; PM control over 99.99 percent should be ensured. A similar treatment/ disposal of legacy waste should also be taken up on priority.

The municipal corporations should prioritize the MSW collection mechanism starting in a systematic manner in each ward. Special attention is required for fruits, vegetable markets and commercial areas and high-rise residential buildings, where MSW burning is common. A mechanism should be developed to carry out the mass balance of MSW generation and disposal on a daily and monthly basis. These data must be inventorized and available for public scrutiny.

Desilting and cleaning of municipal drains by Municipal Corporation should be undertaken on a regular interval, as the silt with biological activities can cause emission of air pollutants like H2S, NH3, VOCs, etc. It is seen that waste is sometimes burned in industrial areas; this must stop and be ensured under the supervision of industrial development agency and pollution control boards. The complete banning of MSW burning in urban areas can significantly reduce PM2.5 emissions.

Open burning of waste as well as spontaneous fire in landfills contribute substantially to air pollution and is a source of high toxic exposure for local communities. The enforcement measures that include ground inspection and penalty and emergency response to public complaints have limited impacts. The effective solution lies in proper waste management. However, infrastructure for waste collection, transfer, material recovery and safe disposal is not adequate. As a result, waste accumulates in the open that is burnt for easy disposal. Waste management has to ensure proper quantification of waste generation, 100 % door to door collection of segregated waste, material recovery and recycling and minimize fresh dumping of waste in landfills and full remediation of legacy waste.

6.1.5 Transport Sector

The contribution of particulate matter from the transport sector is relatively low compare to industrial or domestic sector as a whole (118 Gg/year, i.e., 5 % of the total PM2.5 emission over the region) (As per the EI report done in this study by IIT-Kanpur). But in point locations such as over the urban agglomeration the relative contribution from transport sector could quite high. According to the Automotive Research Association of India, due to the progressive tightening of the emissions standards for vehicles there has been substantive improvement in tailpipe emissions from new vehicles. With graduating from Bharat Stage-I (BS-I) to Bharat Stage - VI (BS-VI) emissions standards, particulate emissions from diesel cars have reduced 31 times and from heavy duty vehicles by 36 times. While new vehicle technology and emissions control systems have significantly improved and will continue to improve to reduce tailpipe emissions in the driving conditions, equally stringent focus is needed on management of on-road vehicles. The objective is to keep on-road vehicles low emitting during their useful life on the road and to reduce direct exposure to toxic emissions; accelerate fleet renewal to leverage emissions gains from the technology advancement with introduction of BS VI emissions standards; and accelerate zero emissions transition with rapid electrification of targeted vehicle fleet to meet clean air target. Simultaneously, transportation and mobility strategies will be implemented to reduce vehicle miles travelled and achieve at least 80-85 per cent modal share by public transport systems.

There should be improvement in enforcement systems that include linking of updated PUC and Vahan database, automatic alert to vehicle owners for renewal of PUC certificates, compliance strategy like linking refueling with valid PUC certificate and higher penalty. Linking of PUC with annual vehicle insurance may be useful. Information on the status of action in IGP is not equally adequate. The programme requires uniform strengthening; quality control at a scale and effective fleet screening still remains a daunting challenge. This requires introduction of more advanced inspection and monitoring systems. In addition, all commercial vehicles require annual roadworthiness and fitness tests under Central Motor Vehicle Rules (CMVR). In most part of IGP these tests are done manually with limited testing facilities. There is a need to set up more fully automated high-capacity centralized testing centers for the region. There is scope for better capacity utilization of these testing centers. Vehicle electrification targets for IGP by each of the

States need to be set in terms of percentage of the new vehicle sales to be achieved by the end of the 2025-2030 in phased manner and also targeting total e-vehicles in particular categories. All States should have a policy on EV and hybrid vehicles, charging points at State/ private/ household level in a time bound manner. Implement older vehicle phase out policy as per the action plan of MoRTH for National Clean Air Programme (prana.cpcb@gov.in>> partners>>MoRTH plan). All new public transport buses in cities over this region should be targeted to be electric buses. Identification and decongestion of traffic intersections as per the approved city action plans could also lead to reduction in net emission from the transport sector.

Minimizing pollution from in-use old vehicles: *Among control devices, the Diesel Particulate Filter (DPF) is useful and proven technology. DPFs are porous ceramic honeycomb devices and filtration in DPFs occurs as exhaust gases are forced to flow through the walls and structure of filter. Such installation is possible in both BS IV two and four-wheelers. Every State should develop/amend vehicle scrappage policy, develop incentive mechanism for scrappage of old vehicles, and set up infrastructure for material recovery and disposal of end-of-life vehicles (Toyota operates one such plant in NOIDA). Develop a plan for CNG/CBG fuelling network in IGP and on highways to shift long haul trucking and other commercial vehicles to CNG.*

E-Mobility: *Policies on e-mobility for all the IGP states should have priority for million plus cities that encourage EV including strong hybrid vehicles.*

Faster EV adoption in intra-city commercial transport and in 2/3-wheeler segments should be ensured. Public city transport including taxis and cabs may be converted to gas/electricity or strong hybrid in a time-bound manner. Diesel auto rickshaws should be phased out. Strategic plan for EV charging infrastructure at each 3 km in urban areas, 25 km on highways (both sides) and 100 km for buses and trucks and swappable battery stations may be set up. Retrofitting of old and overaged petrol/diesel vehicles into electric vehicles.

City transport services (bus and metro services) should be augmented in million plus cities. Public transport can be made cheaper than the two-wheeler cost.

6.1.6 Fugitive emissions

There are several industrial enterprises that are responsible for huge amount of fugitive emissions and dust generation from mining and different phases of crushing and storage. Stone crushers and mineral grinding are the most prominent among them. It is necessary to further reform the industrial structure, modernize production capacity with improved emission control systems and adoption of clean fuels like natural gas and clean electricity for industrial applications. This will have to be supported by smart monitoring and deterrence for compliance and targeted improvement. Other requirements are installation of ambient air quality monitoring stations and online e-Rawaana system to stop illegal mining. These require proper implementation and effective

technical approach. Also, further mapping of all sources of fugitive emissions is important.

Construction work all through the country is progressing at a fast rate and as the economy grows, it will further increase. The production of cement, along with poor conditions at the construction sites, result in contamination and pollution. Regulations are adequate but poor implementation of dust control measures (e.g., shielding off the construction sites, proper storage of materials, loading-unloading, paved road at the construction site) may lead to dust from the construction work. Uses of water cannon to wash the surrounding may be partly useful but what is important is to prevent dust emissions. A condition/policy should be formulated that all building materials and surroundings (except raw cement) will have 2 % moisture; this approach should solve the dust problems to a large extent.

CPCB has brought out guidelines for prevention and control of dust from construction activities. State agencies must implement these in later and spirit.

6.1.7 Agriculture Sector

The rural emissions are significant and need to be controlled on priority. The control of rural emissions will improve the air quality in rural area and prevent its contribution to urban areas in the form of background pollution. In rural area tillage from the agricultural land is an important source of PM2.5. Use of solar pump can be encouraged for the irrigation purpose in place of diesel or kerosene.

Ploughing should be avoided if the soil is dry and there are high winds. Minimize soil-disturbing field operations such as ploughing, mowing, and tilling. These activities may be avoided when winds are high. Post-harvest tillage may be done on low wind speed days-based weather forecasts. Physical barriers such as fences, straw bales, and large trees may be used to minimize the flow of dust.

6.2 Industry Specific Interventions (Best Available Technology and stringent emission standards)

This study shows that the industrial sectors are the main PM2.5 emitters over the IGP region with the net emission of 1128 Gg/year (48 % of the total PM2.5 emission) (As per the EI report done in this study by IIT-Kanpur). Hence this sector needs special attention and planning for air quality management. Emission Inventory for Industrial emission of PM2.5 shows that in IGP, Uttar Pradesh is the major emitter of industrial PM followed by Bihar, West Bengal, Haryana and Punjab (Figure 34).

Net industrial emission of different states

Haryana= 133.2 Gg/Year

Punjab= 121.2 Gg/Year

Uttar Pradesh= 492 Gg/Year

Bihar= 208 Gg/Year

West Bengal = 191 Gg/Year

Brick Kilns

Among the industrial emission, the bricks have the largest contribution in IGP with the net emission of 468 Gg/year (41 % of the total industrial emission and 19 % of the total PM2.5 emission) (As per the EI report done in this study by IIT-Kanpur). State-wise emission inventory of PM2.5 shows that Brick Kilns contribute maximum to PM2.5 levels in Uttar Pradesh (230 Gg/year) and Bihar (77 Gg/Year) while the other major emitting States are Punjab (69 Gg/Year), Haryana (49 Gg/Year) and West Bengal (43 Gg/Year). Therefore, it is prerequisite to curb Brick kilns' emissions using latest technology.

Brick kilns are small scale and widely dispersed and are difficult to monitor. There have been several efforts to monitor their operation, set emission standards, mandate adoption of improved zig zag kiln technology and closure during winter in NCR. The MoEFCC has issued a gazette notification on February 22, 2022, on emissions standards and kiln technology. This provides for tighter particulate emissions standards, and specification of stack height by capacity of brick kilns. In intermittent kilns, bricks are fired in batches; fire is allowed to die out and the bricks are allowed to cool after they have been fired. The kiln must be emptied, refilled and a new fire has to be started for each load/batch of bricks. In intermittent kilns, most of the heat contained in the hot flue gases, fired bricks and the kiln structure is thus lost. Intermittent kilns are still widely used in several States of the IGP and can be further sub-divided into two categories: – Intermittent kilns without stack: The kilns which do not have any stack/chimney to guide the flue gases. In these kilns the flue gases can be seen coming out of the kiln from the sides or from all over the top surface of the kiln. Clamps, scove and scotch kilns are the examples of intermittent kilns without stack. This kind of kilns should be strictly banned over the region within next 3 years. All new brick kilns will be allowed only with zig zag technologies or vertical shaft or on piped natural gas. In addition, it is recommended that the brick kilns should be operative after the annual episodic issues of poor air quality (i.e., end of November) over Punjab and Haryana. For vertical shaft kilns the stack height should be 16m and 14m respectively for the Kiln capacity less than 30,000 bricks per day and more than 30000 per day. For rest all kind of kilns it should be 27m and 24m respectively. Brick kilns shall construct permanent facility (port hole and platform) as per the norms or design laid down by the Central Pollution Control Board for monitoring of emissions. Brick kilns should be established at a minimum distance of 0.8 kilometers from habitation and fruit orchards. State Pollution Control Boards/Pollution Control Committees may make siting criteria stringent considering proximity to habitation, population density, water bodies, sensitive receptors. The first step is to identify the type of technology used in existing brick kilns. Table 9 shows types of Brick kilns in use in IGP with their specifications.

Table 9: Types of Kilns used in IGP with their specifications

Type of Kiln	***Fixed Chimney Bull Trench Kiln (FCBTK)***	***Natural Draught Zig Zag***	***Induced Draught Zig Zag***	***Vertical Shaft***
Commonly used Fuel	*Coal Biomass: Sawdust, firewood, biomass briquettes Agricultural residue: husk and stalks Industrial waste: tires, plastic*	*Similar*	*Similar*	*Coal*
Specific Energy Consumption (MJ/kg)	*1.1-1.46*	*1.02-1.21*	*0.95-1.11*	*0.54-1.11*
Cause of Heat loss	*Incomplete Combustion, Heat loss from kiln surface*	*Heat Loss from kiln surface*	*Heat Loss from kiln surface*	*Flue gas and fired bricks*
Production Capacity (million Bricks per year)	*3-8*	*3-8*	*2.5-6.0*	*1.5-3.0*
Capital Cost (USD)	*50,000-80,000*	*50,000-80,000*	*50,000-80,000*	*60,000-80,000*
Good Quality Product	*60 %*	*85 %*	*80 %*	*90 %*

It is evident from the Table 9 that natural draught zig zag type of Brick kilns are the most efficient. Vertical shaft brick kilns are less polluting and their specific energy consumption is also low, however, with respect to capital cost and production capacity it is not viable.

Ministry of Environment, Forest & Climate Change has notified revised emission norms for brick kilns, which should be strictly enforced.

MSMEs

Micro Small and Medium Enterprises (MSME) are the major source of PM2.5 emissions in Bihar, Haryana and West Bengal while second major source in Punjab and Uttar Pradesh. Boilers and furnaces are the most common category of MSME in all States while stone crushers in Uttar Pradesh and Jute industries in West Bengal are also contributing (Table 10).

Among the industrial emission, MSMEs are the second largest (after brick kilns) contributor to the PM2.5 with the net emission of 350 Gg/Year which is about 31 % of the industrial emission and 14 % of the total PM2.5 emission over the region (As per the EI report done in this study by IIT-Kanpur). State-wise Emission inventory of PM2.5 shows that MSMEs contribute maximum to PM2.5 levels in Bihar (107 Gg/Year, 30 % of the MSMEs emission) and Uttar Pradesh (96 Gg/Year, 27 % of the MSMEs emission).

Table 10: State wise classification of leading MSME industries

State	***Type of MSME***
Bihar	*Boiler, Furnace, Roll Mills*
Haryana	*Boiler, Furnace*
Punjab	*Boiler, Furnace, Hot-mix Plants*
Uttar Pradesh	*Boiler, Furnace, Stone Crusher, Roll Mills*
West Bengal	*Boiler, Furnace, Roll Mills, Hot-mix plants, Jute*

The following steps can be taken to curb emissions from MSME.

Small scale units and small boilers

Small scale units dominate the industrial sector in the region and are largely dependent on polluting fossil fuels in their individual boilers. Such a system being energy inefficient on one hand, also are a source of high pollution. While several industry specific interventions to improve processes may improve overall technical efficiency for resources and emissions savings, it is necessary to focus on two priority strategies viz. access to clean fuel and replacement of small individual industrial boilers with common boilers, wherever possible. If feasible, such furnaces and industrial processes could also be run on affordable electricity. More than 50 % of the boilers installed in industrial areas are of less than 2 tones per hour (TPH) capacity. Another 35 % of boilers have capacity in the range of 2–10 TPH. These are used for generating steam for heating purposes. These boilers primarily consume coal and are presently not equipped with effective pollution control measures. Fuel feeding is mostly done manually without any automation and these have poor technical efficiency. Installation of any type of Continuous Emissions Monitoring Systems (CEMS) is not feasible. There are large number of small boilers in several industrial clusters in IGP. Replacement of small boilers with common boilers for steam generation in a cluster of industrial units is an important way forward. There are several advantages of switching from individual small boilers to common boilers. The individual industrial units can avoid a range of costs that include cost of installing small boilers and associated fuel cost, cost of air pollution control devices, operation and maintenance cost and can also avoid the need for getting environmental clearances for boilers. These costs and responsibilities can be borne by the manufacturers/installer and operator of common boilers. This can further reduce inspection requirements of numerous boilers by SPCBs. Common boilers can meet much tighter emissions standards, run on cleaner fuels including natural gas or biomass, adopt emissions control systems and CEMs monitoring and also obtain necessary environmental clearances.

Controlling emissions from the furnaces

There are many industries with induction furnaces, which is very polluting process, with almost no pollution control devices (Figure 35). The maximum emissions occur when the furnace lids and doors are opened during charging, back charging, alloying, oxygen lancing (if done), poking, slag removal, and tapping operations. These emissions escape from sides and top of the building. To address the pollution caused by fugitive emissions using induction furnaces a fume gas capturing device has been developed and commercially available. A side-based suction is far more effective than top suction, which interferes with the movement of the crane.

As efforts are being made to reduce pollution from boilers in industries, it is equally important to restrict the use of furnaces running on dirty fuels. Primarily manufacturing industries, especially metal-based industries, use furnaces. Currently these are largely operating on fuels like coal, wood and liquid fuel. However, several units have also adopted electric furnaces while a few are running on gas-based systems. While non-electric furnaces should not be allowed in new industries, a phase out plan may be planned for the existing industries with some incentive support for small and medium scale units. Until then ensure all industries using furnaces have installed well maintained air pollution control devices.

Induction furnace

There are several induction furnaces in IGP and these do not have proper collection of fumes and emission due to movement of cranes and almost all emission goes uncollected (Figure 36). The new technology requires the collection of emission from sideways but with much higher suction rate that does not interfere with the movement of crane and should be adopted (Figure 36).

Industrial waste burning

Nearly all industrial areas are prone to open burning of industrial waste that includes plastic, packaging, rubber, textile, ceramic, slag etc. Industrial waste management – both nonhazardous and hazardous waste - has emerged as an important issue in IGP States. There is an urgent need to streamline the collection and disposal of such industrial waste to prevent burning. Industries and industry associations should be made liable for safe collection and disposal. There have been some initiatives as in a few industrial zones where authorities have tied up with service providers to collect industrial waste and recycle and reuse using a material recovery facility. Such initiatives will have to be scaled up for the entire region.

CEMS monitoring in industries

Smart monitoring with the help of continuous emission monitoring (CEMS) is important for effective surveillance and transparent monitoring of industrial stack emissions to assess performance. The concerns regarding CEMS installation is quality control of data generated from the system. Lack of proper calibration and wrong installation, inadequate knowledge and skills required for technology selection, installation, operation and maintenance, compromise the quality of data and this needs immediate attention

and action. Also, vendors, industry, service providers lack proper knowledge/skills. Industries lack clarity on suitable technology selection. Suitability of technologies, according to type of stacks, issues related to auto drift, span check etc., or provision of remote calibration of equipment, quality assurance and periodical check of CEMS performance also need to be addressed. There is an urgent requirement to strengthen the CEMS regime so that it can be used as a compliance monitoring tool by the regulators. CPCB has already initiated steps in this regard. Quality data and robust management of data from CEMs is desirable to adopt market-based mechanism like emission trading system.

Sugar Industry

In IGP, sugar industries located in Uttar Pradesh and Punjab are the major contributors to PM emissions. In Uttar Pradesh sugar industries contribute to 16% of PM emissions while in Punjab it is around 5%. Figure 37 shows that in Uttar Pradesh most of the sugarcane industries are in the northern region.

Most of the Sugar Industries use bagasse as a fuel in boilers, which produces particulate matter, oxides of nitrogen, carbon, sulfur and water vapors. It has been observed that nearly 45-50% of the Sugar Mills (<1000 tons cursed per day) in this region is small scale sugar manufacturing company (Khandsari) and should be treated as MSMEs. They should shift to forced draft from current practice of natural draft for better combustion and install simple air pollution control devices like cyclones and multi-clones.

For the bigger mills (>1000 tons crushed per day), the particulate matter, usually referred to as fly ash, consists of ash, unburnt bagasse and carbon particles. The MoEF&CC has provided emission standards for sugar industries which has to be stringently followed.

They should install advance air pollution control devices like bag filters, scrubbers and ESPs and should meet the emission standard of 150 mg/m^3.

Coal based Power Plants

Emissions from coal power is also a significant source of PM2.5 in most of the States in IGP ranging from 12-16 % while in West Bengal it is one of the primary sources of PM2.5 (36 %). Revised emission norms for Coal Power Plants should be implemented within the specified time frame.

Cement Industries

The point source emissions from the cement industry include dust/particulate matter and gaseous emissions. Cement industry deals with various size reduction operations from limestone crushing to clinker grinding, dust emissions are a major pollutant. Gaseous emissions such as sulfur dioxide (SO2), oxides of nitrogen (NOx), carbon monoxide (CO), carbon dioxide (CO2), etc., are generated during pyro processing. The major sources for particulate matter emissions are crusher, coal mill, raw mill, kiln, clinker cooler, cement mill and packing plant.

Cement plants are equipped with air pollution control equipment (APCEs) like electrostatic precipitators (ESP), baghouse with glass

fiber membrane filters and ESPs modified with bag filters, called hybrid filters. The CPCB norms for fugitive dust control should be strictly followed.

Summary – industry specific

In IGP, industrial PM2.5 is primarily emitted by Uttar Pradesh followed by Bihar, West Bengal, Haryana and Punjab. Delhi and Chandigarh are comparatively negligible. In all IGP States four major industries have been identified viz. brick kilns, MSME, sugar and coal-based power plants. The study identified a work plan to be followed to curb emissions from different categories of industries. The first step should be usage of cleaner fuel. Nowadays, in brick kilns, scraps and plastic wastes have been in use which should be replaced by PNG and agricultural waste. Furnaces and boilers should use PNG, electricity and low sulfur coal. The most of the sugar mills are using bagasse fired boilers. Second step should be replacement of old technologies with new, for e.g., FCBT kilns should be replaced by zig-zag technology. Third step is to utilize pollution control technologies. Various types of PM controlling technologies have been identified which can be adopted as per requirement. Electrostatic precipitators and filters bags are the most efficient technologies for the finer particles, while for NOx and SO2 selective catalytic reduction and flue gas desulfurization are the most efficient methods. The last step is periodic assessment of emissions from stacks and stack height. Industries should follow the emission standards prescribed by MoEFCC. It is recommended that over the identified hot spots of industrial pollution PNG supply network should be started to shift towards the cleaner fuel. No new red category industries should be allowed within 5km radius where population is above 1 million."

Chapter 7 which refers to Summary of Actions and Recommendations are reproduced below:

Pursuant to the order of the Hon'ble NGT, the Committee has investigated the causes of high air pollution in IGP and made a detailed district-wise emission inventory of fine particles (PM2.5) for different emitting sectors. This has enabled the identification of regions of poor air quality and local hotspots where air quality is very poor. Industrial development is the backbone of economic progress; however, the growth should be sustainable with a low emission trajectory for better public health. The Committee has specifically concluded the requirements of advanced technology and management interventions for air pollution sources in IGP. Due consideration was given that technological options and other actions are realistic and time-worthy for air quality improvements without any major recommendation of closure or restriction on economic activities. In addition, specific action plans are also suggested for the October -November episodic air pollution observed in IGP. The Committee has proposed overall recommendations which may be implemented in a time-bound manner. The detailed sector-wise emission control measures are presented in Chapter 6 and specific recommendations are condensed in this chapter.

7.1 Specific Recommendations

Action plans for non-attainment cities for various sectors/activities are already prepared. These include short, medium and long-term actions for abatement and control of particulate matter emissions from transport, industry, domestic, agriculture, construction and demolition, road dust, genset and power sectors. These plans should be implemented aggressively, and various guidelines and norms enforced strictly. The Committee, in addition to the above, suggests the following sector-wise recommendations.

Domestic Sector

(i) A program for switching over from solid to cleaner gaseous fuel for domestic sector should be formulated and implemented in a time-bound manner. The plan may include expansion of LPG network and putting up Compressed Biogas (CBG) network using biomass such as crop residue, dung, wet organic municipal waste, etc., particularly in rural areas. To deal with high air pollution levels in critical winter months, feasibility of distributing two domestic LPG cylinders free of cost or on subsidized rate among the BPL families may be examined.

(ii) Promotion and rapid distribution of government-approved improved cook stoves in rural areas and among the urban road-side shanties.

(iii) Make all efforts at Block/Panchayat level to educate households through anganwadi workers and ANM nurses not to burn any biomass including dung and encourage and promote LPG usages.

Transport Sector

(i) All the diesel city public transport should be phased out completely in next five years, and city transport should be operated only through metro, e-vehicle or on CNG. All new public transport should be CNG or electric buses.

(ii) Public transport to be strengthened with metro and/or adequate number of buses, route plan based on commute surveys and Mobile App based ticketing and seating system is developed in all major cities.

(iii) Public transport can be made cheaper than two-wheeler cost.

(iv) Adequate vehicle scrappage infrastructure should be developed in next three years. Extended Producer Responsibility (EPR) may be considered for vehicle manufactures, who will have to build required vehicle scrap plants.

(v) Incentivise and aggressively implement e-mobility including required charging infrastructure. Strategic plan for EV charging infrastructure at each 3 km in urban areas, 25 km on highways (both sides) and 100 km for buses and trucks and swappable battery stations.

(vi) Linking of PUC centres with remote server and elimination of manual intervention in PUC testing.

(vii) Use off-peak passenger travel times to move freight (within the city) and restrict the entry of heavy vehicles into cities during

6:00 am to 9:00 pm in winter and 6:00 am to 10:00 pm in other seasons.

(viii) Check Overloading: Use weigh-in-motion bridges/machines (WIM) and Weigh bridges at entry points to the city and at toll plaza to check the payload of commercial vehicles. As per CMVR, a penalty of 10 times the applicable rate for overloaded truck is applicable.

(ix) Prepare plan for improvement of infrastructure for decongestion of roads.

(x) Prepare and implement zonal plans to develop an NMT (non-motorized transport) network

(xi) Proper road maintenance and marking, smart traffic signaling, encroachment-free roads, the standard design of the speed breakers, speed warnings and traffic discipline should be enforced for emission reduction.

(xii) Poor quality lubricants and their inappropriate recycling is important cause of real driving emissions. The quality of lubricants should improve and recycled unorganized sales of the lubricants should be stopped.

(xiii) EVs should be aggressively promoted. However, till the time battery-EVs take over, strong hybrid electric vehicles (HEVs) that blend fuel and electric power are much more fuel-efficient and should be promoted.

(xiv) Control of particulate emission through gasoline particulate filter (GPF) is a new technology and can be adopted in new BSVI vehicles for reducing emissions in the near to mid-term period.

Industry (Brick kiln, MSME, Induction Furnace, etc.)

(i) All the industries must stop using solid and liquid fuel and switch over to cleaner source of energy viz. electricity, gaseous fuel or bio-mass, in a time-bound and phased manner (say five years). Industrial clusters having uncontrolled PM emission of 500 tons per day (equivalent to 100 MW coal power plant) may be taken up on priority. Such clusters should also become candidate for priority of PNG infrastructure.

(ii) In the industrial clusters, wherever feasible, common boilers (to supply steam) with adequate emission control measures may be installed, which will be a win-win option for industries and regulators.

(iii) Brick kilns should be converted to Zig-Zag technology. The revised norms notified by MoEFCC should be strictly enforced.

(iv) In induction furnaces new technology requiring collection of emission from sideways but with much higher suction rate that does not interfere with the movement of crane should be adopted.

(v) Small scale sugar mills (<1000 tons cursed per day) (Khandsari) should be treated as MSMEs. These should shift to forced draft from current practice of natural 77 draft for better combustion and install simple air pollution control devices like cyclones and multi-clones.

(vi) Technology upgradation must be targeted in MSMEs and adequately supported. Regular training program should be conducted for the skill development.

(vii) *Carry out pollution load estimation from industrial sector to enable setting of target for emission.*

(viii) *For MSMEs, a resource centre on technology-linked emissions achievements and multiple technology options and vendors (with the cost) linked to different levels of control be established at national and state levels; however, standards should be attained with the industry.*

Open burning

Action plans for crop residue management are already in place for States of Haryana, Punjab, Delhi and NCR districts of Uttar Pradesh & Rajasthan. These should be implemented expeditiously. Every year, target and focus on at least five districts for zero crop residue burning in the States of Haryana and Punjab during post-monsoon.

Dust Control

(i) *Identification and greening of open spaces, green cover on central verges and on the roadsides, repair and re-laying of pavements, grassing of road shoulders, washing and mechanical/vacuum-based street sweeping and proper disposal of collected dust must be ensured in cities and towns with more than 5 lakh population. Indian Road Congress/Bureau of Standards must bring out silt load standards for roads. All major urban roads, State Highways and NHAI must maintain silt load of 2.0 g/m^2 or less on their roads and assess the silt load twice a year (winter and summer) at an interval of 50 km on both sides of the road.*

(ii) *All the Railway Siding should construct warehouse for storage of cement bags or other dusty material to minimize fugitive emissions during loading, unloading and storage and avoid these operations on open platforms. Mechanical handling of bags of cement or dusty material be done using conveyor belts, possibly horizontally movable belts. Enclosures in the form of flexible belt curtain may be provided on the warehouse openings used for transfer of material.*

(iii) *Construction & Demolition (C&D) waste processing facilities of adequate capacities should be set up, to begin with, in cities having population more than 5lakh. C&D waste collection points must be created in different zones of the cities, and in no case, it should be allowed to be dumped in non-designated areas, particularly along roadside. Recycling of processed waste must be encouraged, facilitated and, wherever feasible, mandated.*

Research & Development, Training and Capacity Building

(i) *Focused research on IGP air pollution problems must be taken up, which can be coordinated through a dedicated Center/Cell established specifically for the purpose. The Center may collaborate with research & academic institutes and encourage/facilitate startups for developing affordable cleaner technologies (particularly for small scale polluting industries) and best process practices & guidelines for various air polluting sectors.*

(ii) *Training and capacity building of regulatory agencies, urban local bodies, panchayats, industries must be taken up as a regular and important component to create skilled human resource.*

Enforcement and Administrative Issues

(i) *An independent body to better coordinate performance measurement among the Central, State and other agencies (e.g., Industry, Municipal Corporation) responsible for taking air pollution control measures as per the targets should be established. The sector-wise report, clearly stating air quality achievements and evaluate air program results should be published and available for public scrutiny.*

(ii) *The unorganized sectors should be facilitated to come on the mainstream within a specified timeframe and apply for consent under Air Act and meet emission standards.*

(iii) *The review of existing technologies, emission norms, guidelines, process practices, etc. should be taken up every three to five years for upgradation.*

(iv) *Hotspot districts (as per Table 5) must be dealt on priority for implementing various interventions/recommendations."*

9. We are satisfied that the report needs to be acted upon. It has articulated causes of air pollution scientifically and recommended sector-wise interventions. Recommendations in the report include setting up of an independent body in the MoEF&CC to monitor air control measures which is certainly the need of the hour. Identified Hotspot Districts need focused attention and continuous interventions. The existing technologies need have to be upgraded and unorganized sectors brought the main stream and also brought under the Consent Regime under the Air (Prevention and Control of Pollution) Act, 1981.

10. However, we find that the report has not covered the entire ground in terms of order of this Tribunal dated 09.09.2021. The Report has not given firm suggestions to deal with the pollution of existing industries in IGP and roadmap for the PCBs under the existing regulatory mechanism. Specific strategies for shifting to cleaner fuel and better technologies by revising conditions for Consents to Operate (CTO) have yet to be worked out in the light of data appearing in the report. More stringent strategies need to be followed for acknowledged polluting activities like hot mix

plants, beyond GRAP. This left over work may need to be now undertaken by the special monitoring cell under the MoEF&CC/CPCB which may be set up preferably within three months.

11. We have noted that *Civil Appeal Diary No(s). 30240/2021, Jagat Singh vs. State of Uttar Pradesh & Ors.* is pending before the Hon'ble Supreme Court against order of this Tribunal dated 09.09.2021. It will be open to the parties to file a copy of this order in the said pending proceedings to enable the Hon'ble Supreme Court to consider the same for any further order.

12. In the light of above, we dispose of the application with following **Directions:**

1) The report of the Joint Committee be hosted on the website of CPCB and circulated by the CPCB to PCBs/PCCs of IGP States/UTs within a fortnight.

2) The vulnerable districts mentioned in the report may be listed out as 'Air Quality Sensitive Districts' and polluting sources operating in these districts be closely monitored. Modified CTOs be granted in respect thereof with operational restrictions in the nature of GRAP, requiring switching over to cleaner fuel and adopting efficient air pollution control devices with definite time frame not exceeding six months.

3) MoEF&CC and CPCB may enforce requirement of cleaner fuel, switching over to efficient air pollution control technologies, enforcement of GRAP and vigilance measures to control other pollution sources like dust control, vehicular pollution and the like under the National Clean Air Program and require City and District specific action plans within six months by identified authorities/joint Committees

4) MoEF&CC and CPCB may further assess the status in different areas after review of Daily and Annual Ambient Air Quality data and take remedial measures on that basis within six months.

13. We place on record our appreciation for the efforts of the joint Committee which may be conveyed to its Members by the Member Secretary, CPCB. We have noted that the report is available on the NGT website and its copy may also be hosted on the CPCB website for reference by the stakeholders. MoEF&CC/CPCB may also forward the report to concerned Departments responsible for taking action on the recommendations including Ministry of Transport, Ministry of Petroleum, Ministries of MSME and Heavy Industries, and Chief Secretaries of concerned States i.e. Uttar Pradesh, Delhi, Haryana, Punjab and West Bengal.

14. CPCB may hold a meeting with all concerned Ministries, Departments, States, UTs and other stakeholders preferably within three months for preparing a road map for implementation of the recommendations.

The application is disposed of.

A copy of this order be forwarded to MoEF&CC, CPCB, Chief Secretaries of States of Uttar Pradesh, Delhi, Haryana, Punjab and West Bengal and Secretaries, Ministry of Transport, Ministry of Petroleum, Ministry of MSME, Ministry of Heavy Industries and Ministry of Home Affairs, Government of India by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 27, 2023
Original Application No. 19/2021
SN

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21 of 2014
(M.A. NO. 87 OF 2015, M.A. NO. 90 OF 2015, M.A. NO. 155 OF 2015, M.A. NO. 200 OF 2015, M.A. NO. 203 OF 2015, M.A. NO. 219 OF 2015, M.A. NO. 234 OF 2015, M.A. NO. 247 OF 2015, M.A. NO. 248 OF 2015, M.A. NO. 274 OF 2015, M.A. NO. 283 OF 2015, M.A. NO. 284 OF 2015, M.A. NO. 382 OF 2015, M.A. NO. 392 OF 2015, M.A. NO. 393 OF 2015 & M.A. NO. 394 OF 2015)
AND
Original Application No. 95 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D. SALVI, JUDICIAL MEMBER
HON'BLE MR. DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER
HON'BLE MR. B.S. SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014

Present:	**Applicant:**	**Mr. Sanjay Upadhyay and Mr. Salik Shafique**
	Respondent No.1:	**Ms. Panchajanya Batra Singh, Adv.**
	Respondent No. 2&4:	**Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO**
	Respondent No.3:	**Mr. D. Rajeshwar Rao, Adv. Counsel for Delhi Traffic Police**
	Respondent No.6&7:	**Mr. Ardhendumauli Kr. Prasad, Adv.** **Mr. Rajiv Bansal and Mr. Kush Sharma, Adv. For DDA** **Ms. Puja Kalra, Adv. For SDMC and North MCD** **Mrs. Avnish Ahlawat with Mr. Nitish Singh for DTC/Transport Department, GNCT** **Mr. I.K. Kafila, Mr. A.K. Singh and Mr. Shikha Roy, Advs. For Karol Bagh Traders** **Mr. Ruchir Batra, Adv.** **Mr. Rahul Mehta, Adv. For Delhi Electrical Traders Association** **Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.** **Ms. Sakshi Popli, Adv. for NDMC** **Mr. Pragyan Sharma and Mr. Deshu Kayina, Advs. For State of Mizoram** **Mr. K.V. Jagdishvaran and Mrs. G. Indira, Advs. For UT of Andaman & Nicobar Islands** **Mr. Anil Grover, AAG and Mr. Rahul Khurana, Adv. For State of Haryana** **Mr. Ravindra Kumar, Adv. And Mr. Gudipati G. Kashyap, Adv. for NOIDA ànd Greater NOIDA Authority** **Mr. Mukesh Kumar, Adv. For NHAI** **Mrs. Aruna Mathur and Mr. Auneesh Arputham, Advs. For State of Sikkim** **Mr. Rajul Shrivastava, Adv. For MPPCB** **Mr. Devraj Ashok, Adv. For State of Karnataka** **Mr. Sahil Sangar, Adv. –Local Commissioner** **Mr. Sahil Savgar and Ms. Sayewa Mubin, Advs. For Chandani Chowk SVM (Intervenor)** **Ms. Pallavi Mohan, Adv. For Impleaders in M.A. No. 392/15 and 393/15** **Inspector Prashant Kr. For Kotwali** **Mr. Pratap Singh for PWD** **Mr. Ramesh Kr., Inspector** **Mr. Dalbir Singh, Insp.** **Mr. K.C. Anand, Insp.** **Mr. Vijay, Insp.**

Mr. Ravinder Kr., ACP
Mr. Surinder Kr., Insp.
Mr. Vijay Pal Singh, Insp.
Mr. Devshanker, ASP
Mr. Manesh kumar, Insp.

Original Application No. 95 of 2014

Present:	**Applicant:**	**Appearance not marked**
	Respondent No.1:	**Mr. Vikas Malhotra & Mr. M.P. Sahay, Advs.**
	Respondent No.2-6:	**Mr. Ardhendumauli Kr. Prasad, Adv.**
	Respondent No. 7 :	**Mr. Rahul Chaudhary, Adv.**
	Respondent No. 29 :	**Mr. M. Yogesh Kanna and Mr. Jayant Patel, Advs. For State of Tamil Nadu** **Mr. Rahul Chaudhary and Ms. Pallavi Talware Advs. – Conservation ActionTrust.** **Mr. Devraj Ashok, Adv. For State of Karnataka** **Mr. Anil Grover, AAG with Mr. Rahul Khurana, Adv. For State of Haryana** **Mr. Amit Verma and Mr. Aditya N. Prasad, Local Commissioners.**

	Date and Remarks	**Orders of the Tribunal**
	Item Nos. 04 to 05 **April 28, 2015** **A**	In the previous orders we had noticed high pollution of air in NCR Delhi. Needless to refer again to the various orders of the Tribunal where unquestionably it was clear from the records that ambient air quality of NCR of Delhi violates all prescribed norms and standards. The polluted air in NCR Delhi is injurious to human health particularly young children. It is in fact conceded on behalf of the Authorities present before us and the learned counsel appearing for various parties that the ambient air quality is so very injurious particularly to the children under the age of 5 years and they are suffering from asthmatic problems at this tender age. At the cost of the repetition, we may notice that there are three main sources of air pollution in the NCR of Delhi. They are dust, emissions resulting from burning and industrial pollution and finally the vehicular pollution. In relation to the pollution by dust we have already issued detailed directions vide order dated 10th April, 2015. Today we would take up the matter in relation to pollution by burning of various materials and pollution caused by emissions from industries.

		It is on record before us that the garbage and other burning is not the only source of the air pollutant and it forms nearly 29.4 % of the air pollution with reference to PM_{10}. Its contribution in terms of $PM_{2.5}$ is not placed before us, despite our earlier orders. Burning trash in the open area produces many pollutants including dioxins, particle pollution, polycyclic aromatic hydrocarbons, volatile organic compounds, carbon monoxide, hexachlorobenzene and ash and fumes released can be carcinogenic. These are dimensions of the serious environmental issues that we are concerned with. It is absolutely essential that directions are issued by the Tribunal for prevention and control of air pollution requiring the Authorities concerned to stop this menace forthwith. Viewed from any angle, the high interest would call for prohibitory orders and imposition of fine and heavy compensation on violators, who for their short gains avoid hard work required of them in discharge of their duties and allow the burning of garbage, leaves and allied materials thus exposing the public at large to such serious life threatening diseases. There is complete unanimity at the bar that stringent steps are required to be taken to prevent and control air pollution particularly resulting from burning of garbage and other allied materials. We hereby restrain any person from burning crop residues and trash. Thus, we issue the following directions:- 1. All the directions contained in our order dated 04th December, 2014 shall continue to be in force and the Authorities concerned would carry out the said directions in their true spirit and substance.

		2. There shall be complete prohibition of burning of any kind of garbage leaves, waste plastic, rubber, self-moulding compound and such other materials in the open. Any person affected or concerned would have a right to make a complaint in writing or otherwise to the SHOs of the concerned area, the office of the Corporation, Council or Local Authority under whose jurisdiction that area falls, DPCC or State Pollution Control Board, and to its Regional Branches and to the Head of the Department of the concerned Authority/Government. We hereby direct every public Authority, Corporation, State Governments of NCT of Delhi, Uttar Pradesh and Haryana to forthwith notify the telephone numbers, website addresses or any other electronic media and process to which the complainant can make a complaint to any or all of the Authorities as indicated hereinabove. The complaints preferably should be made to the Authorities concerned who have jurisdiction over the area in which the offending activities is being carried on has been carried on. 3. We are informed that DPCC has already provided a Facebook account of Delhi Pollution Control Committee and the Whatsapp No. 09717593474 to this effect. All the Corporations within two days from today would notify on their websites the Website address and Mobiles Number to which such complaint can be made/sent. Similar steps should be taken by the concerned states falling in NCR. 4. It is directed that immediately upon receipt of such

complaint, the concerned Authority and/or Authorities through the designated Officers would proceed to take action in accordance with law.

5. We direct that for every incident of burning of any such above stated material, the person who is found actually burning such material and/or responsible for or abating such burning would be liable to pay compensation in terms of the Section 15 of the National Green Tribunal Act, 2010 for polluting the environment and would be liable to pay a sum Rs. 5000, to be paid instantaneously.

6. In the event such offender refuses to comply with the directions of the Authorised Officers, the Authorised Officers would be at liberty to serve a Notice upon him for appearing before the Tribunal and to show cause why the person burning, abating or responsible for such burning materials afore indicated, be not directed to pay compensation as may be determined by the Tribunal in accordance with law.

7. We make it clear that the orders of the NGT are to be complied with as a decree/order of the Civil Court. Thus, all these Authorities and the Police are duty bound to carry out the directions/orders of the Tribunal in accordance with law. The money so collected, shall be maintained by the Corporation and/or any Authority as a separate fund to be utilised for improvement, restoration and restitution of the environmental degradation resulting from such activity or otherwise.

8. We make it clear that the payment of such

compensation shall not absolve the offender of other liabilities that such person may incur under different laws in force including other provisions of the National Green Tribunal Act, 2010.

9. To ensure that there is no burning of leaves or horticulture residue, we direct all the Corporations, Authorities and the State Governments to ensure that there is proper composting pits area-wise prescribed within one week from today. The composting will be only at those sites and all the Corporations, Authorities and the State Governments shall be responsible to provide due space for collection and deposit of horticulture waste including leaves for composting purposes at these sites.

10. Each Officer under whose jurisdictions the area would fall, would be personally responsible and all the Officers. Officials working under him would be personally responsible for imposition of compensation and costs. If any activity is found to be carried out in any area of NCR of Delhi in violations to the Orders of the Tribunal and the law in force in that regard, the Deputy Commissioners, Director Horticulture, SHO concerned, Assistant Commissioners, Sanitary Officers of the area would be personally responsible. Similarly Officers from the State of Haryana and Uttar Pradesh would be personally responsible for compliance of these directions.

11. The composting sites should be provided nearer to the places where there is a large number of trees,

gardens and the compost bits which also convert into self-manure should be used for horticulture purposes to ensure that the burden on the site does not increases beyond its capacity.

12. The decision in regard the land fill sites should be taken by the DDA and NCT of Delhi as expeditiously as possible in any case not later than three weeks from today. We may notice that Hon'ble Supreme Court of India in Writ Petition No. 888 of 1996 in the matter of Almitra H. Patel Vs. Union of India had directed the Authorities to identify such sites as back as on 15th February, 2015 unfortunately till date adequate number of sites have not been earmarked. Let this be done within the stipulated period under these directions and such sites be identified by the respective Corporations and Authorities if not done so far.

13. In relation to burning of plastic and allied produces, we issue specific directions to the concerned Police Officers and the Officers of the Corporations that no one would permit the burning of plastic and allied products in part of NCR of Delhi. If Authorities notice any burning of such materials they would not only ensure that such activity does not persist but even would be entitled to seize the entire material which is illegally and unauthorisedly stored held by a person is does not possess of a license or authorisation for dealing with such products in accordance with The Plastics Waste (Management and Handling) Rules, 2011. Upon seizure of such material, the Authorities would take a direction from

		the Tribunal and dispose of the same by giving it to the Authorised Dealer in accordance with directions issued. 14. The CPCB and DPCC would jointly conduct inspection of all the thermal power stations generating electricity using coal and gas as its fuel within two weeks from today. The ambient and stack air quality samples would be collected and the analysis reports be submitted to the Tribunal. This amongst others would include Badarpur, Indraprashtha, Rajghat, Dadri and Bawana plants. We make it clear at this juncture that all these power generating plants should improve their working and should be fully sufficient so as to cause no pollution. In the event of violation of prescribed standard, the Tribunal would be compelled to pass coercive orders in accordance with law. 15. The CPCB, DPCC and Uttar Pradesh and Haryana Pollution Control Boards shall ensure that brick kilns working and operating in NCR have consent of the Boards and are adhering to the prescribed norms for emissions. 16. In the event of any of the brick kilns found to be in violation of the environmental norms or is operating in violation to the conditions of the consent order, the Report shall be submitted to the Tribunal and notice upon such Units to show cause why they should not be directed to be closed forthwith for such violations. While conducting inspection of such brick kilns, it will also be reported as to what extent the fly ash is being used for the purposes of

manufacturing the bricks. If none, causes thereof.

17. We direct the Local Bodies, Corporations, Councils and the State Governments of NCT of Delhi, Uttar Pradesh and Haryana to immediately publicise and educate public at large, particularly the people living in unauthorised colonies, farmers and persons dealing with different kinds of waste, safai karamchari in regard to the ill effects of burning of the materials afore-recorded on the human health. Necessity for taking up remedial and corrective measures and also punitive consequences that may result from violation of these directions.

18. We direct the teams of the State Pollution Control Boards, DPCC and CPCB to examine the impact of industries or individual involved in pottery and ceramic industries in the NCR of Delhi and the remedial measures that are required to be taken.

19. We also direct to the DPCC, Pollution Control Boards to inform the Tribunal if they have taken steps for registration of the plastic recycling in accordance with law or not.

List these matters on 01st May, 2015 at the end of the Board.

……,CP
(Swatanter Kumar)

……,JM
(U.D. Salvi)

……,EM
(Dr. D.K. Agrawal)

……,EM
(Prof. A.R. Yousuf)

		……,EM (B.S. Sajwan)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

M.A. No. 284 of 2015, M.A. No. 755 of 2016, M.A. No. 756 of 2016, M.A. No.766 of 2016, M.A. No. 847 of 2016, M.A. No. 848 of 2016, M.A. No. 924 of 2016, M.A. No. 892 of 2016, M.A. No. 974 of 2016, M.A. No. 979 of 2016, M.A. No. 983 of 2016, M.A. No. 984 of 2016, M.A. No. 967 of 2016, M.A. No. 986 of 2016 & M.A. No. 1050 of 2016
In
Original Application No. 21/2014
And
M.A. No. 156 of 2016
In
Original Application No. 21/2014
And
Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016, M.A. NO. 1142/2016, M.A. NO. 1134/2016, M.A. NO. 1135/2016, M.A. NO. 1136/2016, M.A. NO. 1137/2016, M.A. NO. 1138/2016, M.A. NO. 1155/2016 & M.A. NO. 1162/2016)
And
Original Application No. 95/2014
(M.A. No. 1156/2016)
And
Original Application No. 303/2015
And
Original Application No. 181 /2013
(M.A. No. 824/2015)
And
Original Application No. 609 /2016

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. Of NCT of Delhi & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. RANJAN CHATTERJEE, EXPERT MEMBER

Present: Applicant: Mr. Sanjay Upadhyay and Mr. Salik Shafiq, Advs.
Ms. Diya Kapur, Adv. And Petitioner in Person and Mr. Nikhil Ratti Kapoor, Advs.
Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Mr. Rajiv Bansal, Mr. Kush Sharma, Mr. Anurag Tripathi and Mr. Anirudh, Advs. for DDA
Mr. Pritpal Singh Nijjar, Mr. Amit Kumar and Mr. Siju Thomas, Advs.
Mr. Himanshu Kaushik, Adv.
Mr. D. Rajeshwar Rao, Mr. Charajeet Singh, Advs., Delhi Police and Transport Deptt.
Mr. Rajul Shrivastava, with Ms Ayushi Sharma, Advs. MPPCB
Mr. Anurag Kumar, Adv. For Ms. Sakshi Popli, Adv. NDMC
Mr, Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. for State of A.P.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Atul Jha Adv. for State of Chattisgarh
Mr. Devraj Ashok, Adv. for State of Karnataka
Mr. Ardhendumauli Kumar Prasad, Mr. Panshul Chandrachud and Mr. Jaydip Pati, Advs.
Mr. Balendu Shekhar and Mr. Vivek Jaiswal, Advs. for EDMC
Mr. Ram Sajivan Maurya, SMD and Minining Officer and Mr. Ajit Kumar Pandey District Gonda
Mr. Pinky Anand, ASG with Mr. Balendu Shekhar, Mr. Rajesh Ranjan, Ms. Somya Rathore and Ms. Smidha Mehra, Advs. for MoRTH and Ministry of Heavy Industries, MoEF
Mr. Edward Balho, Ms. Elix Gangmel and Mr. K. Luikang Michael, Advs. for State of Nagaland
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advs.
Ms. Puja Kalra, Adv. for NDMC, SDMC
Ms. Bhavana Duhoon, Advs. for National Highways Authority of India
Mr. Sanjeev Ralli with Mr. Trinayan Sonowal, Advs. for Intervener (Chandni Chowk Vyapar Mandal)
Mr. Mahesh Dutt Tripathi, Adv. for Delhi cantonment Board
Mr. Anil Soni, AAG and Mr. Naginder Beniwal, Advs. for State of Punjab
Mr. Ashish Negi, Adv. for Ms. Richa Kapoor, Advs. for State of Punjab
Mr. Suryanarayan Singh, Addl. AAG
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for GNCTD,
Mr. Narender Pal Singh with Dr. M.P. George and Mr. Dinesh Jindal, LO, DPCC
Ms. Alpana Poddar, Adv. and Mr. Bhupinder Kr. LA., Central Pollution Control Board
Mr. Mukesh Verma, Adv.for MPCB
Mr. Vinay P. Singh, Adv. for Mercedese Benz.
Mr. Amit Agarwal and Ms. Asha Basu, Adv. for West Bengal Pollution Control Board
Ms. Puja Singh, Adv. for Hemantika Wahi, Adv. for State of Gujarat & GSPCB
Mr. Hemant Jain, Ms. Usha Jain and Mr. K. Sunil, and Mr. Aviral Mittal, Advs.
Mr. Sumit Kishore, Adv. for PNGRB
Mr. P. Venkat Reddy and Mr. Prashant Kr. Tyani, Advs. for State of Telengana
Mr. Ravindra Kr. Kashyap and Mr. Gudipti G. Kashyap, Advs. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K2 International
Ms. Priyanka Sinha Advs for State of Jharkhand
Mr. Anuj Sarma, Adv. For State of Goa
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advs.
Mr. Sandeep Narain and Ms. Natasha Sarawat and Ms. Khushboo Bari and Mr. Bipin Das, Advs. for Tata Motors Ltd.M. A. No. 172 of 2016
Mr. Gopal Singh and Ms. Varsha Poddar, Advs.
Mr. Anil Grover AAG and Mr. Rahul Khurana, Adv. Mr. Sandeep Yadav, Adv. for State of Haryana, HSPCB, MCF, MCG, HUDA
Mr. Raj Kumar, Adv.

Mr. Narender Pal Singh, Adv. and Mr. Dinesh Jindel, LO, DPCC
Mr. Priyanaka Swami, Adv. for Nagar Nigam Ghaziabad
Mr. Sarurabh Rajpal, and Mr. Adhiraj Singh, Advs. for Rajasthan Pollution Control Board with Secretary Environment, Rajasthan Mr. R.K. Grover
Mr. Taruna A. Prasad, adv. for MoEF
Mr. R. Rakesh Sharma and Mr. M. Marutha Samy, Advs. for State of Tamil Nadu and TNPCB
Mr. V.K. Shukla, Adv. from State of M.P.
Mr. Hemant Jain with Ms. Usha Jain and Mr. K. Sunil and Mr. Amiral Mittal, Advs.
Mrs. Rani Chhabra and Ms. Priyanka Samy, Advs. In MA 358/2016 and 545/2016
Mr. Yatendra Sharma and Mr. Satyarat Sharma, adv. in M. A. No. 979/2016
Ms. Rasna Kaukat, adv. for Manushi Sangathan
Mr. Anoop Verma, Mr. Anil Soni, AAG with Mr. Naginder Benipal, Adv. in M. A. Nos. 983 & 984
Ms. Arushi Khandelwal, Adv. in M. A. No. 976/16
Mr. Ankit Verma, Adv. For State of Uttar Pradesh
Mr. Sunil K. Jain AOR and Mr. Punya Garg, adv. in M. A. No. 949/16
Mr. Darpan Wadhwa, and Mr. Arjun Syal, Advs. in M.A. 1078/1097/1080/1091/1092, 1134, 1135, 1136, 1137, 1138/2016, Mr.Yatender Sharma and Satyajeet 979/16
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. for State of Sikkim
Mr. Soumyajit Pani, Adv. for State of Odisha
Mr. Vijay K. Sondhi and M,s. Cauveri Birbal Ms. Divya Sharma Ms. Avantika, Mr. Aranyak Pathak and Ms. Nayamat Sistani, Advs.
Mr. Sapam Biswajit Meiti and Mr. Naresh Kumar Gaur, Advs. for State of Manipur
Mr. Om Prakash, Adv. Ministry of Railways
Ms. Neha Makhija, Adv. for Mr. Gaurav Dubey, Adv. in MA Nos. 1082 & 1083
Mr. Pranav A. Kapur, Mr. Siju Thomas and Mr. Amit Kumar, Advs. in MA 783/2016
Mr. Vinod S. Bhardwaj, Adv.
Mr. A.R. Takkar, Mr. Ankur Sharma and Ms. Shriya Takkar, Advs.
Mr. Joydeep Mazumdar and Mr. Debojyoti Bhattacharya, Advs.
Mr. Nishe Rajen Shonker and Mr. Gajendra Khichi, Advs.
Mr. Manoj Mittal and Mr. Tahay Ayde, Advs.
Mr. Pragyan Sharma and Ms. Ananditi Kumar, Advs. For State of Mizoram
Mr. Sarthak Chaturvedi and Mr. Rohit Pandey, Advs. for Andaman & Nicobar Administration
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Anand S. Pathak, Mr. Amit Kumar Mishra and Ms. Hima Lawrence, Adv.

	Date and Remarks	Orders of the Tribunal
	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Air quality in Delhi and its surrounding areas touched a new height in the last 10 days or so. It adversely affected the public health and persons of all generations without exception. The Ambient Air Quality was so hazardous that it affected the Eyes, ENT, upper Respiratory track and Lungs, particularly to school going

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	children, infants, office going persons and obviously the poor strata of society suffered endlessly. It is appropriate at this stage to refer to the Ambient Air Quality parameters that were recorded by the Central Pollution Control Board, Delhi Pollution Control Committee and the State Boards of the neighbouring States particularly Haryana, Uttar Pradesh, Punjab and Rajasthan. The standard norms for PM_{10} is 100 µg/m^3 and for $PM_{2.5}$ 60 µg/m^3. These values were found to be utterly violated and it recorded the value of PM_{10} as 1690 µg/m^3 and $PM_{2.5}$ as 885 µg/m^3 at Anand Vihar, Delhi The average value recorded for Delhi for PM_{10} were 950 µg/m^3 and for $PM_{2.5}$ 590 µg/m^3 on 30th October, 2016. According to the NCT, Delhi on 31st October, 2016 recorded value of PM_{10} 1684 µg/m^3 and 1331 µg/m^3, respectively. In Faridabad, even on 07th November, 2016 the recorded values were 414 µg/m^3 and 985 µg/m^3 respectively. In Ghaziabad and NOIDA on different dates, the value recorded for PM_{10} was 720 µg/m^3, 820 µg/m^3 and 910 µg/m3 respectively. Even on Mandir Marg, New Delhi on 02nd November, 2016 the $PM_{2.5}$ value recorded was 985 µg/m^3. In district Alwar, Rajasthan the value recorded was 188 µg/m^3 for PM_{10}. However, the Learned Counsel appearing for the State of Rajasthan submits that they do not have instruments available for measuring $PM_{2.5}$. In Bhiwari on 28th October, 2016 the value of PM10 was recorded as 508 µg/m^3. This data provided by different States shows that Ambient Air Quality in all these areas is hazardous to human health. In the light of the above statistics, the Tribunal was compelled to direct personal appearance of the concerned

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Secretaries from each State and NCT, Delhi. All these officers appeared before the Tribunal and the matter was heard for three days continuously. One major disclosure that came to the forefront was that all concerned officers conceded that there was hardly any proper enforcement and implementation of the laws in force and the Judgments of the Hon'ble Supreme Court of India and this Tribunal. However, hardly any suggestions came forward from any quarters as to how the implementation should be made more effective and result oriented. There are seven major contributors of air pollution in all these States more particularly NCT, Delhi. These are:- 1. Construction activity and carriage of construction material. 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. All these contributory pollutants were deliberated upon at length before this Tribunal from time to time and detailed orders covering all the facets of air pollution were covered under different orders of the Tribunal. We may refer to the orders of the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015, 10th April,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2015, 28th April, 2015, 18th May, 2015 and 11th December, 2015. All these orders/judgments dealt with the various sources of pollution except agriculture residue burning. This aspect was dealt with in the comprehensive judgment of the Tribunal in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors in Execution Application No. 12 of 2016 In Original Application No. 118 of 2013 decided on 10th December, 2015. The judgment in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors provided for precautionary, preventive as well as incentive oriented steps that the State of Punjab was required to take to ensure that this menace would be stopped at the earliest. The judgement provided for punitive action, and incentive to farmers to stop burning of Crop/Agriculture residue. The State of Punjab was called upon to provide incentive including the requisite machines as stated in the Judgment for extraction of agriculture residue from the field and its transportation to power generation plants, Cement Plants, Companies manufacturing Board from agriculture residue and from Bio-mass plants including reducing ethanol. We must notice at this stage itself that all the States particularly the State of Punjab has not been able to implement the Judgment in its true spirit and substance. It is conceded before us that the residue of nearly 70% of the agricultural land under paddy cultivation was put on fire during the period immediately after the harvesting. Similarly in Haryana there was burning of agricultural residue but may be at a little lower scale. This committee shall work specifically under the orders of the Tribunal.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The State of Uttar Pradesh and State of Rajasthan were no exception, though their contribution to the pollution was not greater than other States. This aspect needs to be examined and rigorous steps need to be taken by the respective States to ensure that there is no agriculture/crop burning any more in the future. We would be passing directions in that behalf separately. We may also notice here that the World Health Organisation (for short 'WHO') has published its report in September, 2016. They have published a list of 20 most polluted cities in the world. Out of these 10 cities are located in India. These are Delhi, heading the table, Gwalior, Patna, Kanpur, Allahabad, Alwar, Firozabad, Raipur, Ludhiana and Khanna. A study has also been conducted by I.I.T., Kanpur, on behalf of NCT, Delhi, and it is stated that out of the sources of pollution which we have already mentioned, above 22.70% has been contributed by the transport sector. It is estimated that 66 % of this pollution is resulting from diesel trucks, buses and diesel vehicles. The study also shows, along with other studies, that level of $PM_{2.5}$ and PM_{10} is almost 17 times of the prescribed limits and has serious adverse impact on the public health. The Ministry of Environment, Forest and Climate Change has also brought out the air quality index and it has termed 431 $\mu g/m^3$ PM_{10} as 'severe pollution' as stated by the Learned ASG. This shows that the 'severe category' carved out by Ministry of Environment, Forest and Climate Change has been left much behind as the value of PM_{10} has touched the value of 1990 $\mu g/m^3$ in Delhi. This is the extent and kind of pollution that the citizens of Delhi are exposed to.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The basic and fundamental question that arises for consideration of this Tribunal is whether the State Government and more particularly NCT, Delhi can provide any justification acceptable scientifically in law as to why the people of Delhi should be exposed to such severe pollution and have endlessly suffered from one disease or the other. This equally applies to other States as well. The Hon'ble Supreme Court of India decades back had declared that Article 21 of Constitution of India has to be expanded so as to include right to decent and clean environment as a fundamental right. Fundamental right is the right provided by the Constitution to the citizens and it could claim its enforcement to which the State can hardly raise a defense particularly of its inability to enforce laws on an environmental front. We must say that since past three days not even a single point has been raised before the Tribunal which could even be remotely comprehended and be a reasonable ground on the part of these authorities for not protecting environment in relation to this zone of the country and particularly in NCT, Delhi. The main plank of the officers who were present in person along with their learned counsel of respective States had only expressed their inability to implement. This ought to be the last submission that could be made in response to an action for enforcement of fundamental rights. We find no merit in any of the submissions advanced to express inability to enforce the law. The judgment of the Hon'ble Supreme Court of India and the Tribunal particularly when they are specific, unambiguous and have provided complete mechanism for enforcement of judgments and orders. The State owes a

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	constitutional duty to protect public health and to provide at least clean air for its citizens to breathe. The principle of inter-generational equity does not support any development even if it is carried under the doctrine of sustainable development where the next generation would be exposed to the worst environmental and ecological environment. The children of today have a right to breathe clean air and play in the play ground rather than be ordered to be shut down in their respective homes. The present generation in any field including in the field of Governance owes a duty in law and on morality to provide cleaner and better earth to its next generation. Times have come where all concerned authorities irrespective of their stature must show concern to improve the environment and Ambient Air Quality in these States and more particularly in the NCT, Delhi. As we have already noticed, the Ambient Air Quality in these States and particularly in NCT, Delhi/NCR, Delhi have reached the limit which are unimaginable, unacceptable and are a clear indication of negligence on the part of the concerned authority to the disadvantage of the human health of the citizens. The prescribed limit of PM_{10} and $PM_{2.5}$ is 100 $\mu g/m^3$ and 60 $\mu g/m^3$ respectively have been grossly exceeded. The experts appearing before us submit that the daily average of these values is even lower that is 60 $\mu g/m^3$ and 40 $\mu g/m^3$ respectively. If the daily average is to be taken into consideration then the violation is nearly 20 times in excess. Viewed from any rational angle, this is disastrous. It may be appropriate that the concerned authoirities including the Central Pollution Control Board has located

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	at the air pollution in somewhat different way. It appears that to attain the prescribed standards as of now would be a dream difficult to achieve as of today. The normal pollution in contra distinction to severe or Environmental Emergency has to be examined and controlled by taking different and distinct measures, depending upon the situation e.g. where the Particulate Matters values are in excess of 431 $\mu g/m^3$ in case of PM_{10} and 251 $\mu g/m^3$ in the case of $PM_{2.5}$. Therefore, the pollution has to be treated as severe. To put it in other words, emergent measures have to be taken to control the air pollution in any of these States particularly in NCT, Delhi, once it crosses the above limits. These limits have been suggested by the expert appearing before the Tribunal with reference to the Air Quality Index of NCT, Delhi. Normal steps to be taken to prevent and control air pollution and providing cleaner air quality to the people of these States and Delhi. Even if they are below the above standards, but once they cross the prescribed standards, then it must be the duty of the States and NCT, Delhi to take emergent measures which would even include the providing of such emergent preventive measures that may require enforceability of highest degree in the interest of public health and environment. In the light of the above discussion, now we proceed to record the directions that has to be passed in the interest of environment, public health and tranquility of Ambient Air Quality and to implement the fundamental right that is granted to the citizens of India. All the judgments and orders passed by the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015,

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	10th April, 2015, 18th May, 2015, 28th April, 2015 and 11th December, 2015 in the of Vardhaman Kaushik Vs. Union of India & Ors. In Original Application No. 21/2014 and 10th December, 2015 in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention Control) Authority & Ors. shall be applicable, mutatis mutandis, to the orders passed in the case of respective States and NCT, Delhi. All the States of Punjab, Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi as already noticed, these directions and orders provided for all preventive, precautionary, punitive and enforceable directions which would protect and ensure that the sources of pollution as afore-indicated do not cause air pollution and bring the Ambient Air Quality to the values as has been seen in the last 10 days in the States and particularly NCT, Delhi. All the concerned Officers, Authorities, Legal Authorities, Pollution Control Boards and other Corporations etc. would be responsible for proper implementation and enforcement of the directions contained in these orders in relation to different sources of pollution. We constitute the following centralized monitoring Committee and State Monitoring Committee for ensuring proper implementation of the judgments and the laws relating to prevention and control of air pollution :- 1. The Centralised Monitoring Committee shall consist of:- a. Secretary, Ministry of Environment, Forest and Climate Change (Chairman). b. Chief Secretaries of the States of Punjab,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi. c. Member Secretary of the Central Pollution Control Board and the Member Secretaries of the State Pollution Control Boards. d. Professor Mukesh Khare from I.I.T., Delhi. e. Member Secretary of each State Pollution Boards would be at liberty to bring one expert with him, if they so desire. f. Additional Director General of Health Services to be nominated by the Union Secretary, Health. This committee would meet once in two months and by rotation in all the States including NCT, Delhi, where the first meeting would be held. a. This Committee would supervise implementation of all the directions contained in the judgment of the Tribunal in relation to various sources of pollution, particularly agriculture residue burning. b. It shall also provide guidelines or directions to the State Committee for prevention and control of air pollution in relation to all its aspects, not limiting to the directions contained hereinabove and in the orders referred above. c. The Committee shall take implementation Status Report from the State Committees, and if necessary, get it verified through

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	independent sources and then submit its final report after every three months to the Tribunal. The Committee will also record its satisfaction or otherwise with regard to implementation and enforcement of the directions issued. d. In the event the Committee finds that any officer belonging to any cadre, authority, Pollution Control Board or even by independent statutory body has failed to implement the directions, orders, judgments and the law in relation to control of air pollution, it shall recommend initiation of disciplinary proceedings against that official without hesitation or reservation. We make it clear that the officer against whom such a Committee recommends disciplinary, should be independent of the proceeding that this Tribunal may initiate against such defaulting officials/officer of any State/NCT, Delhi. If technical experts of the Committee make any suggestion and the same is found relevant, then the committee shall record and bring it to the notice of the Tribunal. **<u>State Level Committee.</u>** Following shall be the composition of State Level Committees: 1. Chief Secretary as the Chairperson,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2. Secretary Environment, 3. Secretary Urban Development and Housing, 4. Member Secretary of the Pollution Control Board of the States, 5. Chairman of the Development Authority of the District/State, 6. Secretary of the Department responsible for Developing Agency and Corporations of the State, 7. Director of Medical Services who is a professional shall be the Member of the Committee, Commissioner/Additional DG of Delhi Police of NCT of Delhi and similar officers from the other States. This Committee shall be responsible for enforcement of the directions/orders/judgments and the law in relation to prevention and control of air pollution more particularly judgment afore-referred. It will be the duty of this Committee to verify that the directions are actually implemented at the ground level and would not leave the things on mere paper. This Committee shall prepare action plan in consonance with the advance circular the same and ensure their implementation. The Committee shall also publicise requisite matter through media or otherwise, particularly in relation to burning of agriculture residue. It will inform the farmers of the benefits and the incentives that are available to them in consonance with the orders afore-referred for not burning of agriculture residue. It should be informed to them that it is not a mere liablity but could become useable asset and bring

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	financial benefit to them. We also direct that the concerned State/NCT, Delhi and the State Committees shall constitute a special task force to ensure that there is no burning of waste of any kind, roads are mechanically cleaned and there is no undue traffic congestion in the city particularly during the period of environmental emergency. The Chairman of the Centralised as well as State Committee shall be at liberty to invite or summon any Officer/Expert/ Official from any other department or Ministry or Research Organisation for carrying on the business and object of the Committee more effectively. If invited no officer/Expert of any department or Ministry or Research Organisation would avoid to appear before the Committee and provide its required input. The state level committee shall hold its meeting every month. The First meeting of the centralised Committee Leaded by Secretary Environment would be held on 17th November, 2016 while that of the State Level Committees would be held on 24th November, 2016. The State level committee shall submit the report to the centralised committee at least three days in advance to the date of the meeting of that committee. **Independent Clause** The most important aspect in relation to which we require to issue directions is the situation of the States

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	and particularly NCT of Delhi as faced in the last 10 days where the air pollution enters an alarming situation that is severe pollution. Then immediate steps are required to be taken as an 'environmental emergency'. We have already noticed on the advice of experts that where $P.M_{10}$ exceeds the value of 431µ/M^3 and $P.M_{2.5}$ 251 Microgram Per Cubic Meter, then it is a situation of 'severe pollution'. If we exceed those of values reached 500 or 300 respectively then it is a case of 'environmental emergency'. The State owes a Constitutional Statutory and public law obligation to protect the Air Pollution and provide to its citizen at least breathable air if not absolute clean air to breathe. If the situation reaches that level of these States and particularly NCT of Delhi shall take besides all other preventive and controlling measures of pollution as indicated in the orders/judgments and law particularly orders afore-referred inter-alia but more particularly it would take following measures without delay and default. 1. It shall ensure that the water is sprinkled through helicopters all over the city and other areas where the values are found to be in excess of the above standards. 2. It shall immediately provide happy seeders in the agricultural fields to ensure removal of agricultural residue and its utilization at the concerned quarters including Power Generation Plants, Bio-Mass Plants, and Cement plants, Industries manufacturing Building and allied products. 3. The State Government and NCT of Delhi shall issue

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	the order to all such companies, plants and public undertakings to discharge their Corporate Social responsibility and collect the agriculture residue from the field of farmers while providing them with money as consideration for lifting of the agricultural residue. 4. All the stone crusher working in the area shall be directed to shutdown forthwith. 5. All the Power Generation Plants, Brick kiln, Hot Mix Plant, if found to be emitting in excess of prescribed standards, should be ordered to be shut down temporarily and till they take remedial measures and bring the standards within particular limit. Thermal plants, Waste to Energy Plants also may be shut down only if they violate the parameters or otherwise. 6. All the construction, demolition activities and transportation of construction material shall be stopped temporarily till the ambient air quality standards are brought down below the severe pollution standards afore-stated. 7. The authority would ensure that the DG sets if in operation anywhere should be adhering to the prescribed norms. In the event of default they should be not only shut down but even confiscated. **General Directions.** 1. The committee afore-referred shall prepare a complete action plan for environmental emergency as well as prevention and control of air pollution, wherever parameters are found to

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	be in excess of prescribed standards. 2. This action plan should be strictly in consonance with the judgement and orders afore-referred. Of course the Committees are at liberty to provide any additional measures that are required to be taken. 3. The action plan so prepared shall be submitted to the Central Committee which will approve the same and fix the period for its implementation in regular course of business of the concerned authority, Corporations, etc. 4. Each of the states shall in its very first meeting notify one district which has major land use as agriculture. This district could be taken as a model district for implementation of the direction and orders in relation to complete stoppage of burning of agriculture/crop residue. The Committee will ensure that all the incentive in terms of the judgement are provided with utmost priority. 5. There should be all preventive, precautionary and effective steps taken well in advance to the next harvest season. 6. It shall then submit a specific report upon field inspection whether there has been complete extinguishment of the practice of crop burning in that area or not, and the reasons thereof. Then it shall implement the scheme in rest of the States in a gradual manner. 7. All the States Governments, Public Authorities and Development Agencies shall introduce

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	vacuum cleaning machines for removal of dust and waste from the roads in a gradual manner. Cleaning of dust manually should be stopped. Mechanical cleaning of the roads should be introduced. Manual cleaning of dust only helps in re-generation of pollution and does not effectively cause cleaning of roads or air either. 8. Police Authorities and the local bodies should ensure that wherever mechanised cleaning of dust is introduced, at the relevant time the vehicles ought not to be parked on either side of the roads. 9. It should be ensured that there should be no leaves, municipal solid waste, plastic, agriculture residue, oil and oil products are burnt in open or otherwise. Strict punitive action should be taken in accordance with the orders of the Tribunal, if any person is found to be violating these directions and orders passed by the Tribunal. 10. 50% of the staff of the Corporations, Committees, Development Agencies and the concerned department of the Government should be on field inspection to ensure proper and effective implementation of the directions. The staff on field duty shall submit a report to the Officer in-charge, who would then submit a report to the State Committee, bring to its notice whether the implementation and effectiveness of the orders and directions by the said authorities was satisfactory or not.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	11. The Traffic Police, PWD and all public authorities shall ensure that there is free flow of traffic and there are no undue jams on the traffic lights or otherwise. 12. The person who violates the directions of the Tribunal in regard to vehicular pollution should be strictly made liable in terms of the judgement of the Tribunal for payment of environmental compensation. This compensation could be recovered by the concerned department and representative of the authorities including the Police. 13. We have already noticed in our judgement that on the basis of the data available, nearly three lakhs litres of petrol is burnt in NCT of Delhi everyday by stationery vehicles in the traffic jam or the traffic light. The Committee shall consider this aspect with utmost priority and submit its suggestion to the Tribunal for orders. 14. We direct all the State Governments, NCT of Delhi also to issue guidelines with regard to manufacturing, sale and burning of crackers in the jurisdiction of the respective States/NCT of Delhi. Such direction must be taken into consideration that the crackers if permitted are of the nature which would generate least smoke and produce least noise. It should be within the prescribed parameters. 15. All authorities concerned should create social awareness particularly in schools and colleges

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	as to the dis-advantage and adverse impact on public health of indiscriminate burning of crackers on different festive seasons. 16. We also direct the State Governments and NCT of Delhi particularly the State of Punjab to consider withdrawal of incentive provided to the agriculturists who are found to be defaulting and burning agriculture/crop residue. We take note of the fact that the Government of Punjab has already issued Notification dated 22nd October, 2013, wherein burning of agriculture/crop residue has been prohibited. 17. The order of the Tribunal in relation to all diesel vehicles more than 10 years of age and petrol vehicles which are more than 15 years of age shall not ply on the roads of NCT of Delhi, shall be enforced rigorously. The other States are directed to take decision, in relation particularly to diesel vehicles which are of more than 10 years of age. 18. We direct NCT of Delhi, DDA, all Corporations and PWD to ensure that all its parks, flyovers, roads around the government building, there is greenery and study has been conducted and found that if greenery is spread over all the flyovers and roads of NCT of Delhi, it will help in increasing of oxygen by 20%. It will help a large number of people to breathe fresh air. Efforts should be made to cover open land with green grass.

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	19. All the concerned authorities shall ensure that the waste dumping sites are not put on fire, under any circumstances. 20. We grant liberty to all the government departments, PWD etc to bring before the Tribunal offenders or defaulting persons with complete details. If such list is filed, the Tribunal shall issue notice to them for payment of environmental compensation and for passing of such other punitive orders as may be necessary in the facts and circumstances of the case. 21. The Committee would also recommend the steps that various authorities are required to take for providing health care and immediate treatment to the public who suffer from effects of air pollution. 22. All the amounts collected under the orders of the Tribunal for environmental compensation should be utilized only for the purpose of prevention and control of air and water pollution in NCT of Delhi and the concerned States subject to the orders of the Tribunal. The copy of this order be furnished by dasti. List the matter for further directions on 9th January, 2017. List all the miscellaneous applications of 16th November, 2016 at 3 PM. ……,CP (Swatanter Kumar)

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	.....,JM (Dr. Jawad Rahim) .....,JM (Raghuvendra S. Rathore) .....,EM (Ranjan Chatterjee)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(Only Noticees – Sarojini Nagar)
And
Original Application No. 21/2014

(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, M.A. No. 1361/2017, M.A. No. 1366/2017, M.A. No. 1371/2017, M.A. No. 1375/2017, M.A. No. 1387/2017, M.A. No. 1384/2017, M.A. No. 1431/2017, M.A. No. 14 40/2017, M.A. No. 1452/2017, M.A. No. 1453/2017, M.A. No. 1454/2017, M.A. No. 1455/2017, M.A. No. 1456/2017, M.A. No. 1457/2017, M.A. No. 1458/2017, M.A. No. 1459/2017, M.A. No. 1461/2017, M.A. No. 1460/2017, M.A. No. 1465/2017 M.A. No. 1466/2017, M.A. No. 1467/2017 , M.A. No. 1476/2017 , M.A. No. 1486/2017 , M.A. No. 148 7 /2017 , M.A. No. 148 8 /2017 , M.A. No. 14 89 /2017 , M.A. No. 14 90 /2017 M.A. No. 1493/2017, M.A. No. 1494/2017, M.A. No. 1495/2017 & M.A. No. 1496/2017)
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016
(M.A. No. 1388/2017 & M.A. No. 1389/2017)

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D.SALVI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: **Applicant :** **Mr. Sanjay Upadhyay Ms. Upama Bhattacharjee, and Mr. Saumitra Jaiswal,Advs.**
Mr. Shivam Bajaj., Adv in M.A. No. 1384
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan and Mr. Rahul Sharma and Mr. Tarun, advs
Mr. Pinaki Mishra, Sr. Adv, Mr. Sudhir Mishra and Ms. Ritwick Nanda, ADv
Mr. S.M. Ali, Special Sec., Dr. Anil Kumar, Director, Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Mr. Arjun S. adv.
Mr. Gaurav Dubey, Adv.
Mr. Amit Dubey, Mr. Karan Cjawla Adv.
Mr. Gunyan S. Jain, adv
MR. Ankit Tyagi, Adv.
Mr. Udaibir Singh Kochar Adv.
Mr. Debarshi Bhuyan Adv
Mr. Shiv Mangal Sharma, AAG, Mr. Saurabh Rajpal and Ms. Sikha Sandhu Mr. Adhiraj Singh Rajwat, Advs. Mr. R. K. Gorver Sec. Environment Rajsastha

Mr. Bhanwar Pal Singh Jadon and Dr. Sandeep Singh, Adv.
Mr. Pradeep Misra and Mr. Daleep Kr. Dhyani, Advs.
Mr. Vijay Sondhi, Ms. Cauveri Birbal, Mr. Sarvajeet Kumar Thakur, Advs.
Mr. Soumyajit Pani, Adv wth Mr. Chittaranjan Singh, Advs.
Dr. Sandeep Singh and Mr. Vinay Pal, Advs.
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Anshuman Srivastava, Adv.
Mr. Krtika Sachdeva and Mr. Mukesh Kumar, Advs
Mr. Raman Yadav and Ms. Varnita Rastogi, Advs. for GDA
Mr. Nikhil Singhav, Ms. Nikita Pandey and Mr. Mohit Seth and Ms. Kanak Bose, Advs.
Ms. Monica Lakhanpal, Applicant in person and Mr. Vaibhav Gaggar and Ms. Sumedha Darg, Advs.
Mr. Aman Sarma and Mr. S.S. Rebello, Advs.
Mr. Amit Agarwal, Ms. Asha Basu Adv. for WBPCB
Ms. Deep Shikha Bharati, Adv. for MoEF
Mr. Shuvodeep Roy Adv. for State of Assam
Mr. V. K. Shukla and Ms. Vijay Laxmi, Advs. for State of M.P.
Mr. Pradeep Misra, Mr. Daleep Dhyani, Advs. for UPPCB
Mr. Sumit Kishore, Adv. for PNGRB
Ms. Priyanka Sinha, Ms. Ajita Tandon Adv.
Mr. Rajul Shrivastava, Adv. for MPPCB
Mr. Kshitiz Ahuja, Adv.
Mr. Gaurav Dubey, Adv.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, AAG for State of Himachal Pradesh
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Devraj Ashok, Adv.
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Piyush Sachdev, Mr. Abhinandini Yadav Advs. for State of West Bengal
Ms. Priyanka sinha and Ms. Ajita Tondon, Adv. for Jharkhand
Mr. D. Rajeshwar Rao, Adv.
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan Gaur, Advs
Mr. Rajneesh Bhardwa Mr. Rahul Sharma and Mr. Gaurav Dubey advs
Mr. Arjun Syal, Mr. Shreyan Das Adv.
Mr. Rajkumar, Adv with Mr. Bhupender Ms.Preeti, L.A for CPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar, Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv
Mr. Rakesh Sharma Mr. V. Mowli, Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma, Adv. for MPCB
Ms. Sugandha Batra, Adv.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. R.S. Suri, Sr. Adv. and Mr. Varun Khanna, Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeep Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Arjun Sawhney adv in M. a. No. 1435/2017
Ms. S. Ghosh, Adv., Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Advs.
Mr. Apurua Kumar adv.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, and Ms. Prity, Advs.for CECB
Mr. Tarveen Singh Nanda, Mr. Anchit Sharma and Mr. Satumita Ghosh, for Delhi Cantonment Board

Mr. Soumyajit Pani and Mr. Chittaranjan Singh, Adv for State of Odisha,
Mr. Om Prakash, Adv.
Mr. Gautam singh and Ms.. Shibani Ghosh advs.
Mr. Nishe Rajen Shonker and Ms. Anu K. Joy, Advs. for State of Kerala.
Mr. Parag Tripathi, Sr. Adv., Mr. R.S. Suri, Sr. Adv and MR. Abeer Kumar, Adv.
Mr. Jayesh Gaurav, Adv.
Ms. Hemantika Wahi and Ms. Puja Singh Advs.
Dr. Sandeep Singh Adv. and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. Dileep Poolakkot, Adv.
Mrs. Rani Chibber and Ms. Priyanka Sony, Advs.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Ms. Sumedha Dang, Adv.
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam and State of Uttar Pradesh
Mr. Shivam Bajaj Adv.
Ms. Aditi Singh Adv. for Narender Pal Singh Adv and Mr. Dinesh Jindel LO
Dr. Sanjay Kulshreshtha, Applicant in person
Mr. Rishabh Sharma, Advs.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya, Mr. Ravi Gopal Advs. for East Delhi Municipal Corporation
Mr. Shubham Bhalla, Adv.
Mr. Pragyan Pradip Sharma, Adv Ms. Nitesh , Advs.
Mr. S.M. Sharma and Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Mr. Kamlajeet Singh AAG
Mr. Nagiender Benipal, Adv
Ms. Yogmaya Agnihotri, Adv., Ms. Prity, Adv.
Dr. Abhishek Atrey, Adv.
Ms. Priyanka Ghorawat, Adv.
Ms. Shashi Juneja Adv.
Mr. A.R. Takkar, with Mr. Amarjeet & Ms. Shriya Takkar, Advs. for Ambica Steel Ltd.
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & Mr. G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao and Mr. Abhinav Srivastav, Adv for Delhi Police
Ms. Alpana Poddar and Mr. Bhupendra Kumar, LA and Mr. Kamal Bandhu, ALO
Ms. Puja Kalra, Adv.
Mr. Ankur Chhibber and Mr. Nitish Negi, Advs.
Mr. Kamaljeet Singh, AAG
Mr. Udaibir Singh Kochar Adv
Mr. Gautam Dhamija, Adv.
Mr. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhardwaj, Mr. Raj Kishan Gaur, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar, Mr. Sandeep Mishra Advs.
Mr. Ajay Kumar Misra, Sr. Adv., Mr. Vandil Misha and Ms. Anuradha D. Mishra, Advs.
Mr. Y.D. Sharma, Adv.
MR. Krishna Menon, Mr. Gautam Bhanja and Mr. Daniya Nayyar, Advs.
Mr. Pinaki Misra, Sr. Adv. and Mr. Manoj Kumar and Ms. Geeta Das, Adv.
Mr. Sanchar Anand and Mr. Apoorv Singhal, Advs.
Mr. Jitendra Kumar Tripathi and Mr. simar Pal, Advs.
Mr. Shibashish Mishra and Mr. sylona Mohapatra, Advs.
Ms. Kritika Sachdeva and Ms. Somya Rathore, Advs.
Mr. Naginder Benipal, Adv. for PPCB
Mr. Pinaki Misra and Mr. Mayank Das, Advs. for NBCC
Ms. Shyel T. and Mr. Rishabh Sharma,. Advs.
Mr. Manoj Kumar Das adv.
Ms. Sugandama Batra, Adv.
Mr. Arun K. Sinha, Advs.

Mr. Rajueesh Bhardwaj and Mr. Aj Kishan Gaur, Advs.
Mr. M. Paikaray and Mr. S. Panda and Mr. A. K. Panda, Advs.
Mr. Shubham Bhalla and Ms. Roopam Rai, Advs.
Mr. Arun Monga and Ms. Divya Sharma, Advs.
Mr. Roshmani KH, Mr. Sapam Biswajit , Adv.
Mr. Ajit Sharma and Mr. Adnan Siddiqui, Advs.
Mr. Leishangthe Roshmani Adv.
Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Mr. Satamita Ghosh, Advs.
Mr. Ardhendhumauli, Kr. Prasad, Mr. Shashank Saxena, Advs.
Mr. Anil Grover, AAG, Mr. Rahul Khurana, Adv. with S. Narayan, Member, Secretary, HSPCB
Mr. Mukul Singh, Adv. for MoEF.
Mr. Amit Agrawal, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item Nos. 27-32 **December 18, 2017**	When this matter came up for hearing in the earlier part of the day, we had passed the following order: We have heard the learned Counsel appearing for the various stakeholders, State Governments, local authorities and the Applicant. We have also perused the action plans/affidavits submitted on behalf of the States of Uttar Pradesh, Rajasthan, Haryana, Punjab, NCT of Delhi, MoEF&CC and the Applicant. Keeping in view the limitation of time, we would dictate the detailed order during the course of remaining day. Thus now, we proceed to record the detailed order. All the States concerned with NCR Delhi i.e. NCT of Delhi, State of Uttar Pradesh, State of Rajasthan, State of Haryana and State of Punjab have filed their Action Plans in furtherance to the orders of the Tribunal. It is stated that these Action Plans have been prepared with reference to the Graded Response Action Plan (for short, "GRAP"), directions issued by Courts as well as judgments of the Tribunal in *Vardhman Kaushik vs. Union of India* . There are two fundamental aspects that need to be considered by the Tribunal for issuance of the directions in preventing and controlling the air pollution in NCR of Delhi. Firstly, that the Tribunal has passed a detailed judgment dated 10th November, 2016 in the case of *Vardhman Kaushik vs.*

	Item Nos. 27-32 **December 18, 2017**	*Union of India*, in Original Application No. 21 of 2014 which deals with all the sources of air pollution and the preventive steps that should be taken by all the concerned stakeholders including different Departments of the States. Secondly, the Tribunal had also passed a separate judgment dated 10th December, 2015 in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.,* Original Application No. 118 of 2013 in relation to the crop residue burning in these States to prevent and control the deterioration of ambient air quality as a result of indiscriminate crop residue burning. The GRAP has provided detailed guidelines. The concerned State Governments have not been able to implement these directions in their true spirit. The non-implementation of these directions is largely attributable to inaction and non-cooperation between the various departments of the State and the Governments of the different States. If the ambient air quality of NCR of Delhi has to be improved then there has to be a common framework, including all precautionary, preventive and punitive measures which should be uniformly applied by all the States. The various State Governments have classified the pollution levels under different categories. Each category has been assigned the lowest as well as the highest value in that category. There is no unanimity in such categorization. For instance, the Delhi Government has under Category–I, which is supposed to be the minimum has provided the value of PM_{10} greater than 500 $\mu g/m^3$ and $PM_{2.5}$ greater than 300 $\mu g/m^3$ to start taking the steps that are stated under this category. According

	Item Nos. 27-32 **December 18, 2017**	to the State of Uttar Pradesh they will start taking steps once the value is greater than 61 µg/m^3 and less than 90 µg/m^3 of $PM_{2.5}$ and PM_{10} is more than 101 µg/m^3 and less than 250 µg/m^3. Similarly, the other States have also provided different prescribed value. We may notice that value of PM_{10} is 100 µg/m^3 while the $PM_{2.5}$ is 60 µg/m^3. We may notice that these are not the only two pollutants which are responsible for causing pollution and adversely affecting the human health. There are other constituents i.e. SO_2, NOX, Hydro-Carbon, CO, BTEX, VOC and other components which have direct impact on human health. Thus, an approach has to be adopted which is more precautionary and preventive rather than curative. Importantly, the authorities are bound to take recourse of precautionary principle and ensure decent and clean environment to the public at large, living in NCR Delhi and in fact all over the country. It is commonly conceded before the Tribunal by all the stakeholders that there is very bleak possibility of bringing the ambient air quality of NCT of Delhi/NCR Delhi within the prescribed parameters of PM_{10} at 100 mg and $PM_{2.5}$ at 60 including the values of other pollutants that we have referred above. The State of Punjab has not even filed an action plan as contemplated under the orders of the Tribunal. It has just filed an affidavit stating that they would be installing ambient air quality monitoring stations that would measure 12 parameters on real time basis. Despite the fact that all the State Governments were directed to file action plans taking into consideration the

	Item Nos. 27-32 **December 18, 2017**	guidelines provided in GRAP, the judgments of the Courts and the Tribunal, as afore-stated, all the State Governments have filed the action plans which are not only at substantial variance, but in fact, go contra to each other. It is not only difficult but impossible to reconcile all these plans. The measures or steps to be taken under the respective action plans are entirely at variance even with regard to the same categorization. States of Uttar Pradesh, Rajasthan and Haryana have framed four categories while NCT of Delhi has framed three categories relatable to different values of ambient air quality in their action plans. We may notice that vide Notification dated 4th July, 2016, the Central Government in furtherance to the order of the Hon'ble Supreme Court of India dated 7th January, 1998 passed in W.P. (C) No. 13029 of 1985 reconstituted the Environmental Pollution (Prevention and Control) Authority (for short, "EPCA"), realizing that the high level of air pollution in NCR Delhi/NCT of Delhi was a matter of serious concern and required urgent measure. In compliance to the order of the Hon'ble Supreme Court dated 2nd December, 2016, the Central Government *vide* its Notification dated 12th January, 2017 reconstituted EPCA as implementing authority for GRAP. During the pendency of this application on different occasions, ambient air quality reports were filed by the CPCB, DPCC and even the Applicants and all the reports clearly demonstrate that all the parameters were found to be excessive.

	Item Nos. 27-32 **December 18, 2017**	We would just refer to the reports placed on record by the CPCB prepared on the basis of the data collected by it from October 2015 to January 2016. This report has categorized the pollution levels into good, satisfactory, moderately polluted, poor, very poor, severe and severe+ where the value of $PM_{2.5}$ in ambient air quality would be more than 300 µg/m^3. Strangely, at no point of time, the ambient air quality was found to be good in NCR Delhi. In fact, it was found to be poor and severe and above 60% in the month of October, 2015, 73% in November 2015, 67% in December 2015 and 68% in January 2016. Similarly, values of ambient air quality in relation to PM_{10} was found to be excessive for 66% in the month of October 2015, 87% for November 2015, 75% for December 2015 and 72% for January 2016. This statistics clearly shows that all the time, the ambient air quality of NCT of Delhi is polluted and for most of the period of the month it is severe and above. This is the quality of air that we are providing to the people living in NCR Delhi and NCT of Delhi. It is a clear violation of their fundamental right. The Supreme Court of India has declared right to decent and clean environment as a fundamental right within the ambit and scope of Article 21 of the Constitution of India. The Legislature enacted the laws for protection of environment and natural resources. The Constitution of India in terms of Article 47 (A) and 15 (A) (g) read with Article 21 mandated the State to protect the environment and imposed fundamental duty upon the

	Item Nos. 27-32 **December 18, 2017**	citizens to protect the environment and the natural resources and the judiciary to ensure the protection of the fundamental rights granted to the citizens of India. That is the stature provided to protection of environment, ecology and the natural resources in our country. The right to life has been infringed with impunity by the persons, Authorities and States upon whom lay Constitutional and statutory obligations to provide decent and clean environment to the public at large, particularly in relation to inhaling of clean air and drinking clean water. The Central Pollution Control Board has provided monitoring stations in various parts of NCT of Delhi, the analysis reports clearly show persistent hazardous ambient air quality not only in NCT of Delhi but even in NCR of Delhi and other parts of the country. It is undisputable and, in fact, has been exhibited in various platforms including display sites of Central Pollution Control Board and Delhi Pollution Control Committee where the value of PM_{10} and $PM_{2.5}$ is in flagrant violation to the prescribed value. It is surprising that the Central Pollution Control Board, Delhi Pollution Control Committee and other State Boards have not even bothered to test all the 8 parameters in the samples collected by them. Some of States claim though they have tested their parameters however, none of the display board displays results. The components like SO_2, NO_2, CO and Ozone which have a serious impact on the quality of the ambient air more often not remained ignored. Undoubtedly, they have serious impacts on human health as well.

	Item Nos. 27-32 **December 18, 2017**	The doctrine of preventive and precautionary principle with greater emphasis on inter generational equity has been violated, ignored at every relevant stage. The fundamental rights particularly which relates to right to life cannot be subjected to economic limitation. More often than not, the Supreme Court has held that the normally economic limitations cannot be raised as a defence to fundamental right, particularly right to life. We are informed that certain directions have been issued by the administration which certainly are not adequate and they do not comply with the judgment of the Tribunal, despite the fact that the matter was kept pending and various applications have been filed for different purposes. There is no Authority which is able to show the effective compliance of the directions contained in the judgment, this coupled with the above situation and apparent non-cooperation and no coordination amongst the various wings of the States and its instrumentalities has led to environmental degradation. In the judgements of *Vardhman Kaushik vs. Union of India & Ors.,* O.A. No. 21 of 2014 decided on 10th November, 2016, *Vikrant Kumar Tongad vs. Union of India & Ors.,* O.A. No. 118 of 2013 decided on 10th December, 2015, this Tribunal had passed directions in greater detail stating the steps/measures that should be taken by the State Governments, local authorities and the concerned stakeholders for improving the ambient air quality in and around NCT of Delhi. It is not necessary for us to refer to those orders at this stage. Suffices it to note that the orders were passed in great detail with specific

	Item Nos. 27-32 **December 18, 2017**	directions but unfortunately they remained un-complied. Amongst other, seven major contributors of air pollution are as under: 1. Construction activity and carriage of construction material 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and thermal power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. In this judgment, the Tribunal had noticed all the sources of pollution of ambient air quality and the manner in which preventive and precautionary steps are to be taken for tackling the pollution from each source. The judgment also directed taking of punitive steps/actions wherever the situation demanded and/or there was violation of the directions passed by the Tribunal. We are of the considered view that there is no dearth of existing laws, guidelines and directions of the Court in relation to prevention and control of pollution of the ambient air quality in NCT of Delhi but it is the implementation of laws and directions that is entirely wanting. Now, we will deal with the fundamental issues arising for consideration of the Tribunal in the present case. This relates to categorization. 'Categorization' has

	Item Nos. 27-32 **December 18, 2017**	all through been a matter of debate before different *forums,* including the authorities which had the statutory responsibility for prevention and control of air pollution. The CPCB has already created six categories which refer to different levels of pollution and these are good, satisfactory, moderately polluted, poor, very poor, severe and above severe. The GRAP has formulated five categories, i.e., severe+ or emergency, severe, very poor, moderate to poor and moderate. The different States have differently categorized its level of pollution and there is no uniformity. It needs to be noticed here that as per the GRAP, if $PM_{2.5}$ is between 61 µg/m^3 to 90 µg/m^3 and PM_{10} is 101 µg/m^3-250 µg/m^3, it would be treated as of moderate pollution. Government of NCT of Delhi though refers to the GRAP but while providing parameters of category-I when the action would start for prevention and control of pollution, the values reflected for that category of the Ambient Air Quality is PM_{10} less than 500 µg/m^3 and $PM_{2.5}$ less than 300 µg/m^3, which means that hardly any action would be taken with reference to the Precautionary Principle when the values exceed the prescribed values, i.e., above 100 µg/m^3 in the case of PM_{10} and 60 µg/m^3 in the case of $PM_{2.5}$. In our considered view, we feel that within the prescribed framework of GRAP and the CPCB, this concept of categorization needs clarity and certainty. The Tribunal consider it appropriate and, therefore, direct that there shall be four categories in relation to pollution of AAQ and also states the steps that must be taken to prevent and control of such pollution. The pollution levels in ambient air quality can fairly be

	Item Nos. 27-32 **December 18, 2017**	classified as follows: 1) Category I (Average): When PM_{10} is more than 100 $\mu g/m^3$ but below 300 $\mu g/m^3$ and $PM_{2.5}$ is more than 60 $\mu g/m^3$ but below 180 $\mu g/m^3$. 2) Category II (Severe): When PM_{10} is more than 300 $\mu g/m^3$ but below 700 $\mu g/m^3$ and $PM_{2.5}$ is more than 180 $\mu g/m^3$ but below 400 $\mu g/m^3$. 3) Category III (Critical): When PM_{10} is more than 700 $\mu g/m^3$ but below 1000 $\mu g/m^3$ and $PM_{2.5}$ is more than 400 $\mu g/m^3$ but less than 600 $\mu g/m^3$. 4) Category IV (Environmental Emergency): When PM_{10} is above 1000 $\mu g/m^3$ and $PM_{2.5}$ is above 600 $\mu g/m^3$. The levels of pollutants in the AAQ have direct nexus to public health. Higher pollutants in the AAQ have higher health impacts and risks to life. The need for complying with the precautionary principle and take timely action to prevent higher pollution has been emphasized in the above and even the previous orders of the Tribunal. It is the need of hour that all authorities and stakeholders must make concerted efforts to tackle major environmental problems of the present times. This can be tackled only by taking varied but appropriate steps at the appropriate stage. It is expected of all concerned, including the State and the citizens, to equally participate in tackling these environmental menaces. Collective responsibility can only provide the solution in resolving this. At the very outset, we reiterate the directions issued by this Tribunal in its judgments of *Vikrant Kumar*

	Item Nos. 27-32 **December 18, 2017**	*Tongad* and *Vardhaman Kaushik* (supra) and order dated 4th December, 2014 in *Vardhman Kaushik* and direct that all those directions shall apply *mutatis mutandi* and be read as part of this judgement. Therefore, we state the steps/measures that should be taken by State Governments, local authorities, stakeholders including the people at large, relatable to a particular category afore-stated. 1) Action/Steps to be taken when the pollution level fall in Category I: a) All concerned should make every effort to increase the green/forest cover. There shall be complete prohibition of burning of garbage, biomass and/or any kind of waste anywhere. Violation thereof would invite the penalty of ₹5000/- for each default (order dated 28th April, 2015). The respective Corporations, Local Authorities, Pollution Control Boards and police authorities would be responsible for ensuring this compliance. b) The Pollution Control Boards, Local Authorities and the State Governments should ensure stringent enforcement of all pollution laws, particularly, in relation to the industries or activities which cause emissions into the air for carrying on their activity. There should be regular inspection of Thermal Power Plants through the respective Pollution Control Boards and the Local Authorities to ensure that the Thermal Power

	Item Nos. 27-32 **December 18, 2017**	Plants are not emitting any gases or substances in excess of prescribed limit. c) The States and its instrumentalities shall encourage composting of biomass. d) Mechanized sweeping of roads. e) Regular checking of vehicles to ensure that they are maintaining their emissions within the prescribed values. f) Organizing public awareness programmes for prevention and control of air pollution. g) The vehicles which are more than 10 years old in the case of diesel and 15 years old in the case of petrol, should not be permitted to ply on the roads and they should be seized. Such vehicles should be deregistered by the concerned RTO. Steps should be taken to ensure free flow of traffic. Overloading of heavy vehicles should not be permitted and the vehicles which are found to be overloaded should be challaned and they should also pay environmental compensation in terms of the order dated 7th October, 2015 of the Tribunal. Strict vigilance should be maintained for visible emissions likely to cause air pollution and appropriate action be taken, without delay and default. The Government shall also provide the due incentive for scrapping of old cars as well as provide concession in registration of new cars to such car owners (order dated 28th July, 2016). h) All State Governments and their instrumentalities including public authorities shall ensure that

	Item Nos. 27-32 **December 18, 2017**	there is no crop residue burning in the agricultural fields or anywhere else. Due incentives and even machines like happy seeder, etc. should be provided to the farmers wherever necessary and recourse to punitive provisions should be taken. The State Government, its instrumentalities and the monitoring Committees shall take effective steps through publicity (print or electronic media) to inform the farmers at large the adverse impacts of burning of crop residue upon the environment, public health and the soil on the one hand. While on the other, utilising crop residue for providing them some income for productive and beneficial purposes like fuel in plants, bio-mass or thermal, manufacturing of boards, compact wood and such other useful items. i) When the car/vehicle stops on red traffic lights, the owner/driver of the vehicle should be directed to put off ignition of the car. For this purpose, the traffic police and other regulating agencies should propagate and advice the driver of the vehicle to take such precautionary steps. In the event of default, the traffic police should enforce the same in accordance with law as it would prevent avoidable vehicular emissions. j) All State Governments should identify and provide alternative routes for heavy vehicles outside the cities so that there is no traffic congestion in the city, particularly, NCT of Delhi. The heavy transport

	Item Nos. 27-32 **December 18, 2017**	vehicles whose final destination is not Delhi but enter Delhi en-route, shall not be permitted to enter Delhi. Such traffic should be diverted from Sonipat and Panipat. k) All efforts should be made to operationalise Western Expressway and Eastern Expressway. NHAI, Central Government and the concerned State Governments shall fully cooperate and provide assistance for the same. l) The State Government and all its instrumentalities shall endure their best to introduce battery and electric mass transportation system, incentives/ concession shall be provided for buying the hybrid vehicles. m) The State Government and the concerned departments should take effective steps to enhance public transport facilities and provide due infrastructure in that behalf. It will be ensured that public transport become more user-friendly. Due prevention should be taken to ensure that empty buses do not ply on the roads, proper time table relatable to the passenger peak load should be prepared by DTC and all other stakeholders. The State Governments, transport authorities and all other concerned agencies particularly NCT of Delhi, shall provide destination buses which will have not more than three bus stops within the colony of its origin and then would go non-stop to its point of termination. The destination buses could be ordinary buses

	Item Nos. 27-32 **December 18, 2017**	but preferably should be air conditioner buses. This direction must be complied with now, without delay and default (order dated 20th April, 2017). n) In this behalf the other directions stated in the order of the Tribunal dated 4th December, 2014 should also be complied with in terms of the order of the Hon'ble Supreme Court and this Tribunal. No vehicles which are BS-I, BS-II compliance would be permitted to ply on the roads, this will include heavy as well as light vehicles. o) The Government and all its concerned departments shall put a cap on the number of vehicles of all kinds that can ply in NCT of Delhi. Government should formulate policy of putting higher registration fee and road tax on purchase of second vehicle by the same person, body, company, society or trust. p) No parking should be permitted on the metalled roads. Parking at Multi-level or earmarked parking should be encouraged and incentives be provided in that behalf. q) All builders involved in construction of buildings, howsoever, small or big would ensure compliance to the laws in force and the directions of the Tribunal. No dust should be emitted during demolition. No construction material should be kept on the roads. The construction material inside the plot should also be kept in covered conditions and labour should be provided with all

	Item Nos. 27-32 **December 18, 2017**	anti-pollution gears during the course of construction. The State Governments, Pollution Control Boards and local authorities shall maintain due vigil in this regard (order dated 4th December, 2014). r) Regulation of hours and vehicles for loading and unloading of vehicles particularly in the congested area (order dated 16th March, 2015). s) All steps shall be taken by the State Governments, Horticulture Department, Corporation, Directorate of Education and all the private schools that to ensure increase of green belt in their respective schools within a period of one month from the date of pronouncement of this order. Large number of trees should be planted. 2) Category II (Severe)-Action and measures to be taken and penalties to be imposed: 1. All the steps directed under category I shall continue to be strictly enforced in relation to this category as well. 2. All the brick kilns, thermal plants and heavy industries which are causing emissions would be instantaneously stopped and inspected by Pollution Control Board and all other concerned authorities and if their emissions are found to be beyond the prescribed standards, such plants shall be directed to be shut down. 3. Intensifying public transport service and taking rigorous steps for avoiding traffic congestion particularly at peak hours.

	Item Nos. 27-32 **December 18, 2017**	4. Increasing the frequency of public transport, mechanized cleaning of roads and seizure of any diesel generator found emitting in excess of prescribed standards and no permission for its usage for any purpose whatsoever. 5. There shall be complete prohibition on burning of any material, waste or bio-mass. The Government shall issue warning to the public at large requiring them to take appropriate precautionary steps and not to expose themselves to the high pollutants during particular hours of the day. 6. The Government shall immediately take steps for segregating the office time for various offices including the Government Departments. The Government shall provide destination buses and make every effort to discourage the use of private vehicles, including two-wheelers, cars and heavy vehicles. 7. All necessary steps should be taken to ensure that the construction activity is carried on strictly as per prescribed guidelines and the directions of the Tribunal. The transportation of the construction material should also be strictly in accordance with the directions issued earlier such as ensuring that carrying of construction material of any kind, particularly sand, cement, etc., is done after properly covering the transportation vehicle. In default, the concerned Government, Board and the local authority shall invoke the penal directions in regard to payment of environmental compensation

	Item Nos. 27-32 **December 18, 2017**	at the rate of ₹5,000/- per event for transporting material in violation of directions and ₹50,000/- in relation to storage of construction material of any kind (order dated 11th December, 2015). 8. All State Governments should identify and provide alternative route where there is no traffic congestion in the city, particularly, NCT of Delhi so that the heavy transport vehicles whose final destination is not Delhi but en-route they enter Delhi, shall not be permitted to enter Delhi and such traffic would be diverted from Sonipat and Panipat. In the event they enter Delhi then they shall be liable to pay environmental compensation at the rate of ₹700/- for 2 axles, ₹500/- for 4 axle and ₹1000/- for 3 axles. 3) Category III Critical (Measures required to be taken)- Category III would relate to pollution of ambient air quality, i.e., severe and high and without exception have serious adverse impacts on public health and environment. Thus, the measures that are required to be taken under this category have to be preventive and punitive both. 1. All the directions contained under category I and II shall be enforced without default and delay. All those directions shall *mutatis mutandi* apply under this category as well. 2. The construction shall be stopped immediately and no construction would be permitted during the duration when the PM_{10} is falling under this category, particularly,

	Item Nos. 27-32 **December 18, 2017**	towards the higher value i.e. 1000 µg/m^3 or $PM_{2.5}$ is towards higher value of 600 µg/m^3. 3. There shall be complete prohibition on burning of crop residue and all the departments concerned, particularly, the Pollution Control Board and the Government Department would take recourse to the punitive provisions for payment of environmental compensation in terms of the judgement of this Tribunal in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.* dated 10th December, 2015. Officers who are found to be avoiding performance of their statutory duties in consonance with these directions would be liable to departmental action in accordance with law. 4. There shall be complete prohibition on transportation of construction material during the relevant period. 5. To avoid traffic congestion and consequential air pollution, the scheme of odd and even shall be implemented by the respective State Governments/Departments of the State. 4) Category IV (Environmental Emergency): The directions and steps directed hereinafter shall be carried out by the State Governments, concerned Departments, Local Authorities and all the stakeholders, when PM_{10} exceeds 1000µg/m^3 and $PM_{2.5}$ exceeds 600µg/m^3, respectively. 1. All the directions under category I, II and III, respectively shall apply *mutatis mutandis* even to this category. All State Governments would

	Item Nos. 27-32 **December 18, 2017**	comply with all such directions. Besides, we also issue the following directions. i) There would be a complete prohibition on all kind of construction activity and transportation of construction material. The default or violation of directions would incur penalty/environmental compensation to the extent of Rs. 1 Lakh for every default. ii) All the brick kilns functioning in NCR Delhi shall be closed. iii) There will be complete and absolute prohibition on burning of all agricultural residues. Penal actions shall be taken and environmental compensation imposed in accordance with the orders on the defaulters/offenders. iv) All the Thermal Power Plants in NCT of Delhi shall not operate. v) There shall be complete prohibition and ban on lifting, transportation and generation of fly ash. The concerned State Government and Authorities shall sprinkle water from the high rising buildings or through helicopters to ensure that excessive parameters are immediately brought down to reasonable limits. vi) There shall be complete prohibition on use of DG sets. The trucks and heavy vehicles carrying material including trailers shall be

	Item Nos. 27-32 **December 18, 2017**	prohibited from entering NCT of Delhi. Only the heavy vehicles carrying essential goods like medicine, food etc. would be permitted, while all other heavy vehicles will not be permitted to enter NCT of Delhi for the duration of Environmental Emergency. vii) Whenever there is environmental emergency, i.e., PM_{10} exceeds 1000 $\mu g/m^3$ and $PM_{2.5}$ exceeds 600 $\mu g/m^3$ then the NCT of Delhi shall consider and pass appropriate orders in regard to closure of the schools for that period. The period for which the schools remain closed as a result of passing of such order would be treated non-working days and would not contribute towards the percentage of attendance. The schools would be provided with an option to run on weekend following the closure period, if they so desire. viii) The Central Government and NCT of Delhi and all other State Governments shall issue guidelines in relation to use of bursting of crackers including kind of crackers that can be burst and the area where such activity would be prohibited and/or permitted, duration thereof and under what event and circumstances. There shall be complete prohibition on bursting of crackers. Such guidelines shall

		be issued within a period of two months from the date of passing of this order. **GENERAL DIRECTIONS:** 1. All the above directions and the directions contained in the orders of the Tribunal dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 all in the case of *Vardhaman Kaushik* (supra) and 10th December, 2015 in the case of *Vikrant Kumar Tongad* (supra) shall be implemented and enforced by the concerned State Governments, its Departments, instrumentalities, local authorities and all the stakeholders, without delay and default. 2. Implementation of these directions is mandatory and no authority shall have any discretion to vary their implementation in any form. They shall come into force and be implemented automatically with reference to the extent of pollution in the ambient air quality of NCT of Delhi 3. Odd and Even Scheme shall be applied in terms of these directions without any exception. No Authority would be entitled to use any discretion in enforcement of this direction. 4. The State Governments and all concerned agencies particularly the Pollution Control Boards shall prosecute by filing appropriate complaints in terms of Section 15 of the Environment (Protection) Act, 1986, against the defaulters and offenders of these directions and the environmental laws in force,

		without delay and default. 5. The environmental compensation imposed in terms of these directions against any defaulter or violator shall be recovered in accordance with law by the concerned State, Agencies, Boards, Local Authorities, etc., without delay and default. 6. The environmental compensation collected under the directions of the Tribunal in terms of orders/judgement dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 in the case of *Vardhman Kaushik vs. Union of India & Ors.*, O.A. No. 21 of 2014 and dated 10th December, 2015 in the case of *Vikrant Kumar Tongad vs. Union of India & Ors.*, O.A. No. 118 of 2013 and this order shall be kept in separate account and will be utilized for implementing projects in terms of these directions and for prevention and control of air pollution in NCT of Delhi. 7. Every laxity, dereliction of duty and non-compliance of these directions by the officers/officials shall lead to initiation of proceedings as well as action for violating the orders of the Tribunal before the Tribunal and in accordance with law. 8. Copy of this order and all the above referred orders should be placed before any agency and/or Committee constituted by the Government for prevention and control of pollution of ambient air quality in NCR/NCT of Delhi. It will be appropriate

		that the authorities/agency/committees would have advantage of having the orders of the Tribunal before them as a base document so as to facilitate execution and enforcement thereof. 9. The Authority or any other Committee would be free to take such steps or measures as they may deem necessary for cleaning ambient air quality of NCR/NCT of Delhi, in addition to the directions contained in this order and other orders afore-stated. However, they should not act and pass directions which are in derogation to the orders of the Courts and this Tribunal. 10. The Secretary, Environment of every State and the Member Secretary of that State Pollution Control Board shall file in every three months a comprehensive report before the Tribunal, without default. In this report ambient air quality standards in relation to all pollutants upon analysis shall be reported and also the measures/steps taken by that State in relation to prevention and control of air pollution, in accordance with directions contained in this judgement. In the event the report is not filed, the concerned officers shall be liable to be proceeded against in accordance with law for violating the orders of the Tribunal. We further, direct that copy of this order be circulated to the Chief Secretaries, Central Pollution Control Board, State Pollution Control Boards, MoEF&CC and all other Committees constituted, without any delay.

		The application is thus disposed of without any order as to cost. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. Nagin Nanda)

NATIONAL GREEN TRIBUNAL, NEW DELHI

Item No. 03 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 1016/2019

Utkarsh Panwar Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

Date of hearing: 17.03.2020
Date of uploading of order: 23.03.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

ORDER

1. This order is being passed in continuation of order dated 05.03.2020. Question for consideration is permissibility of brick kilns run by 'Zig-Zag' technology in NCR till level of air pollution becomes normal. Other brick kilns are already prohibited by the order of the Environment Pollution (Prevention and Control) Authority (EPCA) vide order dated 01.11.2019 to enforce GRAP stipulating shutting of Brick kilns in NCR under severe conditions i.e. when PM2.5 and/or PM10 concentration goes beyond 250 µg/m3 and/or 430 µg /m3 respectively. This prohibition was not

applied to brick kilns operated by 'Zig-Zag' technology on the assumption that such brick kilns did not adversely affect the air quality. According to the applicant, even brick kilns run by 'Zig-Zag' technology add to PM 2.5 and contribute about 10% of the air pollution in the NCR and should not be allowed atleast till GRAP is applicable.

2. Vide order dated 15.11.2019, this Tribunal directed all brick kilns in NCR to be closed till scientific study was conducted or till the situation improved. CPCB was directed to carry out a study and furnish a report till 15.12.2019. The matter was further considered on 18.12.2019. In the light of report of the CPCB dated 13.12.2019 to the effect that average fugitive SPM values from FCBTK and 'Zig-Zag' kilns were identical, the Tribunal directed that brick kilns in NCR can be allowed only subject to carrying capacity, GRAP, consent conditions and background concentration of ambient air quality pending further study by CPCB.

3. The matter was then considered on 06.02.2020 in the light of further report of CPCB dated 28.01.2020 to the effect that while stack emissions were less in kilns operated by 'Zig-Zag' as against FCBTK technology using same fuel, change of fuel to agro residue had to be studied in the light of carrying capacity of an area, existing PM load

and assimilative capacity. The Tribunal directed that carrying capacity of the NCR region be undertaken and report furnished by CPCB.

4. On 05.03.2020, the Tribunal further reviewed the matter in the light of earlier orders and report filed by the CPCB to the effect that since severe conditions did not exist, EPCA had discontinued the ban on brick kilns in accordance with the GRAP. However, the Tribunal found that even if brick kilns are not to be mandatorily shut as per GRAP, the same cannot be allowed to be operated unless carrying capacity in terms of air quality permitted such operation without adversely affecting the environment. It was observed:

> *"4. In view of the above, a report has been filed by the CPCB on 04.03.2020 as follows:*
>
> *"As per information provided by SPCBs, there are total 3278, 2854 and 19003 brick kilns in Haryana, Punjab and Uttar Pradesh respectively, out of which 1918, 701 and 1343 brick kilns have been converted to Zig-Zag technology. With regard to NCR regions, out of 2187, 2216 and 251 brick kilns in Haryana, Uttar Pradesh and Rajasthan respectively,* ***1504, 1032 and 127 brick kilns have been converted to Zig-Zag technology****.*
>
> *Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts.*
>
> *Different types of activities with potential of air pollution, including operation of brick kilns in Delhi-NCR are regulated through a Graded Response Action Plan (GRAP) by Environmental Pollution Control Authority.* ***As per GRAP, Brick kilns in NCR are required to be shut under severe conditions i.e. when $PM_{2.5}$ and/or PM_{10}***

concentration goes beyond 250 µg/m³ and/or 430 µg /m³ respectively.

In view of the expected higher concentration of PM emissions during winter months, brick kilns in the NCR regions were kept closed during this period as per directions of EPCA. ***However, now, looking into the forecast of favourable meteorological conditions and expected improvement in the air quality, Environmental Pollution Control Authority (EPCA) has directed that operation of those brick kilns in NCR districts, which have converted to Zig-zag technology, be allowed, vide letter No. EPCA-R/2020/L-09 dated February 14, 2020*** *(Copy enclosed as Annexure-I).*

Further, air quality data of 2019 in NCR, was examined. Analysis indicated that ***$PM_{2.5}$*** *concentration in summer months (March-June) is lower (****Average 80 µg /m³)*** *in comparison to winter months (Average 173 µg /m³). Similarly,* ***PM_{10}*** *concentration in summer months (March-June) is lower (****Average 219 µg /m³)*** *in comparison to winter months (Average 283 µg /m3).*

The past data of 2019 w.r.t. PM_{10} & $PM_{2.5}$ concentration in Delhi, is summarized in ***Table 1:***

Table 1 : *Monthly data of CAAQMs w.r.t. PM Concentration for 2019, in Delhi*

Month	$PM_{2.5}$, µg/m³	PM_{10}, µg/m³
January	203	322
February	122	215
March	83	184
April	83	236
May	89	247
June	63	209
July	47	143
August	35	85
September	40	98
October	128	247
November	202	312
December	209	316

Therefore, in view of submission that 65 Nos brick kilns are proposed to be monitored in both NCR and Non-NCR regions, involving total 585 stack emissions' samples, in compliance of the directions of Hon'ble

NGT in the matter of O.A. No. 1016/2019 and O.A. No. 1088/2018, it is humbly prayed as under:

I. Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts and if these are to be monitored to assess the performance of brick kilns operating on agro-residues, under comparable situations, the Zig-Zag type brick kilns in NCR regions, which are presently closed, may have to be made operational, to facilitate monitoring.

II. Atleast 04 months' time period may be granted to CPCB, for Monitoring of 65 brick kilns in NCR and Non-NCR regions and submission of report covering ***i) Impact of brick kilns operation on loss/degradation of top soil, ii) study involving Carrying Capacity Assessment of brick kilns with adequate samples in terms of number of brick kilns and days for which monitoring be conducted, iii) Evaluation of the performance of brick kilns against the background concentration and carrying capacity of the area and iv) Impact on Brick Kilns operation on ambient air, in the matters of O.A. No. 1016/2019 and O.A. No. 1088/2018, after commencement of operation of brick kilns in NCR regions.****"*

5. We have heard learned Counsel for the CPCB and for the brick kilns, including those who have filed applications for being implead as party in pursuance of order of Hon'ble Supreme Court dated 20.02.2020 in C.A. No. 1733-35/2020.

6. Learned Counsel for the CPCB submitted that having regard to the data of air quality, even though as per GRAP brick kilns are to be mandatorily shut throughout NCR only under 'severe conditions', no polluting activity, including brick kilns, can be permitted beyond 'carrying capacity' and air quality norms under the Air (Prevention and Control of Pollution) Act, 1981. On the other hand, the stand of the brick kilns is that unless the conditions are 'severe' to attract GRAP and unless prohibited by EPCA, 'Zig-Zag' technology brick kilns have right to operate irrespective of the air quality norms. Reliance has also been placed on norms for brick kilns under Schedule-I, Sr. No. 74 of Environment (Protection), Rules 1986. Alternatively, it is submitted that at such locations where air quality is

within norms, brick kilns may be allowed. By way of example, it is stated that the ambient air quality data at Alwar, as on 18.02.2020, is within norms.

7. We do not find any merit in the contention that only in 'severe' conditions brick kilns can be prohibited even if the air quality is beyond permissible norms and the area has no assimilative or supportive capacity. Emission norms of individual brick kilns is not a conclusive factor for dealing with the issue, if the carrying capacity of the area does not allow the brick kilns in question. However, we do need to consider the submission that where air quality is within the norms and there is carrying capacity, brick kiln can be allowed.

8. In view of the above, it is necessary to look at the relevant data at different locations '24 hourly' and 'monthly average' during the relevant months. Since such data is maintained by the CPCB/PCBs, the CPCB may collect such data for corresponding months of March, April, May and June in the year 2019 and furnish the same before the next date. The break-up of location of the brick kilns District-wise may also be furnished to consider as to which of the brick kilns can be allowed after verification that such brick kilns are actually working on 'Zig-Zag' technology, pending further assessment of the carrying capacity by the CPCB, as already directed earlier vide order dated 06.02.2020."

5. Accordingly, further report has been filed by the CPCB on 16.03.2020 giving District-wise breakup of locations of Zig-Zag type brick kilns in NCR Region and Ambient Air Quality data of NCR Districts with regard to PM_{10} and $PM_{2.5}$. The data furnished covers all the Districts of Haryana, Uttar Pradesh and Rajasthan in NCR Region for the period March – June, 2019. The same is reproduced below:

Table-2

NCR-DISTRICTS OF STATE OF HARYANA

Month	Bhiwani		Faridabad		Gurugram		Jhajjhar		Jind		Karnal		Mahendragarh	
	PM_{10}	$PM_{2.5}$	PM_{10}	PM2.5	MN	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
March, 2019														
Range:														
Minimum	63	37	129	55	84	40	68	36	80	34	79	37	44	**35**
Maximum	124	77	380	152	270	99	177	94	220	95	223	79	163	92
Monthly average	88	52	261	84	165	65	112	63	129	59	128	53	110	**58**
April, 2019														
Range: Minimum	40	25	69	28	111	24	41	22	55	23	53	46	45	28
Maximum	232	124	453	167	437	155	280	133	283	112	292	149	252	129
Monthly average	128	74	301	99	257	89	161	72	174	62	185	90	167	71
May, 2019														
Range: Minimum	57	43	157	49	103	49	67	35	70	30	105	51	67	28
Maximum	301	157	560	279	491	230	320	153	354	189	281	155	282	116
Monthly average	130	89	312	99	223	97	170	73	191	79	174	100	138	59
June, 2019														
Range: Minimum	51	38	99	37	70	36	62	24	75	23	52	22	51	38
Maximum	216	136	556	145	279	200	308	95	321	82	265	166	363	144
Monthly average	122	79	262	78	187	75	140	50	190	59	166	94	133	66
Prescribed !Standards:	100	**60**	**100**	**60**	**100**	**60**	**100**	**60**	**100**	**60**	**100**	**60**	**100**	**60**
Annual **24 hours**	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**
No. of Zig-Zag Brick Kilns	**142**		**85**		**6**		**387**		**111**		**92**		**42**	

NATIONAL GREEN TRIBUNAL, NEW DELHI

Table-2 (Contd)

NCR DISTRICTS OF STATE OF HARYANA

Month	Nuh (Mehwat)		Palwal		Panipat		Rewari		Rohtak		Sonipat	
	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
March, 2019												
Range: Minimum	**60**	34	76	**37**	**50**	**22**	**75**	**39**	**NM**	27	**63**	**36**
Maximum	**181**	**87**	226	99	**175**	**63**	**287**	**108**	**NM**	85	202	90
Monthly average	**107**	**54**	**139**	**67**	**104**	**40**	134	**68**	**NM**	**58**	**111**	**57**
April, 2019												
Range:												
Minimum	73	37	50	22	88	**23**	**114**	37	NM	26	**75**	**28**
Maximum	228	87	338	188	312	63	324	96	NM	318	340	**171**
Monthly average	176	60	234	120	184	41	190	69	NM	80	**189**	**74**
May, 2019												
Range: Minimum	70	36	83	57	116	29	101	42	NM	**35**	**77**	**37**
Maximum	293	107	355	224	389	124	410	105	NM	357	**420**	**186**
Monthly	**145**	62	187	115	237	64	192	67	NM	**100**	**195**	**88**
June, 2019												
Range: Minimum	**65**	**36**	**107**	32	**73**	p**21**	**85**	**30**	NM	**26**	**54**	**35**
Maximum	**255**	**88**	**372**	159	249	84	**364**	**83**	**NM**	**180**	**314**	**196**
Monthly average	**128**	**57**	**202**	**89**	**148**	**52**	**195**	**57**	**NM**	**77**	**192**	**77**
Prescribed Standards:	**100**	**60**	**100**	**60**	**100**	**60**	**100**	**60**	**100**	**60**	**100**	**60**
Annual 24 hours	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**	**60**	**40**

NATIONAL GREEN TRIBUNAL, NEW DELHI

No. of Zig- Zag Brick Kilns	**62**	**110**	**87**	**76**	**49**	**265**

Note: "NM" Data not monitored, "NA" Inadequate data/data not available, PM_{10} and $PM_{2.5}$ values are in pg/m^3

Table-3

NCR DISTRICTS OF STATE OF UTTAR PRADESH

Month	**Baghpat**		**Bulandshahr**		**Gautam Budh Nagar**		**Ghaziabad**		**Hapur**		**Muzaffarnagar**	
	PM_{10}	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
March, 2019												
Range: Minimum	103	47	119	56	124	**38**	**135**	**46**	**79**	**36**	**103**	**44**
Maximum	267	154	254	124	307	134	351	173	294	107	235	137
Monthly average	161	84	185	88	189	82	216	94	168	66	152	83
April, 2019												
Range: Minimum	101	39	54	23	58	**27**	**87**	30	**75**	**20**	79	36
Maximum	432	183	424	129	366	136	440	160	397	116	354	210
Monthly average	263	90	223	84	250	**85**	307	99	246	62	223	99
May, 2019												
Range: Minimum	118	46	132	51	132	43	153	57	136	25	127	35
Maximum	528	222	434	117	450	155	586	196	496	106	344	141
Monthly average	294	96	248	78	255	**81**	328	105	287	57	216	87
June, 2019												
Range: Minimum	104	38	82	22	77	22	80	20	NA	NA	55	**29**
Maximum	549	97	285	79	462	97	409	113	NA	NA	278	89

Monthly average	263	68	175	54	219	59	253	66	NA	NA	173	63
Prescribed Standards:	**60**	**60**	**100**	**60**	**100**	**60**	**100**	60	**100**	60	100	**60**
Annual, 24 hours	**100**	**40**	**60**	**40**	**60**	**40**	60	40	60	40	60	40
No. of Zig-Zag Brick Kilns	340		200		65		71		52		146	

Note: "NM" Data not monitored, "NA" Inadequate data/data not available, PM_{10} and $PM_{2.5}$ values are in pg/m^3

Table - 4		
NCR DISTRICTS OF RAJASTHAN		
	PM_{10}	**$PM_{2.5}$**
March, 2019		
Range: **Minimum** **Maximum**	 43 250	 18 100
1Monthly average	137	66
April, 2019		
Range: **Minimum** **Maximum**	 108 382	 45 134
Monthly average	209	85
May, 2019		
Range: **Minimum** **Maximum**	 99 **303**	 **43** **168**
Monthly average	190	**81**
June, 2019		
Range: **Minimum** **Maximum**	 63 235	 28 147
Monthly average	**154**	**67**
Prescribed Standards: **Annual** **24 hours**	100 **60**	**60** **40**
Number of Zig-Zag brick kilns	**70**	

Note: "NM" Data not monitored, "NA" Inadequate data/data not available, PM_{10} and $PM_{2.5}$ values are in pg/m^3

6. We have considered the above data which shows that in the corresponding months when brick kilns were operating, standard of air quality was not as per prescribed norms. Thus, the air quality of the area is unable to take further pollution load. In this regard, it may be noted that while considering the issue of operation of brick kilns in non-NCR area, where GRAP was not applicable as such, in *O.A. No. 1088/2018, Dinesh Chahal & Ors. vs. Union of India & Ors.*, the Tribunal vide order dated 30.04.2019 observed that standards of ambient air quality are required to be maintained under Section 17(g) of the Air Act, 1981:

> *"3. … The matter was again considered on 21.02.2019 with reference to the* ***contention that the impugned order was only for Non-NCR to which order of CPCB or EPCA did not apply. The Tribunal held that even in Non-NCR, Standards of Ambient Air Quality laid down under Section 17 (g) of the Air Act are required to be followed. If the impugned order has been passed without undertaking any study on status of ambient air quality without any carrying capacity assessment to take the additional load at concerned areas and without any safeguards on 'Precautionary' principle, the same may not be justifiable having regard to the acknowledged adverse impact of operation of the brick kilns on the ambient air quality.*** *Reference was made to the Judgements of the Hon'ble Supreme Court in M.C. Mehta v. Union of India, (1998) 9 SCC 149, M.C. Mehta v. Union of India (2000) 7 SCC 422, M.C. Mehta v. Union of India, (2002) 4 SCC 378, K. Guruprasad Rao v. State of Karnataka, (2012) 12 SCC 736 wherein the Hon'ble Supreme Court directed closure or shifting of brick kiln industries and M.C. Mehta v. Union of India, (2001) 9 SCC 235 laying down that brick kilns may be allowed to*

operate after studying the impact on human population and vegetation."

7. Learned Counsel for the brick kiln operators, however, submit that prohibition on operation of brick kilns be lifted as some individual brick kilns meet the air quality emission standards laid down under the Environment (Protection) Rules, 1986 and the brick kilns are not the only source of pollution. Contribution of all the brick kilns taken together, to the air pollution, was about 3%. It was also mentioned that as at present air quality norms are within limit in seven districts out of 15 districts of NCR.

8. As observed earlier, the question is not merely of an individual brick kiln not emitting pollution or the extent of contribution of the brick kilns taken separately, but of the capacity of the area being already air polluted and unable to take the load of pollution. When there is no carrying capacity in the area for further air pollution, we find it difficult to permit operation of the closed brick kilns to uphold the 'Sustainable Development' principle. When even without operation of the brick kilns the air quality is not within the norms, the impact of operation of the brick kilns cannot be ignored. Thus, we find it difficult to accept the submission that the individual brick kilns maintaining the prescribed standards for discharge of emissions are entitled to operate or that they be allowed to operate on the ground that pollution caused by the brick kilns is less than other pollution

from other sources irrespective of carrying capacity of the area. The fact remains that brick kilns add to the air pollution and thereby affect right of citizens to breathe fresh air.

9. We may now consider another aspect of the matter i.e. impact of the brick kilns on the top soil. As noted in order dated 05.03.2020, CPCB has undertaken to look into this aspect and has not yet completed its study. As per available study, there is huge environmental cost in using top soil for making brick making.[1] Reference may also be made to a study on "The Impact of Brick Kiln operation to the degradation of topsoil quality of Agricultural Land".[2] There is further issue of unutilized fly ash adversely affecting the environment which may require barring red clay brick kilns. This is proposed in a draft notification of the MoEF&CC 25.02.2019 within 300 kms of coal or lignite based thermal power plants. No doubt the said notification is only a draft but the same is evidence of such step being necessary for sustainable development.

10. Main reason for air pollution by brick kilns is use of coal etc. as fuel. The pollution can be minimized if the fuel which is currently used is considered to be replaced by cleaner fuels like PNG by appropriate

[1] www.journals.sagepub.com/doi/abs/10.1177/0974929214521892# (Environmental Cost of using top-soil for brick making – a case study form India (MoEF, GoI project) (Published in Review of Market Integration, 2013) Vinish Kathuria, Professor, IIT Bombay – March 11, 2015.

[2]www.researchgate.net/publication/282431176_The_impact_of_brick_kiln_operation_to_the_degradation_of_topsoil_quality_of _agricultural_land.

modification in design not adding to the PM load. Dealing with the air pollution caused in Morby Industrial Area in Gujarat on account of coal gasifiers in tile manufacturing, the Tribunal directed closing of coal gasifier industries without prejudice to such industries switching over to non-coal gasifiers, PNG or other such technology. It was directed[3]:

> *"25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage to the environment and public health."*

11. Issue of allowing operation of brick kilns may give rise to following questions:

(i). The use of cleaner fuels or any other alternative measures to be used to prevent air pollution.

(ii).

(ii). Siting and carrying capacity.

12. In view of the fact that there is no carrying capacity of the air quality in NCR region to permit any further addition to PM load by

[3] Order dated 06.03.2019 in O.A. No. 20/2017 (WZ), Babubhai Ramubhai Saini vs. Gujarat Pollution Control Board & Ors.

permitting unconditional operation of brick kilns using fuel which adds to PM load and since it may be necessary to consider the issue of utilizing fly ash, we require an expert opinion on following issues:

(a) how brick kilns can be allowed in NCR without damage to the air quality;

(b) conditions subject to which it may be done;

(c) number of brick kilns to be allowed and criteria for fixing such numbers.

13. Let CPCB look into the above issues and furnish a further report within one month for further directions in the matter. The applicants are free to put forward their viewpoint before CPCB.

List for further consideration on April 28, 2020.

Adarsh Kumar Goel, CP

Sheo Kumar Singh, JM

Dr. Nagin Nanda, EM

March 23, 2020
Original Application No. 1016/2019
DV

Item No. 03 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 1016/2019
(I.A. No. 306/2020, I.A. No. 308/2020, I.A. No. 310/2020, I.A. No. 311/2020, I.A. No. 312/2020, I.A. No. 313/2020, I.A. No. 339/2020, I.A. No. 340/2020 & I.A. No. 341/2020)

Utkarsh Panwar Applicant

Versus

Central Pollution Control Board & Ors. Respondent

Date of hearing: 15.10.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S. P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant: Mr. Rohan Thawani, Advocate

Respondent: Mr. Raj Kumar, Advocate for CPCB
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advocates for UPPCB
Mr. Rahul Khurana, Advocate for HSPCB
Mr. S.P. Singh, Senior Advocate with Mr. Raunak Parekh, Advocates
Mr. Rohit Sharma, Advocate
Mr. Neeraj Kumar Jain, Senior Advocate with Mr. Aniket Jain, Advocate in I.A. No. 306/2020
Mr. Siddhartha Iyer, Advocate in I.A. No. 308/2020
Mr. Neeraj Kumar Sharma, Advocate in I.A. No. 310/2020 & 311/2020
Mr. Sanjay Upadhyay, Advocate in I.A. No. 312/2020 & 313/2020
Mr. Nalin Kohli, Advocate in I. A. No. 339/2020 & 340/2020
Mr. Dinesh Kumar Dakoria, Advocate in I.A. No. 341/2020

ORDER

The Issue

1. Question for consideration is permissibility of brick kilns run by 'Zig-Zag' technology in NCR till level of air pollution becomes normal. Other brick kilns (*FCBTK)* were already prohibited by the order of the Environment Pollution (Prevention and Control) Authority (EPCA) vide order dated 01.11.2019 to enforce GRAP, stipulating shutting of Brick kilns in NCR under severe conditions i.e. when $PM_{2.5}$ and/or PM_{10}

concentration goes beyond 250 µg/m3 and/or 430 µg /m3 respectively. This prohibition was not applied to brick kilns operated by 'Zig-Zag' technology on the assumption that such brick kilns did not adversely affect the air quality. According to the applicant, even brick kilns run by 'Zig-Zag' technology add to $PM_{2.5}$ and contribute about 10% of the air pollution in the NCR and should not be allowed atleast till GRAP is applicable.

Background and earlier proceedings

2. The matter has been effectively considered by the Tribunal on five occasions earlier to which a brief reference is necessary by way of background. The application was first taken up on 15.11.2019. The Tribunal directed that till air quality reaches normal, brick kilns even operating on zig zag technology may not be allowed to operate in NCR, pending an expert study by CPCB about the impact of operation of such brick kilns on the air quality.

3. The matter was considered second time on 18.12.2019 in the light of report of the CPCB dated 13.12.2019 that even zig zag technology was causing air pollution. The Tribunal directed further study to be carried out with reference to source emissions from different types of fuels and with the regard to the number of brick kilns which the carrying capacity of Air in the NCR could sustain. Operative part of the said order is as follows:-

> *"4. In view of the above, while CPCB may conduct further study for assessment of different types of brick kilns with reference to source emissions from different types of fuels, having regard to the conclusion that average fugitive SPM values are almost same in FCBTK and Zig-Zag brick kilns, the interim order directing closure of brick kilns in NCR will continue till the next date.* ***Thereafter, brick kilns in NCR may be allowed only consistent with the***

carrying capacity and siting criteria, subject to GRAP, consent conditions and background concentration of ambient air quality.”

4. Further consideration was on 6.2.2020 (third time) in the light report of the CPCB dated 28.01.2020. The operative part of the said order is as follows:-

> ***“****3. Since brick kilns can be permitted only after ascertaining the carrying capacity as above, let a report about carrying capacity of the NCR region in above terms be furnished by CPCB before the next date by e-mail at judicial-ngt@gov.in.”*

5. The brick kiln owners moved the Hon’ble Supreme Court and vide order dated 20.02.2020 in C.A. No. 1733-35/2020, it was observed that they could move this Tribunal. The matter was considered fourth time on 05.03.2020 in the light of report dated 04.03.2020. The brick kiln owners were duly heard in terms of order of the Hon’ble Supreme Court. Extract from the order is as follows:-

> ***“****4. In view of the above, a report has been filed by the CPCB on 04.03.2020 as follows:*
>
> > *“As per information provided by SPCBs, there are total 3278, 2854 and 19003 brick kilns in Haryana, Punjab and Uttar Pradesh respectively, out of which 1918, 701 and 1343 brick kilns have been converted to Zig-Zag technology. With regard to NCR regions, out of 2187, 2216 and 251 brick kilns in Haryana, Uttar Pradesh and Rajasthan respectively,* ***1504, 1032 and 127 brick kilns have been converted to Zig-Zag technology****.*
> >
> > *Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts.*
> >
> > *Different types of activities with potential of air pollution, including operation of brick kilns in Delhi-NCR are regulated through a Graded Response Action Plan (GRAP) by Environmental Pollution Control Authority.* ***As per GRAP, Brick kilns in NCR are required to be shut under severe conditions i.e. when $PM_{2.5}$ and/or PM_{10} concentration goes beyond 250 µg/m^3 and/or 430 µg /m^3 respectively.***
> >
> > *In view of the expected higher concentration of PM emissions during winter months, brick kilns in the NCR regions were kept closed during this period as per directions of EPCA.* ***However, now, looking into the***

forecast of favourable meteorological conditions and expected improvement in the air quality, Environmental Pollution Control Authority (EPCA) has directed that operation of those brick kilns in NCR districts, which have converted to Zig-zag technology, be allowed, vide letter No. EPCA-R/2020/L-09 dated February 14, 2020 *(Copy enclosed as Annexure-I).*

Further, air quality data of 2019 in NCR, was examined. Analysis indicated that ***$PM_{2.5}$*** *concentration in summer months (March-June) is lower (****Average 80 µg /m³)*** *in comparison to winter months (Average 173 µg /m³). Similarly,* ***PM_{10}*** *concentration in summer months (March-June) is lower (****Average 219 µg /m³)*** *in comparison to winter months (Average 283 µg /m3).*

The past data of 2019 w.r.t. PM_{10} & $PM_{2.5}$ concentration in Delhi, is summarized in ***Table 1:***

Table 1 : *Monthly data of CAAQMs w.r.t. PM Concentration for 2019, in Delhi*

Month	$PM_{2.5}$, µg/m³	PM_{10}, µg/m³
January	203	322
February	122	215
March	83	184
April	83	236
May	89	247
June	63	209
July	47	143
August	35	85
September	40	98
October	128	247
November	202	312
December	209	316

Therefore, in view of submission that 65 Nos brick kilns are proposed to be monitored in both NCR and Non-NCR regions, involving total 585 stack emissions' samples, in compliance of the directions of Hon'ble NGT in the matter of 0.A. No. 1016/2019 and 0.A. No. 1088/2018, it is humbly prayed as under:

I. *Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts and if these are to be monitored to assess the performance of brick kilns operating on agro-residues, under comparable situations, the Zig-Zag type brick kilns in NCR regions, which are presently closed, may have to be made operational, to facilitate monitoring.*

II. *Atleast 04 months' time period may be granted to CPCB, for Monitoring of 65 brick kilns in NCR and Non-NCR regions and submission of report covering* ***i) Impact of brick kilns operation on loss/degradation of top soil, ii) study involving Carrying Capacity Assessment of brick kilns with adequate samples in terms of number of brick kilns and days for which monitoring be conducted, iii) Evaluation of the performance of brick kilns against the background concentration and carrying capacity of***

the area and iv) Impact on Brick Kilns operation on ambient air, in the matters of O.A. No. 1016/2019 and O.A. No. 1088/2018, after commencement of operation of brick kilns in NCR regions."

5. ***We have heard learned Counsel for the CPCB and for the brick kilns, including those who have filed applications for being implead as party in pursuance of order of Hon'ble Supreme Court dated 20.02.2020 in C.A. No. 1733-35/2020.***

6. Learned Counsel for the CPCB submitted that having regard to the data of air quality, even though as per GRAP brick kilns are to be mandatorily shut throughout NCR only under 'severe conditions', no polluting activity, including brick kilns, can be permitted beyond 'carrying capacity' and air quality norms under the Air (Prevention and Control of Pollution) Act, 1981. On the other hand, the stand of the brick kilns is that unless the conditions are 'severe' to attract GRAP and unless prohibited by EPCA, 'Zig-Zag' technology brick kilns have right to operate irrespective of the air quality norms. Reliance has also been placed on norms for brick kilns under Schedule-I, Sr. No. 74 of Environment (Protection), Rules 1986. Alternatively, it is submitted that at such locations where air quality is within norms, brick kilns may be allowed. By way of example, it is stated that the ambient air quality data at Alwar, as on 18.02.2020, is within norms.

7. ***We do not find any merit in the contention that only in 'severe' conditions brick kilns can be prohibited even if the air quality is beyond permissible norms and the area has no assimilative or supportive capacity. Emission norms of individual brick kilns is not a conclusive factor for dealing with the issue, if the carrying capacity of the area does not allow the brick kilns in question****. However, we do need to consider the submission that where air quality is within the norms and there is carrying capacity, brick kiln can be allowed.*

8. In view of the above, ***it is necessary to look at the relevant data at different locations '24 hourly' and 'monthly average' during the relevant months. Since such data is maintained by the CPCB/PCBs, the CPCB may collect such data for corresponding months of March, April, May and June in the year 2019 and furnish the same before the next date. The break-up of location of the brick kilns District-wise may also be furnished to consider as to which of the brick kilns can be allowed after verification that such brick kilns are actually working on 'Zig-Zag' technology, pending further assessment of the carrying capacity by the CPCB, as already directed earlier vide order dated 06.02.2020****."*

6. Further order of the Tribunal is dated 23.03.2020 (on fifth time consideration) in the light of the report dated 16.03.2020 to the effect that the assimilative capacity of the air quality in the NCR was not able

to take load of the pollution caused by the brick kilns. The Tribunal directed the CPCB to undertake further studies in the matter in the light of the suggestions of the Brick Kiln owners and their association and also explore the use of cleaner fuel like natural gas instead of coal and determine the number of brick kilns could be allowed and conditions required to be followed. The operative part of the said order is as follows:-

> ***"****6. We have considered the above data which shows that in the corresponding months when brick kilns were operating, standard of air quality was not as per prescribed norms. Thus, the air quality of the area is unable to take further pollution load. In this regard, it may be noted that while considering the issue of operation of brick kilns in non-NCR area, where GRAP was not applicable as such, in O.A. No. 1088/2018, Dinesh Chahal & Ors. vs. Union of India & Ors., the Tribunal vide order dated 30.04.2019 observed that standards of ambient air quality are required to be maintained under Section 17(g) of the Air Act, 1981:*
>
> > *"3. … The matter was again considered on 21.02.2019 with reference to the* ***contention that the impugned order was only for Non-NCR to which order of CPCB or EPCA did not apply. The Tribunal held that even in Non-NCR, Standards of Ambient Air Quality laid down under Section 17 (g) of the Air Act are required to be followed. If the impugned order has been passed without undertaking any study on status of ambient air quality without any carrying capacity assessment to take the additional load at concerned areas and without any safeguards on 'Precautionary' principle, the same may not be justifiable having regard to the acknowledged adverse impact of operation of the brick kilns on the ambient air quality.*** *Reference was made to the Judgements of the Hon'ble Supreme Court in M.C. Mehta v. Union of India, (1998) 9 SCC 149, M.C. Mehta v. Union of India (2000) 7 SCC 422, M.C. Mehta v. Union of India, (2002) 4 SCC 378, K. Guruprasad Rao v. State of Karnataka, (2012) 12 SCC 736 wherein the Hon'ble Supreme Court directed closure or shifting of brick kiln industries and M.C. Mehta v. Union of India, (2001) 9 SCC 235 laying down that brick kilns may be allowed to operate after studying the impact on human population and vegetation."*
>
> *7. Learned Counsel for the brick kiln operators, however, submit that prohibition on operation of brick kilns be lifted as some individual brick kilns meet the air quality emission standards laid down under the Environment (Protection) Rules, 1986 and the brick kilns are not the only source of pollution. Contribution of all the brick kilns taken together, to the air pollution, was about 3%. It was also*

mentioned that as at present air quality norms are within limit in seven districts out of 15 districts of NCR.

8. As observed earlier, the question is not merely of an individual brick kiln not emitting pollution or the extent of contribution of the brick kilns taken separately, but of the capacity of the area being already air polluted and unable to take the load of pollution. When there is no carrying capacity in the area for further air pollution, we find it difficult to permit operation of the closed brick kilns to uphold the 'Sustainable Development' principle. When even without operation of the brick kilns the air quality is not within the norms, the impact of operation of the brick kilns cannot be ignored. Thus, we find it difficult to accept the submission that the individual brick kilns maintaining the prescribed standards for discharge of emissions are entitled to operate or that they be allowed to operate on the ground that pollution caused by the brick kilns is less than other pollution from other sources irrespective of carrying capacity of the area. The fact remains that brick kilns add to the air pollution and thereby affect right of citizens to breathe fresh air.

9. We may now consider another aspect of the matter i.e. impact of the brick kilns on the top soil. As noted in order dated 05.03.2020, CPCB has undertaken to look into this aspect and has not yet completed its study. As per available study, there is huge environmental cost in using top soil for making brick making.[1] Reference may also be made to a study on "The Impact of Brick Kiln operation to the degradation of topsoil quality of Agricultural Land".[2] There is further issue of unutilized fly ash adversely affecting the environment which may require barring red clay brick kilns. This is proposed in a draft notification of the MoEF&CC 25.02.2019 within 300 kms of coal or lignite based thermal power plants. No doubt the said notification is only a draft but the same is evidence of such step being necessary for sustainable development.

10. ***Main reason for air pollution by brick kilns is use of coal etc. as fuel. The pollution can be minimized if the fuel which is currently used is considered to be replaced by cleaner fuels like PNG by appropriate modification in design not adding to the PM load. Dealing with the air pollution caused in Morby Industrial Area in Gujarat on account of coal gasifiers in tile manufacturing, the Tribunal directed closing of coal gasifier industries without prejudice to such industries switching over to non-coal gasifiers, PNG or other such technology. It was directed[3]:***

> ***"25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers***

[1] www.journals.sagepub.com/doi/abs/10.1177/0974929214521892# (Environmental Cost of using top-soil for brick making – a case study form India (MoEF, GoI project) (Published in Review of Market Integration, 2013) Vinish Kathuria, Professor, IIT Bombay – March 11, 2015.

[2] www.researchgate.net/publication/282431176_The_impact_of_brick_kiln_operation_to_the_degradation_of_topsoil_quality_of _agricultural_land.

[3] Order dated 06.03.2019 in O.A. No. 20/2017 (WZ), Babubhai Ramubhai Saini vs. Gujarat Pollution Control Board & Ors.

without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage to the environment and public health."

11. Issue of allowing operation of brick kilns may give rise to following questions:

(i). The use of cleaner fuels or any other alternative measures to be used to prevent air pollution.

(ii). Siting and carrying capacity.

12. In view of the fact that there is no carrying capacity of the air quality in NCR region to permit any further addition to PM load by permitting unconditional operation of brick kilns using fuel which adds to PM load and since it may be necessary to consider the issue of utilizing fly ash, we require an expert opinion on following issues:

(a) how brick kilns can be allowed in NCR without damage to the air quality;

(b) conditions subject to which it may be done;

(c) number of brick kilns to be allowed and criteria for fixing such numbers.

13. Let CPCB look into the above issues and furnish a further report within one month for further directions in the matter. The applicants are free to put forward their viewpoint before CPCB."

Consideration during today's hearing

7. Accordingly, in above backdrop, the CPCB has given its report dated 06.07.2020. The CPCB considered suggestions/objections of the Brick Kiln Owner Association in terms of order of this Tribunal which have been summed up in the report as follows:-

"*(a) The brick kilns are complying with the directions of CPCB w.r.t. shifting from the Old Fixed Chimney Bull Trench Kiln Technology to Zig-Zag Technology.*

(b) The brick Kilns have been established as per siting criteria.

(c) The Hon'ble Supreme Court of India in Civil Appeal No. 1742-43 of 2020 (Diary No. 5935/2020) vide order dated 20/02/2020 requested Hon'ble NGT to decide the O.A. No. 1016/2019, in the

light of the provisions of the Graded Response Action Plan (GRAP) of MoEF&CC and EPCA order dated 14/02/2020.

(d) The brick kilns in NCR regions are required to be closed under Severe Category (PM_{10} > 430 ug/m^3 or $PM_{2.5}$ > 250 ug/m^3) under GRAP.

(e) Brick Kilns based on Zig-Zag technology are less polluting and are complying with the both existing and proposed standards for stack emissions.

(f) PNG, CNG and industrial LPG are not available in majority of places where brick kilns are situated.

(g) The blanket ban on operation of brick kiln industries has affected livelihood rights of approximately one million people in the national Capital region.

(h) The brick Kiln industries are seasonal and hence only operate from January to June and indefinite closure for the want of study would cause and has already caused irreparable damage to the brick kiln industry.

(i) Utilization of fly ash may not be treated as a true alternative unless the harmful impacts of fly ash bricks are not studied.

(j) A report on "Source Apportionment of $PM_{2.5}$ and PM_{10} of Delhi NCR for identification of major sources" prepared by ARAI and TERI for Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, New Delhi, in the year 2016, reveals that brick kiln industry contributed only about 8% to the air pollution of Delhi and NCR. It was further found that the brick kilns shifting to Zig-Zag technology would further lead to reduction of 3%, 4% and 6 % in total $PM_{2.5}$, PM_{10} and SO2 emissions. The contribution of the brick kilns is very less in Delhi and NCR after conversion to Zig-Zag technology.

(k) The utilization of fly ash in the manufacture of bricks is not only unfeasible because of several issues involved in the transportation of fly-as to brick- kilns. It poses several health hazards to the inhabitants residing in buildings made thereof, in addition to health hazards to laborers working at brick-kilns and on construction sites.

(l) ***Various kinds of industrial and other activities contribute together to saturate the carrying capacity of the region. It is submitted that saturation of the carrying capacity of Delhi-NCR cannot be the basis for denying permission to brick kilns to operate. This is particularly because brick kilns emissions are not amongst the main contributors to air pollution in Delhi-NCR.***

(m) ***Any directions that prohibit brick kilns from operating in Delhi- NCR on account of saturation of the carrying capacity,***

without first prohibiting the other more polluting activities, would be arbitrary and violative of Article 14 and Article 19(1)(g) of the Constitution of India*.*

(n) ***The brick kilns may be allowed to operate at par with other activities that together contribute to the carrying capacity of Delhi-NCR, subject to the conditions of the Consent to Operate and guidelines issued by the regulatory bodies so as to avoid fugitive dust emissions.***

(o) The directions issued by the EPCA from time to time are sufficient to ensure that the brick kilns operate in Delhi-NCR without any damage to the air quality.

(p) The brick kilns that do not comply with the conditions of the Consent to Operate and other guidelines issued by the regulatory bodies from time to time may also be closed down with immediate effect.

*(q) The brick kilns, which have adopted the zig-zag technology, may be permitted to operate in Delhi-NCR.***"**

8. Thereafter, the CPCB has referred to the District wise carrying capacity with reference to the monthly average of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) PM_{10} values in the ambient air during the months of March 2019 – June, 2019 and October 2019 – February, 2020 were analysed for NCR districts of Haryana, UP and Rajasthan. Report further refers to the statistic of zig zag type brick kilns in the NCR region and emission load by the brick kilns. With a view to calculate carrying capacity, following components were considered:-

"i. Estimation of Existing Pollution Load w.r.t
ii. Estimation of Assimilative Carrying Capacity w.r.t PM_{10}
iii. Estimation of Supportive Carrying Capacity w.r.t PM_{10}**"**

9. The data with reference to the above parameters are as follows:-

"Table 6: Total Existing Plylio Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in NCR Districts of Haryana

Table 6(a):

S.No.	Name of District	Total PM_{10} Load, Kg (x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bhiwani	210232	367562	503745	475659	478478	457212	368260	271515	380314
2	Far id (Ballabhgarh)	96701	134048	187497	158420	104164	100606	118395	94829	112797
3	Gurugram	103785	194307	227513	191961	165102	177733	150341	102872	127176
4	Jhajjar	102704	177460	252854	209516	171112	158039	115148	93204	131063
5	Jind	174279	282559	418543	418918	307558	335718	204744	144806	199372
6	Karnal	161280	280186	355607	341349	355809	337093	233508	NA	221082
7	Mahendragarh	104445	190597	212532	206095	174814	136050	106895	117563	127985
8	Nuh(Meyvap	80625	159404	177216	157403	134979	129861	90049	NA	119077
9	Palwal	93895	189997	204889	222688	152939	164475	111147	81141	129514
10	Panipat	65936	140221	243718	153134	236609	212180	209735	62096	184177
11	Rewari	106798	182019	248205	253637	232004	203641	153915	139921	193558
12	Rohtak	NA	123118	169389	179357	169898	166483	173986	141889	NA
13	Sonipat	117771	241036	335584	332458	237579	170100	151606	263718	208357
14	CharkhiDadd	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6(b):

S.No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bhiwani	238900	287158	387496	389885	297192	239378	206887	220744	277602
2	Faridabad (Ballabhgarh)	37050	44534	60095	60466	46090	37124	32085	34234	43052
3	Gurugram	62900	75606	102024	102653	78248	63026	54471	58120	73090
4	Jhajjar	91700	110223	148737	149654	114075	91883	79412	84731	106555
6	Jind	135100	162390	219132	220483	168064	135370	116997	124832	156986
6	Karnal	126000	151452	204372	205632	156744	126252	109116	116424	146412
7	Mahendragarh	94950	114130	154009	154958	118118	95140	82227	87734	110332
8	Nuh(Mewat)	75350	90571	122218	122971	93735	75501	65253	69623	87557
9	Palwal	67550	81195	109566	110242	84032	67685	58498	62416	78493
10	Panipat	63400	76207	102835	103469	78870	63527	54904	58582	73671
11	Rewari	79700	95799	129273	130070	99147	79859	69020	73643	92611
12	Rohtak	87250	104875	141520	142392	108539	87425	75559	80619	101385
13	Sonipat	106100	127532	172094	173155	131988	106312	91883	98036	123288
14	Charkhi Dadri	69050	82998	111999	112699	85898	69188	59797	63802	80236

Table 6(c):

S.No.	Name of District	Supportive Carrying Capacity, Kg (z) i.e (y-x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bhiwani	28668	-80404	-116249	-85775	-181287	-217834	-161372	-50771	-102713
2	Faridabad (Ballabhgarh)	-59651	-89514	-127402	-97954	-58074	-63482	-86309	-60595	-69744
3	Gurugram	-40885	-118701	-125489	-89308	-86855	-114707	-95870	-44752	-54086
4	Jhajjar	-11004	-67236	-104116	-59862	-57037	-66156	-35735	-8473	-24508
5	Jind	-39179	-120169	-199410	-198435	-139493	-200348	-87747	-19973	-42386

6	Karnal	-35280	-128734	-151235	-135717	-199065	-210841	-124392	NA	-74670
7	Mahendragarh	-9495	-76467	-58523	-51136	-56697	-40910	-24668	-29829	-17653
8	Nuh (Mewat)	-5275	-68834	-54998	-34432	-41244	-54361	-24796	NA	-31520
9	Palwal	-26345	-108801	-95323	-112446	-68906	-96790	-52648	-18725	-51021
10	Panipat	-2536	-64014	-140884	-49665	-157739	-148653	-154830	-3515	-110506
11	Rewari	-27098	-86219	-118932	-123567	-132857	-123782	-84895	-66279	-100946
12	Rohtak	NA	-18244	-27870	-36965	-61359	-79059	-98428	-61270	NA
13	Sonipat	-11671	-113504	-163489	-159303	-105591	-63787	-59724	-165682	-85069
14	Charkhi Dedri	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7: Total Existing PM_{10} Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in NCR Districts of Uttar Pradesh

Table 7(a):

S.No.	Name of District	Total PM_{10} Load, Kg (x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	106341	208801	281760	316913	187339	201855	148718	58589	161943
2	Bulandshahr	417360	604712	640366	913084	687684	655548	472794	481530	537402
3	Gautam Budh Nagar	117303	187227	227695	266759	220084	213880	189846	134448	166100
4	Ghaziabad	127332	217534	241911	315557	214135	203194	175104	124736	160290
8	Hapur	55440	97578	153620	69300	98525	96883	74017	79279	46399
6	Muzaffarnagar	304608	537164	562334	706434	501088	616458	301971	368488	421485
7	Meerut	182073	218780	277018	261278	391558	337182	289200	243545	289922
8	Shamli	81088	97476	135096	124187	113792	107556	103462	NA	NA

Table 7(b):

S.No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	66050	79392	107133	107794	82166	66182	57199	61030	76750
2	Bulandshahr	225600	271171	365923	368179	280646	226051	195370	208454	262147
3	Gautam Budh Nagar	64100	77048	103970	104611	79740	64228	55511	59228	74484
4	Ghaziabad	58950	70858	95617	96206	73334	59068	51051	54470	68500
5	Hapur	33000	39666	53526	53856	41052	33066	28578	30492	38346
6	Muzaffarnagar	200400	240881	325049	327053	249298	200801	173546	185170	232865
7	Meerut	127950	153796	207535	208814	159170	1 28206	110805	118226	148678
8	Sham li	58379	70172	94691	95275	72623	5849,6	50556	53942	67836

Table 7(c):

S.No.	Name of District	Supportive Carrying Capacity, Kg (z) i.e (y-x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	-40291	-129409	-174627	-209120	-105173	-135673	-91519	2441	-85193
2	Bulandshahr	-191760	-333541	-274442	-544905	-406937	-429497	-277425	-273075	-275255
3	Gautam Budh Nagar	-53203	-110179	-123725	-162147	-140343	-149652	-134336	-75220	-91616
4	Ghaziabad	-68382	-146676	-146294	-219351	-140801	-144126	-124053	-70266	-91790

5	Hapur	-22440	-57912	-100094	-15444	-57473	-63817	-45439	-48787	-8053
6	Muzaffarnagar	-104208	-296283	-237286	-379381	-251791	-415658	-128424	-183318	-188620
7	Meerut	-54123	-64984	-69483	-52463	-232388	-208976	-178396	-125319	-141244
8	Sham li	-22709	-27305	-40406	-28913	-41168	-49060	-52905	NA	NA

Table 8: Total Existing Plylio Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in NCR Districts of Rajasthan

Table 8(a):

S.No.	Name of District	Total PM_{10} Load, Kg (x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Alwar	574030	1052603	1291274	1053064	807916	793494	674908	669780	740055
2	Bharatpur	347021	636335	780620	636614	488413	479694	408006	404905	447389

Table 8(b):

S.No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Alwar	419000	503638	679618	683808	521236	419838	362854	387156	486878
2	Bharatpur	253300	304467	410853	413386	315105	253807	219358	234049	294335

Table 8(c):

S.No.	**Name of District**	**Supportive Carrying Capacity, Kg (z) i.e (y-x)**								
		Mar-19	**Apr-19**	**May-19**	**Jun-19**	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Alwar	-155030	-548965	-611656	-369256	-286680	-373656	-312054	-282624	-253177
2	**Bharatpur**	-93721	-331869	-369767	-223228	-173308	-225888	-188648	-170856	-153054

10. It was concluded from the above data that there was no supporting carrying capacity to operate brick kilns during the entire brick kilns operating season. However, with regard to Districts where supporting carrying capacity was available in particular months such number was worked out for Haryana, UP and Rajasthan as follows:-

"Table 9: Number of brick kilns which can be operated in NCR Districts of Haryana during March-June.

S.No.	Name of District	Load in Excess of Assimilative Carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Bhiwani	-28668	80404	116249	85775	132	161	52	16	46
2	Faridabad (Ballabhgarh)	59651	89514	127402	97954	85	25	-5	-42	-13
3	Gurugram	40885	118701	125489	89308	6	-35	-113	-119	-83
4	Jhajjar	11004	67236	104116	59862	387	376	320	283	327
5	Jind	39179	120169	199410	198435	111	72	-9	-88	-87
6	Kornai	35280	128734	151235	135717	92	57	-37	-59	-44
7	Mahendragarh	9495	76467	58523	51136	42	33	-34	-17	-9
8	Nuh (Mewat)	5275	68834	54998	34432	62	57	-7	7	28
6	Palwal	26345	108801	95323	112446	110	84	1	15	-2
10	Panipat	2536	64014	140884	49665	87	84	23	-54	37
11	Rewari	27098	86219	118932	123567	76	49	-10	-43	-48
12	Rohtak	NA	18244	27870	36965	49	NA	31	21	12
13	Sonipat	11671	113504	163489	159303	265	253	151	102	106
14	Charkhi Dadri	NA I	NA I	NA I	NA	29	NA	1\ NA	NA	NA

Note: CAAQMS and AOD values for Charkhi Dadri were not available;

***Negative Values indicate that no brick kiln can be operated**

Table 10: Number of brick kilns which can be operated in NCR Districts of Haryana during October- February.

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated				
		October	Novembe	December	Januar	February		October	November	December	Januar	Februar
1	Bhiwani	-181287	-217834	-161372	-50771	-102713	132	-181	-218	-161	-51	-103
2	Faridabad (Ballabhgarh)	-58074	-63482	-86309	-60595	-69744	85	-58	-63	-86	-61	-70
3	Gurugram	-86855	-114707	-95870	-44752	-54086	6	-87	-115	-96	-45	-54
4	Jhajjar	-57037	-66156	-35735	-8473	-24508	387	-57	-66	-36	-8	-25
5	Jind	-139493	-200348	-87747	-19973	-42386	111	-139	-200	-88	-20	-42
6	Karnal	-199065	-210841	-124392	NA	-74670	92	-199	-211	-124	NA	-75
7	Mahendragarh	-56697	-40910	-24668	-29829	-17653	42	-57	-41	-25	-30	-18
8	Nuh (Mewat)	-41244	-54361	-24796	NA	-31520	62	-41	-54	-25	NA	-32
9	Palwal	-68906	-96790	-52648	-18725	-51021	110	-69	-97	-53	-19	-51
10	Panipat	-157739	-148653	-154830	-3515	-110506	87	-158	-149	-155	-4	-111
11	Rewari	-132857	-123782	-84895	-66279	-100946	76	-133	-124	-85	-66	-101
12	Rohtak	-61359	-79059	-98428	-61270	NA	49	-61	-79	-98	-61	NA
13	Sonipat	-105591	-63787	-59724	-165682	-85069	265	-106	-64	-60	-166	-85
14	Charkhi Dadri	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA

Negative Values indicate that no brick kiln can be operated

The month-wise number of brick kilns which can be operated within the assimilative capacity during March-June and October- February are presented in Table 11 and Table 12 respectively, for NCR districts of Uttar Pradesh.

Table 11: *Number of brick kilns which can be operated in NCR Districts of Uttar Pradesh during March-June.*

S.No.	Name of District	Load in Excess of Assimilative carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Bagpat	40291	129409	174627	209120	340	300	211	166	131
2	Bulandshahr	191760	333641	274442	644906	200	8	-134	-74	446
3	Gautam Budh Nagar	63203	110179	123726	162147	66	12	-46	-69	-97
4	Ghaziabad	68382	146676	146294	219361	79	11	-68	-67	-140
6	Hapur	22440	67912	100094	16444	62	30	-6	-48	NA
6	Muzaffarnagar	104208	296283	237286	379381	146	42	-160	-91	-233
7	Meerut	64123	64984	69483	62463	70	16	6	1	18
8	Shamli	22709	27306	40406	28913	80	67	63	40	61

Negative Values indicate that no brick kiln can be operated

Table 12: *Number of brick kilns which can be operated in NCR Districts of Uttar Pradesh during October-February.*

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated				
		October	November	Decembe	January	Februar		October	November	December	Januar	Februar
1	Bagpat	-105173	-135673	-91519	2441	-85193	340	-105	-136	-92	2	-85
2	Bulandshahr	-406937	-429497	-277425	-273075	-275255	200	-407	-429	-277	-273	-275
3	Gautam Budh Nagar	-140343	-149652	-134336	-75220	-91616	65	-140	-150	-134	-75	-92
4	Ghaziabad	-140801	-144126	-124053	-70266	-91790	79	-141	-144	-124	-70	-92
5	Hapur	-57473	-63817	-45439	-48787	-8053	52	-57	-64	-45	**-49**	-8
6	Muzaffamagar	-251791	-415658	-128424	-183318	-188620	146	-252	-416	-128	-183	-189
7	Meerut	-232388	-208976	-178396	-125319	-141244	70	-232	-209	-178	-125	-141
8	Shamli	-41168	-49060	-52905	NA	NA	80	-41	-49	-53	NA	NA

Negative Values indicate that no brick kiln can be operated

The month-wise number of brick kilns which can be operated within the assimilative capacity during March-June and October- February are presented in Table 13 and Table 14 respectively, for NCR districts of Rajasthan.

Table 13: *Number of brick kilns which can be operated in NCR Districts of Rajasthan during March-June.*

S.No.	Name of District	Load in Excess of Assimilative Carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Alwar	155030	548965	611656	369256	70	-85	-479	-542	-299
2	Bharatpur	93721	318168	311467	120320	60	-34	-258	-251	-60

***Negative Values indicate that no brick kiln can be operated**

Table 14: *Number of brick kilns which can be operated in NCR Districts of Rajasthan during October-February.*

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Tag Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be				
		October	November	Decembe	January	Februar		Octobe	November	December	Januar	Februar
1	Alwar	-286680	-373656	-312054	-282624	-253177	70	-2867	-3737	-3121	-2826	-2532
2	Bharatpur	-173308	-225888	-188648	-170856	-153054	60	-1733	-2259	-1886	-1709	-1531

Negative Values indicate that no brick kiln can be operated"

11. Finally, it has been concluded:-

"2.3. CPCB's Opinion:

CPCB was directed by Hon'ble NGT to give an expert opinion on the following:

(a) How brick kilns can be allowed in NCR without damage to the air quality;

(b) Conditions subject to which it may be done;

(c) Number of brick kilns to be allowed and criteria for fixing such numbers.

Following is the submission of CPCB on the above points:

i) Based on the evaluation of the data and estimation of the carrying capacity as explained in the previous section, there is no assimilative capacity available in the ambient air environment in the NCR districts of Haryana, Uttar Pradesh and Rajasthan for simultaneous operation of all the existing brick kilns, even after adopting Zig-zag technology. Based on the available assimilative capacity, some brick kilns may operate.

ii) An effort was made to estimate the number of brick kilns which can be operated, within the assimilative capacity of the ambient air environment. The outcome of the month-wise and district-wise estimation w.r.t. the number of brick kilns which can be operated within the assimilative capacity without any negative effect on the ambient air is summarized in ***Table 15.*** *In the districts, where ambient air quality data for the past is not available, due to non-availability of CAAQMS or AOD, the data of the districts having comparable population and geographical area, may be used for estimating the number of brick kilns which can be operated without affecting the ambient air quality, by the respective State Pollution Control Boards, while doing such exercise.*

Table 15: *Month-wise and District-wise estimation of the number of brick kilns which can be operated in NCR districts of Haryana, Uttar Pradesh and Rajasthan, without affecting ambient air quality.*

S.No.	Name of District	Total No of Zig Zag type Brick Kilns	Month-wise No of Zig Zag type Brick Kilns, which can be operated without affecting the ambient air quality i.e within Assimilative Carrying Capacity								
			Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
STATE- HARYANA											
1	Bhiwani	132	161	52	16	46	0	0	0	0	0
2	Faridabad (Ballabhgarh)	85	25	0	0	0	0	0	0	0	0
3	Gurugram	6	0	0	0	0	0	0	0	0	0
4	Jhajjar	387	376	320	283	327	0	0	0	0	0
5	Jind	111	72	0	0	0	0	0	0	0	0
6	Karnal	92	57	0	0	0	**0**	**0**	0	NA	0
7	Mahendragarh	42	33	0	0	0	**0**	**0**	**0**	**0**	**0**
8	Nuh (Mewat)	62	57	0	7	28	0	0	0	NA	0
9	Palwal	110	84	1	15	0	0	0	0	0	0
10	Panipat	87	84	23	0	37	0	0	0	0	0
11	Rewari	76	49	0	0	0	0	0	0	0	0
12	Rohtak	49	NA	31	21	12	0	0	0	0	NA
13	Sonipat	265	253	151	102	106	0	0	0	0	0
14	Charkhi Dadri	29	NA	NA	NA	NA	NA	NA	NA	NA	NA

STATE- UTTAR PRADESH

1	Bagpat	340	300	211	165	131	0	0	0	2	0
2	Bulandshahr	200	8	0	0	0	0	0	0	0	0
3	Gautam Budh Nagar	65	12	0	**0**	**0**	**0**	**0**	**0**	**0**	0
4	Ghaziabad	79	11	0	0	0	0	0	0	0	0
5	Hapur	52	30	0	0	NA	0	**0**	**0**	**0**	**0**
6	Muzaffarnagar	146	42	0	0	0	0	**0**	**0**	**0**	**0**
7	Meerut	70	16	5	1	18	0	0	0	0	0
8	Shamli	80	57	53	40	51	0	0	0	NA	NA

STATE- RAJASTHAN

1	Alwar	70	0	0	0	0	0	0	0	**0**	**0**
2	Bharatpur	60	0	0	0	0	0	0	0	0	0

iii. ***However, the Zig-Zag type brick kilns may be asked to comply with the proposed Particulate matter standards of 250 mg/Nm³ at 17 % 02 w.r.t. stack emissions of Particulate Matter (PM). State Pollution Control Boards may ensure operation of only permitted number of Zig-Zag type brick kilns and compliance of PM emission norms of 250 mg/Nm³ at 17 % 02.***

iv. The examination of the month-wise and district-wise carrying capacity, indicates that Zig-zag type brick kilns in NCR districts should preferably be operated in summer

months only, unless or until there is improvement in environmental condition through reduction in PM_{10} emissions by various sources which contribute towards PM_{10} emissions in Delhi NCR, leading to availability in the supportive carrying capacity.

The reduction in PM_{10} emissions by all the contributing sources of PM_{10} emissions in Delhi-NCR becomes more significant in view of the fact that , the findings of a study on "Source Apportionment of $PM_{2.5}$ and PM_{10} of Delhi NCR for identification of major sources" prepared by Automotive Research Association of India (ARAI) and The Energy and Resources Institute (TERI) for Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, New Delhi, in the year 2016, indicates that that brick kiln industry contributed about 5 & 7% w.r.t. PM_{10} emissions in Winter and summer respectively, in ambient air of Delhi and NCR . Further reduction of 4% in total PM_{10} was expected after conversion to Zig-Zag technology, which has now been implemented by brick Kilns in Delhi-NCR.

v. ***The selection of brick kilns which can be operated, should be made in such a manner that there is distance of 500 mtr between two operational brick kilns, so as to ensure minimum localized impact on the ambient air***

vi. In the study conducted by CPCB in the matter of O.A. No. 1088 of 2018 (I.A. No. 98/2019, 100/2019, 101/2019, 119/2019 & 266/2019); Dinesh Chahal & Ors. Vs Union of India & Ors., it was observed that stack emissions are three time higher during start-up of firing process, irrespective of firing technology, which lasts for around 7 days. ***Therefore, it is recommended that even if there is enough supportive carrying capacity to operate all the zig-zag type brick kilns in any district, the start-up firing may be allowed in three batches of 33% of the total Zig-Zag type brick kilns which can be operated, with a gap of 7 days within two batches. This is to ensure that PM_{10} emission load in the ambient air mostly remains within assimilative carrying capacity***.

vii. ***In view of the carrying capacity limitations simultaneous operation of all the brick kilns may not be advisable, therefore, staggered permission for operation may be given to the existing brick kilns in such a way that only estimated number of brick kilns in area operate during any given time.***

viii. ***However, all Zig-Zag brick kilns may be considered to perform upstream activities such as green brick manufacturing, stacking of green bricks, etc. during non-firing period.***

ix. In the districts, where ambient air quality data for the past is not available, due to non-availability of CAAQMS, the data of the districts having comparable population and geographical area, may be used for estimating the number of brick kilns which can be operated without affecting the ambient air quality.

x. ***In order to control fugitive dust emissions, adequate measures such as sprinkling of water must be taken and compliance of the conditions of the Consent to Operate/guidelines issued by concerned SPCB must be ensured.***

xi. References w.r.t. use of Piped Natural Gas (PNG), as fuel in brick manufacturing are available, but in Tunnel type brick Kilns. It is, therefore, recommended that a techno-economic feasibility study may be conducted by an expert agency, for making an assessment w.r.t. use PNG and other cleaner fuels such as internal fuels, with different types of firing technologies, for making brick manufacturing sustainable and environmental friendly, at locations where such fuels are available."

12. Applications have been filed on behalf of the brick kilns owners to oppose the conclusion of the CPCB. CPCB has filed response on 13.10.2020 thereto reiterating its recommendations.

13. The substance of the objection to the report of CPCB with regard to the methodology for permitting the carrying capacity and emission load was not proper. In this regard, I.A. No. 60/2020, I.A. No. 306/2020, I.A. No. 308/2020, I.A. No. 310/2020, I.A. No. 311/2020, I.A. No. 312/2020, I.A. No. 313/2020, I.A. No. 339/2020, I.A. No. 340/2020 & I.A. No. 341/2020 have been filed. Response to all the said applications filed by the CPCB is as follows:-

> ***"****2. That the averments contained in para-3, are regarding submission of the applicant saying report of the CPCB as unusable for taking any decision due to alleged errors, inconsistencies and gaps. In this regard CPCB does not agree to the observations of the applicant and clarifications/justifications of various issues raised by the applicant are submitted in the subsequent sections of this affidavit.*
>
> *3. That in reply to the averments contained in para- 4 to 7, it is submitted that emission load of 1000 Kg emission load per brick kiln is not an assumed or theoretical value, but the actually measured value based on the monitoring of brick kilns carried out by CPCB in compliance of the orders of Hon'ble NGT in the matter of O.A. No. 1088/2018; Dinesh Chahal vs. Union of India. CPCB has revisited all the calculations and confirm that these calculations are technically correct.*

The data considered in the report submitted to Hon'ble NGT by CPCB , for calculation of emission load, based on the actual monitoring performed by CPCB in the matter of OA No. 1088/2018; Dinesh Chahal & Ors. Vs Union of India & Ors., is as follows:

Average stack height: 34 mtr; Average stack diameter: 4 mtr (At the point, where monitoring was done i.e port hole); Flue gas velocity: 4 mtr/Sec (At the point, where monitoring was done i.e. port hole); Ts, K: 325; Ps, mm of Hg: 745; Average 02%: 18.86; Average CO2: 2.10

This issue is further discussed technically in the subsequent Section, in reply to averments made the applicant on the same issue in para 8-13.

4. That in reply to the averments contained in para-8 to 15, it is submitted that:

- *The emission load of 1000 kg/day/per brick kilns considered by CPCB is not an assumed value but measured value based on the stack monitoring of the brick kilns in the Hon'ble NGT matter of O.A. No. 1088/2018; Dinesh Chahal vs. Union of India.*

- *All the calculations made by CPCB in the report submitted to Hon'ble NGT in this matter are based on the monitoring of the actual current working of the brick kilns during study conducted by CPCB in compliance of the orders of Hon'ble NGT.*

- *The data considered in the report submitted to Ho'ble NGT by CPCB, for calculation of emission load, based on the actual monitoring performed by CPCB in the matter of OA No. 1088/2018 ; Dinesh Chahal & Ors. Vs Union of India & Ors., is as follows:*

Average stack height: 34 mtr; Average stack diameter : 4 mtr (At the point, where monitoring was done i.e port hole); Flue gas velocity : 4 mtr/Sec (At the point, where monitoring was done i.e. port hole); Ts, K: 325; Ps, mm of Hg: 745; Average 02%: 18.86; Average CO2: 2.10

- *The CPCB is in agreement with all the standard formulae, equations and examples quoted by the expert hired by the applicant. In response to claim of the applicant that emission load can be simply calculated using the following formula and also that only two variables are required to be known for this purpose i.e. Concentration of PM in stack gases and volume of stack gases:*

  Emission Load = Concentration of PM in stack gases (mg/Nm3)
  X
  Volumetric flow rate of stack gases

CPCB is of the view that the formula reproduced by the applicant is correct. However, it is important to mention here that to get volumetric flow rate of the stack gases (one of the variable for calculation of emission as highlighted by the applicant), measurement of four other parameters viz. stack diameter, stack area at the point where emissions were monitored, temperature of flue gas, pressure and velocity of flue gases passing through stack during required during stack monitoring.

The flow of flue gas obtained through actual measurement by CPCB during stack monitoring of brick kilns is much higher than claimed by the applicant based on theoretical calculations and previous reports in this regard. CPCB has revisited its calculations and confirm that all the calculations made in the report are technically correct.

In view of the above explanation, comparison of contribution of brick kilns based on such extrapolated emission loads with the values obtained through source apportionment studies, as done by the applicant on Page No, 1569 of the I.A. 60 of 2020, will lead to abnormal and unjustified conclusion. Therefore, the conclusion drawn by the applicant by making such comparison of two different methodologies, is not correct and unjustified.

According to the applicant, the fundamental assumption of 1000 Kg emission/ day/ brick kiln has affected all aspects of the report submitted by CPCB. It has already been explained in the above sections that this is not assumed value but the actual measured value. The data considered in the report submitted to Hon'ble NGT by CPCB , for calculation of emission load, based on the actual monitoring performed by CPCB in the matter of OA No. 1088/2018 ; Dinesh Chahal & Ors. Vs Union of India & Ors., is as follows:

Average stack height: 34 mtr; Average stack diameter : 4 mtr (At the point, where monitoring was done i.e port hole); Flue gas velocity : 4 mtr/Sec (At the point, where monitoring was done i.e. port hole); Ts, K: 325; Ps, mm of Hg: 745; Average 02%: 18.86; Average CO2: 2.10

The following is the methodology followed to arrive at the outcome of number of brick kilns which can be operated under the available carrying capacity:

For the Months of March-June, 2019:

As per report of CPCB, all the zig-zag type brick kilns were in operation during March-June, 2019. Further, since, for the months of March — June, 2019, there was negative supportive capacity (Emission load in excess of assimilative capacity), we have to calculate the number of brick kilns, which are required to shut to bring the emission load within the assimilative capacity. The number of brick kilns required to be shut was calculated by dividing the excess load by the emission load of one brick kiln. The number of brick kilns, which can be operated in such cases was determined as follows:

No. of brick kilns which can be operated = Total number of Zig-Zag brick kilns Operational in that particular month — (Negative Supportive Carrying Capacity/ Emission Load from one brick Kiln)

Suppose, we have to reduce the emission load by 1000 Kg, to bring the emission load within assimilative capacity, the formula has been used by CPCB in the report:

No. of brick kiln required to shut = reduction in load required/emission load of one brick kiln No. of brick kiln required to shut = 1000/1000 i.e 1 brick kiln

So, to reduce the emission load by 1000 Kg, we need to shut only one brick kiln

For the Months of October, 19-February, 20:

As per CPCB's report, the brick kilns were not in operation and CPCB was required to calculate the number of brick kilns which can be operated based on the available Carrying Capacity as per following formula:

Total number of brick kilns which can be operated: Supportive Carrying Capacity of the district for a particular month/Emission load from one brick kiln.

Despite no brick kilns in operation during October-February, there was no supportive capacity and hence no brick kilns can be operated irrespective of emission load from brick kilns."

Discussion on the Issues raised

14. We have heard the learned counsel in support of such objections. Substance of their submission is that methodology in assessing carrying capacity and pollution load is not correct. There is no certainty in the report and without such certainty the right to trade cannot be affected. If the brick kilns are not operating, bricks will be transported which will add to the pollution. Some brick kilns are at far locations which do not affect the air quality. There are other sources of pollution and prohibition of brick kilns activities will be violative of right of equality.

15. We are unable to find any substance in the objections. CPCB has duly explained that the Carrying Capacity is based on monthly average data on PM_{10} generated from CAAQMS and where no such data was available, Aerosol Optical Depths were extrapolated to PM. Further, carrying capacity has been assessed by taking mixing heights into consideration and comparing with identical air shed of districts geographical area and dispersion air volume conditions. With regard to

emission load, the load is based on actually monitored values taking stack diameter, velocity, temperature and pressure of flue gases and standard of 250 mg/Nm 3 at 17% O 2. Overall fact is that entire NCR has no carrying capacity to take load of the pollution of the brick kilns as already levels of PM_{10} and $PM_{2.5}$ are exceeding daily/annual standards. As per Table 15 of the Report, no brick kiln has scope to operate except, some may, during March to June.

16. Other issues raised are no longer res integra and are covered against the objectors by the law laid down by the Hon'ble Supreme Court. Reference may be made to some of the judgements dealing with the issue.

Supreme Court judgments dealing with Air quality of NCR, Precautionery principle, control of pollution from one source hen there are multiple sources and enforcement of environment norms where right to trade is pleaded

17. In Arjun Gopal & Ors. v. UOI & Ors.[4], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was smoked into an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> ***"****4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m³, which is 26 times above the WHO's standards or levels***

[4] (2017) 1 SCC 412

considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m^3 — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m^3 and with an annual average $PM_{2.5}$ level of 122 µg/m^3, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.

5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:

Table 1

AQI	*Associated Health Impacts*
Good (0-50)	*Minimal impact.*
Satisfactory (51-100)	*May cause minor breathing discomfort to sensitive people.*
Moderately polluted (101-200)	*May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.*
Poor (201-300)	*May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.*
Very Poor (301-400)	*May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.*
Severe May (401-500)	*May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.*

Table 2

AQI Category, Pollutants and Health Breakpoints								
AQI category (Range)	**PM_{10} 24-hr**	**$PM_{2.5}$ 24-hr**	**NO_2 24-hr**	**O_3 8-hr**	**CO 8-hr (mg/m^3)**	**SO_2 24-hr**	**NH_3 24-hr**	**Pb 24-hr**
Good (0-50)	**0-50**	**0-30**	**0-40**	**0-50**	**0-1.0**	**0-40**	**0-200**	**0-**

								0.5
Satisfactory (51-100)	51-100	31-60	41-80	51-100	1.1-2.0	41-80	201-400	0.5-1.0
Moderately polluted (101-200)	101-250	61-90	81-180	101-168	2.1-10	81-380	401-800	1.1-2.0
Poor (201-300)	251-350	91-120	181-280	169-208	10-17	381-800	801-1200	2.1-3.0
Very poor (301-400)	351-430	121-250	281-400	209-748*	17-34	801-1600	1200-1800	3.1-3.5
Severe (401-500)	430+	250+	400+	748+*	34+	1600+	1800+	3.5+

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent

studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

18. In the context of banning sale of crackers having adverse impact on the air quality, it was held that **even if there were several sources of pollution, a particular polluting activity could be prohibited**. No equality could be pleaded in this regard. Right to trade was not absolute and could be restricted for protection of Environment which was a specific Directive Principle of State Policy enforcement of which was a reasonable restriction on fundamental right to trade. The ‘Precautionery Principle’ of environmental law allows prohibition of a polluting activity even in absence of scientific certainty. Relevant extract are as follows:-

“37 The aforesaid findings are sufficient to negate the arguments of the opposite side that there is absence of scientific

study *about the adverse effect of firecrackers during Diwali. In environmental law, "precautionary principle" is one of the well-recognised principles which is followed to save the environment. It is rightly argued by the petitioners that this principle does not need exact studies/material. The very word "precautionary" indicates that such a measure is taken by way of precaution which can be resorted to even in the absence of definite studies. In Vellore Citizens' Welfare Forum [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647], this Court explained the principle in the following manner: (SCC pp. 658 & 660, paras 11 & 14-16)*

"11. Some of the salient principles of "Sustainable Development", as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection, the Precautionary Principle, Polluter Pays Principle, Obligation to Assist and Cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that "the precautionary principle" and "the polluter pays principle" are essential features of "Sustainable Development". The "precautionary principle" — in the context of the municipal law — means:

(i) Environmental measures — by the State Government and the statutory authorities — must anticipate, prevent and attack the causes of environmental degradation.

(ii) ***Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.***

(*iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.*

***

14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.

15. Even otherwise once these principles are accepted as part of the Customary International Law there would be no difficulty in accepting them as part of the domestic law. It is almost an accepted proposition of law that the rules of Customary International Law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law. To support we may refer to H.R. Khanna, J.s' opinion in ADM, Jabalpur v. Shivakant Shukla [ADM, Jabalpur v. Shivakant Shukla, (1976) 2 SCC 521] , Jolly George Varghese case [Jolly George Varghese v. Bank of Cochin, (1980) 2 SCC 360] and Gramophone Co. case [Gramophone Co. of India Ltd. v. Birendra Bahadur Pandey, (1984) 2 SCC 534 : 1984 SCC (Cri) 313] .

16. The constitutional and statutory provisions protect a person's right to fresh air, clean water and pollution-free environment, but the source of the right is the inalienable common law right of clean environment. …"

38. The precautionary principle accepted in the aforesaid judgment was further elaborated in A.P. Pollution Control Board case [A.P. Pollution

Control Board v. M.V. Nayudu, (1999) 2 SCC 718] as under: (SCC pp. 732-34, paras 31-35)

"31. The "uncertainty" of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum v. Union of India [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] a three-Judge Bench of this Court referred to these changes, to the "precautionary principle" and the new concept of "burden of proof" in environmental matters. Kuldip Singh, J. after referring to the principles evolved in various international conferences and to the concept of "sustainable development", stated that the precautionary principle, the polluter pays principle and the special concept of onus of proof have now emerged and govern the law in our country too, as is clear from Articles 47, 48-A and 51-A(g) of our Constitution and that, in fact, in the various environmental statutes, such as the Water Act, 1974 and other statutes, including the Environment (Protection) Act, 1986, these concepts are already implied. The learned Judge declared that these principles have now become part of our law. The relevant observations in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] in this behalf read as follows: (SCC p. 660, para 14)

'14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.'

The Court observed that even otherwise, the abovesaid principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law. In fact, on the facts of the case before this Court, it was directed that the authority to be appointed under Section 3(3) of the Environment (Protection) Act, 1986

'shall implement the "precautionary principle" and the "polluter pays principle"'.

The learned Judges also observed that the new concept which places the burden of proof on the developer or industrialist who is proposing to alter the status quo, has also become part of our environmental law.

32. The Vellore [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] judgment has referred to these principles briefly but, in our view, it is necessary to explain their meaning in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them.

33. ***A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the "assimilative capacity" rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers with the information and means necessary to avoid encroaching upon the capacity of the environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World***

Charter for Nature, 1982, the emphasis shifted to the "precautionary principle", *and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:*

'Principle 15.—In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.'

34. In regard to the cause for the emergence of this principle, Charmian Barton, in the article earlier referred to in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] says:

'There is nothing to prevent decision-makers from assessing the record and concluding that there is inadequate information on which to reach a determination. If it is not possible to make a decision with "some" confidence, ***then it makes sense to err on the side of caution and prevent activities that may cause serious or irreversible harm****. An informed decision can be made at a later stage when additional data is available or resources permit further research. To ensure that greater caution is taken in environmental management, implementation of the principle through judicial and legislative means is necessary.'*

In other words, the inadequacies of science is the real basis that has led to the precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible.

35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the international customary law, 'the consequences of its application in any potential situation will be influenced by the circumstances of each case'. (See First Report of Dr. Sreenivasa Rao Pemmaraju — Special Rapporteur, International Law Commission dated 3-4-1998, paras 61 to 72.)"

(emphasis in original)

39. In such cases which pertain to the protection of environment, thrusting of "onus of proof" on the developer/industrialist in Vellore Citizens' Welfare Forum [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] was also elaborated by the Court in the following manner: (A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] , SCC pp. 734-35, paras 36-38)

"36. We shall next elaborate the new concept of burden of proof referred to in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996)

5 SCC 647] at p. 658. In that case, Kuldip Singh, J. stated as follows: (SCC p. 658, para 11)

'(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.'

37. It is to be noticed that while the inadequacies of science have led to the "precautionary principle", the said "precautionary principle" in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, — is placed on those who want to change the status quo (Wynne, "Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm" [(1992) 2 Global Environmental Change 111 at p. 123]). This is often termed as a reversal of the burden of proof, because otherwise in environmental cases, those opposing the change would be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the ***party attempting to preserve the status quo by maintaining a less polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden.*** *(See James M. Olson, "Shifting the Burden of Proof: How the Common Law can Safeguard Nature and Promote an Earth Ethic" [(1990) 20 Environmental Law 891 at p. 898] .) (Quoted in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] at pp. 519, 550.)*

38. The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. (See Report of Dr Sreenivasa Rao Pemmaraju, Special Rapporteur, International Law Commission, dated 3-4-1998, Para 61.)"

(emphasis in original)

41. It may be stressed that in Vellore Citizens' Welfare Forum case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] , this Court had banned the tanneries when it was found that they were causing immense damage to the environment. Thus, environment protection, which is a facet of Article 21, was given supremacy over the right to carry on business enshrined in Article 19(1)(g). We state at the cost of repetition that right to health, which is recognised as a facet of Article 21 of the Constitution and, therefore, is a fundamental right, assumes greater importance. It is not only the petitioners and other applicants who have intervened in support of the petitioners but the issue involves millions of persons living in Delhi and NCR, whose right to health is at stake. However, for the time being, without going into this debate in greater details, our endeavour is to strive at balancing of two rights, namely, right of the petitioners under Article 21 and right of the manufacturers and traders under Article 19(1)(g) of the Constitution.

44. Applying the aforesaid principle, in the first blush it may appear that the aforesaid argument has substantial force in it. However, that would be only one side of the picture as there are two contra-arguments which are sufficient to take the sheen out of the aforesaid plea. First aspect is that the argument of economic hardship is pitched against right to health and life. ***When the Court is called upon to protect the right to life, economic effect of a particular measure for the protection of such***

right to health will have to give way to this fundamental right. Second factor, which is equally important, is that the economic loss to the State is pitched against the economic loss in the form of cost of treatment for treating the ailments with which people suffer as a result of burning of these crackers. Health hazards in the form of various diseases that are the direct result of burning of crackers have already been noted above. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of $PM_{2.5}$ are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life*. Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial. It may be more than the revenue which is generated from the manufacturers of the crackers. However, we say no more for want of precise statistical data in this behalf."*

Carrying Capacity Concept

19. Carrying capacity is a facet of sustainable development. It is inherent in 'Precautionary Principle' as well as in 'Inter-generational Equity'. In MC Mehta v. UOI & Ors.[5], construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity. It was observed that:-

> ***"Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration."***

20. In Vellore Citizens' Welfare Forum v. UOI & Ors.[6], it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-

> *"10……. **During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems**. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in*

[5] (1997) 3 SCC 715
[6] (1996) 5 SCC 647

holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists."

21. These observations are reiterated in (2006) 6 SCC 371.[7]

Pollution from Brick kilns – shifting from coal to Natura gas as fuel

22. In M.C. Mehta (Taj Trapezium Pollution) v. UOI & Ors.[8], the Hon'ble Supreme Court held that pollution caused by brick kilns in Taj Trapezium area was harmful to the Taj. Brick kilns within radius of 20 km were directed to be closed/relocated and replacement of the fuel by natural gas was suggested.[9]

CNG replaced for diesel as fuel, closing Thermal Plant and controlling carbon emitting activities to control pollution

23. In M.C. Mehta v. UOI & Ors.[10] the issue for consideration was vehicular pollution on account of use of diesel considering the constitutional obligation, adverse impact of air pollution on health, the Hon'ble Supreme Court directed allocation of CNG and replacement of diesel vehicles of CNG.[11] In M.C. Mehta v. UOI & Ors.,[12] various directions were issued to deal with the adverse air quality in Delhi including phasing out of old vehicles, **closing Badarpur Thermal Power Station** increasing Metro frequency, stopping burning of waste, vacuum cleaning of roads.

[7] Para 66 to 76
[8] (2001) 9 SCC 235
[9] Para 1 & 2
[10] (2002) 4 SCC 356
[11] Para 1,3,11,21 to 24, 26 & 29
[12] (2016) 4 SCC 269

Tribunal's Approach to the subject

24. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the National Green Tribunal Act, 2010 and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[13] and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.[14] Environmental rule of law requires strict enforcement of these principles as laid down in *Hanuman Laxman Aroskar v. UOI*).[15]

25. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of* ***vehicular pollution[16], industrial and construction sector pollution[17], power sector pollution[18] and***

[13] 2019 SCC online SC 322, Para 43-47
[14] AIR 2020 (SC) 3471, Para 75
[15] (2019) 15 SCC 401
[16] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60
[17] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213
[18] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

agricultural sector pollution[19] *and orders of this Tribunal dealing with the said issues*[20]*. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017*[21] *and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such* ***as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.***[22]

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[23]

5. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.

6. The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles."

7to 13..xxx……xxxx……xxx

---

[19] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[20] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[21] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[22] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[23] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

*14. According to the CPCB, draft framework has been prepared and SA study completed in four States (for 05 cities). Study was under progress in 14 States (for 54 cities), and at proposal stage in 10 States (for 37 cities). Methodology for carrying capacity has been shared with State PCBs/PCCs. Twelve (12) States/UTs have given the details of the carrying capacity and the remaining have yet to take necessary steps. CC/SA studies are pre requisite for meaningful planning to enforce environmental law. This pre-requisite should have been undertaken long ago. Air quality norms have been statutorily laid down under the Air (Prevention and Control of Pollution) Act, 1981 as well as the Environment (Protection) Act, 1986 and such norms are being flagrantly violated, which has been made by the Parliament a criminal offence. If the rule of law has to have meaning and guilty are to be punished, the policies of the State have to be based on scientific studies to contain polluting activities within the scope of Carrying Capacity.***"***

26. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. This was referred in the earlier order of this Tribunal in the present matter. It was further observed that while under the orders of the Hon'ble Supreme Court, GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation.

Conclusion

27. Thus, in view of report of the CPCB, at this stage it is not possible to vacate direction not to permit operation of brick kilns in NCR beyond the carrying capacity found by the CPCB. All applications of the brick kiln owners seeking rejection of CPCB report and vacation of interim order against operation of brick kilns, without air quality assimilative capacity permitting such activity will stand rejected subject to further exploring viable options, including change to clean fuel like natural gas. We are conscious that brick kilns may be necessary. Object of this order

is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to file. The source apportionment studies, placed on record, show that brick kilns contribute 5-7% PM. Air pollution Control devices to be installed by the polluting sources including the brick kilns need to comply not only the consent standards but are also the Ambient Air Quality norms and available assimilative capacity of the region. If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of PM_{10} and $PM_{2.5}$ affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases.[24]

28. Accordingly, we direct CPCB to constitute a Committee of five experts to suggest ways and means, if any, by which sustenance of brick kilns activities may be viable. It will be open to CPCB to nominate in-house or other Experts. The CPCB may also explore viability of PNG as replacement of coal and other best practices in terms of fuel used, at other places or in other Countries. It will be open to the brick kilns owners/associations to give any other suggestions or alternatives for consideration by CPCB in spirit of collaboration with a view to find a solution within two weeks from today. Subject to the report of the expert

[24] https://airqualitynews.com/2020/08/13/the-link-between-air-pollution-and-covid-19/http://www.babushahi.com/full-news.php?id=107487

Committee finding it viable, possibility of permitting operation of brick kilns, having regard to the extent of pollution load and its effect on the air pollution level in NCT of Delhi may be considered. The CPCB may constitute an expert Committee within three weeks which may give its report within six weeks thereafter. Further report may be furnished in the matter before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

In view of above discussion, all interlocutory applications will stand disposed of.

List for further consideration on 11.01.2021.

Adarsh Kumar Goel, CP

S. P. Wangdi, JM

Dr. Nagin Nanda, EM

October 15, 2020
Original Application No. 1016/2019
A

Item No. 01 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 1016/2019

(With report dated 08.02.2021)

Utkarsh Panwar Applicant

Versus

Central Pollution Control Board & Ors. Respondent(s)

Date of hearing: 11.02.2021

Date of uploading the order: 17.02.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

ORDER

1. Question for consideration is extending applicability of Graded Response Action Plan (GRAP), already applicable to Fixed Chimney Bull Trench Kilns (FCBTK), to other coal fired brick kilns, including those using 'Zig-Zag' technology **in NCR during the period the air quality is 'severe'**, having potential for adverse health effects. Further issue that has emerged is the carrying capacity of the air quality in NCR region to sustain the brick kilns. Associated issue is improving effectiveness of safeguards and the regulatory measures to minimise the impact of air pollution by operation of brick kilns, where such brick kilns are otherwise permissible. Last issue is the effect of an individual unit being compliant with the prescribed norms in absence of carrying capacity of the environment to sustain such activity and right of inter-se parity of polluting activities to operate in absence of carrying capacity.

2. As per terms of GRAP, FCBTK brick kilns stand prohibited under 'severe' condition of air quality by the order of the Environment Pollution (Prevention and Control) Authority (EPCA) dated 01.11.2019. The applicant herein seeks extending such prohibition to brick kilns operated by 'Zig-Zag' technology, which also involve coal as fuel and cause pollution load which in 'severe' air quality conditions becomes hazardous to health. According to the applicant, even brick kilns run by 'Zig-Zag' technology add to $PM_{2.5}$ and contribute to the air pollution in the NCR and should not be allowed till GRAP is applicable i.e. when air quality is severe and above.

3. We Prima facie accepted the stand of the applicant by way of interim order dated 15.11.2019, which has been continued by subsequent orders, last order being dated 15.10.2020, which stands affirmed by the Hon'ble Supreme Court on 5.1.2021 in CA No. 14-16 of 2021 as follows: -

> *"We are not inclined to interfere with the orders passed by the National Green Tribunal.*
>
> ***The Civil appeals are, accordingly, dismissed.*** *However, all pleas and contentions of the appellant are left open"*

4. The expert Committee appointed by this Tribunal, based on which, last order dated 15.10.2020 was passed, held that during the period the air quality is 'severe' in NCR, there is no carrying capacity to sustain such kilns. However, the Tribunal required a report whether there are alternatives like cleaner fuel to sustain such activity which does not add to pollution load. This course was earlier adopted the Tribunal in respect of Morbi Industrial Area in Gujrat by requiring tie manufactures to close coal-based activities and operate only using PNG which order has been referred to in earlier orders. Reference was also made to earlier order of the Hon'ble Supreme Court in respect of brick kilns in Taj area. The scope of today's proceedings is not to revisit the said order but only to consider

permissibility of such brick kilns in 'severe' condition of air quality, on switching to PNG or with other alternative, if any, by which no load of pollution is added, so as to function when air quality is severe. The details of the subject and the background follows.

5. Categories of air quality and its adverse health effect can be noticed from following tables extracted from the judgment of the Hon'ble Supreme Court in *Arjun Gopal & Ors. v. UOI & Ors.*[1]*:*

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

Table 2

AQI Category, Pollutants and Health Breakpoints								
AQI category (Range)	***PM_{10} 24-hr***	***$PM_{2.5}$ 24-hr***	***NO_2 24-hr***	***O_3 8-hr***	***CO 8-hr (mg/m^3)***	***SO_2 24-hr***	***NH_3 24-hr***	***Pb 24-hr***
Good (0-50)	***0-50***	***0-30***	***0-40***	***0-50***	***0-1.0***	***0-40***	***0-200***	***0-0.5***
Satisfactory (51-100)	***51-100***	***31-60***	***41-80***	***51-100***	***1.1-2.0***	***41-80***	***201-400***	***0.5-1.0***
Moderately polluted (101-200)	***101-250***	***61-90***	***81-180***	***101-168***	***2.1-10***	***81-380***	***401-800***	***1.1-2.0***
Poor (201-300)	***251-350***	***91-120***	***181-280***	***169-208***	***10-17***	***381-800***	***801-1200***	***2.1-3.0***
Very poor (301-400)	***351-430***	***121-250***	***281-400***	***209-748****	***17-34***	***801-1600***	***1200-1800***	***3.1-3.5***
Severe (401-500)	***430+***	***250+***	***400+***	***748+****	***34+***	***1600+***	***1800+***	***3.5+***

[1] (2017) 1 SCC 412

6. During the course of consideration of the matter, in the light of the principle of 'Sustainable Development' of which 'Precautionary' principle is a part, it was found that number of brick kilns in NCR could not be unlimited and located close to each other or to the habitation or sensitive establishments like schools, hospitals, etc. This required study of the carrying capacity of different areas in the NCR in different seasons. Accordingly, such study was conducted. Table-15 appended to the CPCB report dated 06.07.2020, contains month-wise and district-wise estimation of number of brick kilns which can be operated without affecting ambient air quality as follows:

Table 15: *Month-wise and District-wise estimation of the number of brick kilns which can be operated in NCR districts of Haryana, Uttar Pradesh and Rajasthan, without affecting ambient air quality.*

S. No.	Name of District	Total No of Zig Zag type Brick Kilns	Month-wise No of Zig Zag type Brick Kilns, which can be operated without affecting the ambient air quality i.e within Assimilative Carrying Capacity								
			Mar-19	Apr-19	May-19	Jun-19	**Oct-19**	**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**
STATE- HARYANA											
1	Bhiwani	132	161	52	16	46	**0**	**0**	**0**	**0**	**0**
2	Faridabad (Ballabhgarh)	85	25	0	0	0	**0**	**0**	**0**	**0**	**0**
3	Gurugram	6	0	0	0	0	**0**	**0**	**0**	**0**	**0**
4	Jhajjar	387	376	320	283	327	**0**	**0**	**0**	**0**	**0**
5	Jind	111	72	0	0	0	**0**	**0**	**0**	**0**	**0**
6	Karnal	92	57	0	0	0	**0**	**0**	**0**	**NA**	**0**
7	Mahendragarh	42	33	0	0	0	**0**	**0**	**0**	**0**	**0**
8	Nuh (Mewat)	62	57	0	7	28	**0**	**0**	**0**	**NA**	**0**
9	Palwal	110	84	1	15	0	**0**	**0**	**0**	**0**	**0**
10	Panipat	87	84	23	0	37	**0**	**0**	**0**	**0**	**0**
11	Rewari	76	49	0	0	0	**0**	**0**	**0**	**0**	**0**
12	Rohtak	49	NA	31	21	12	**0**	**0**	**0**	**0**	**NA**
13	Sonipat	265	253	151	102	106	**0**	**0**	**0**	**0**	**0**
14	Charkhi Dadri	29	NA	NA	NA	NA	**NA**	**NA**	**NA**	**NA**	**NA**

STATE- UTTAR PRADESH

S. No.	Name of District	Total No of Zig Zag type Brick Kilns	Month-wise No of Zig Zag type Brick Kilns, which can be operated without affecting the ambient air quality i.e within Assimilative Carrying Capacity								
			Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	340	300	211	165	131	**0**	**0**	**0**	**2**	**0**
2	Bulandshahr	200	8	0	0	0	**0**	**0**	**0**	**0**	**0**
3	Gautam Budh Nagar	65	12	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4	Ghaziabad	79	11	0	0	0	**0**	**0**	**0**	**0**	**0**
5	Hapur	52	30	0	0	NA	**0**	**0**	**0**	**0**	**0**
6	Muzaffarnagar	146	42	0	0	0	**0**	**0**	**0**	**0**	**0**

7	Meerut	70	16	5	1	18	**0**	**0**	**0**	**0**	**0**
8	Shamli	80	57	53	40	51	**0**	**0**	**0**	**NA**	**NA**
STATE- RAJASTHAN											
1	Alwar	70	0	0	0	0	**0**	**0**	**0**	**0**	**0**
2	Bharatpur	60	0	0	0	0	**0**	**0**	**0**	**0**	**0**

7. Assimilative capacity data in the CPCB report dated 06.07.2020 is given in subsequent part of this order in Tables 6 to 8 which are part of the same report.

8. The matter has been earlier considered on six occasions, last being on 15.10.2020. The Tribunal by the said order held that in 'severe' air quality condition coal fired brick kilns could not be operated even if run by Zig-Zag technology. It was further held that number of brick kilns even during the period when air quality was not 'severe' had to be in terms of the carrying capacity. It was further found that merely because there were other sources of pollution or some individual brick kilns met the standards of air quality by themselves could not be ground not to apply GRAP to the said brick kilns. The GRAP could be extended to identified sources of pollution without a right of parity with other activities causing pollution. The appeal of the brick-kiln owners against the same stands dismissed by the Hon'ble Supreme Court vide order dated 5.1.2021, as already noted in para 3 above. The concluding part of the order dated 15.10.2020 is reproduced below:

> "***Conclusion***
>
> *27. Thus, in view of report of the CPCB, at this stage* ***it is not possible to vacate direction not to permit operation of brick kilns in NCR beyond the carrying capacity found by the CPCB. All applications of the brick kiln owners seeking rejection of CPCB report and vacation of interim order against operation of brick kilns, without air quality assimilative capacity permitting such activity will stand rejected subject to further exploring viable options, including change to clean fuel like natural gas****. We are conscious that brick kilns may be necessary. Object of this order is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to file. The source*

apportionment studies, placed on record, show that brick kilns contribute 5-7% PM. Air pollution Control devices to be installed by the polluting sources including the brick kilns need to comply not only the consent standards but are also the Ambient Air Quality norms and available assimilative capacity of the region. ***If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of PM_{10} and $PM_{2.5}$ affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases***.[2]

28. Accordingly, we direct CPCB to constitute a Committee of five experts to suggest ways and means, if any, by which sustenance of brick kilns activities may be viable. It will be open to CPCB to nominate in-house or other Experts. The CPCB may also explore viability of PNG as replacement of coal and other best practices in terms of fuel used, at other places or in other Countries. It will be open to the brick kilns owners/associations to give any other suggestions or alternatives for consideration by CPCB in spirit of collaboration with a view to find a solution within two weeks from today. Subject to the report of the expert Committee finding it viable, possibility of permitting operation of brick kilns, having regard to the extent of pollution load and its effect on the air pollution level in NCT of Delhi may be considered. The CPCB may constitute an expert Committee within three weeks which may give its report within six weeks thereafter. Further report may be furnished in the matter before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."

9. A report has been filed by the CPCB dated 8.2.2021, alongwith the report of a Committee, constituted by it, recommending operation of coal-fired brick kilns with zig-zag technology, without clean fuel or alternative by which no pollution is added. **We find difficult to accept the same as it is in conflict with the order of this Tribunal dated 15.10.2020, affirmed by the Hon'ble Supreme Court**. It fails to consider the carrying capacity to sustain any further pollution when air quality is 'severe'. Scope

[2] https://airqualitynews.com/2020/08/13/the-link-between-air-pollution-and-covid-19/http://www.babushahi.com/full-news.php?id=107487

of consideration[3] being confined to permissibility of brick-kilns with cleaner fuel or any other alternative which may not add to pollution load, in absence of carrying capacity to sustain further pollution load of brick-kilns fired by coal, the report is of no assistance.

10. This application was first taken up on 15.11.2019. The Tribunal directed that till air quality was 'severe', coal fired brick kilns, even operating on zig zag technology, may not be allowed to operate in NCR. The matter has been considered subsequently on five occasions: 18.12.2019, 06.02.2020, 05.03.2020, 23.03.2020 and 15.10.2020 in the light of the carrying capacity to determine whether such brick kilns could be allowed to operate without being health hazard to the citizens. It was found that such operation was not permissible in 'severe' condition of air quality without compromising public health. There is no change in situation even now on this aspect. Coal as a fuel adds to air pollution and when air quality is 'severe' brick kilns can be allowed on replacing coal by cleaner fuel like Piped Natural Gas (PNG). This is the reason behind GRAP not permitting other coal-fired brick kilns. The logic applies to zig zag technology kilns also, though compared to FCBTK, it is better. It does not result in zero pollution during 'severe' conditions when any addition to pollution load is hazardous to health. Since, as per independent study, there was no carrying capacity of the air quality of the NCR Region to sustain coal-fired brick kilns during 'severe' conditions, using zig-zag technology, which does not eliminate pollution could not justify such brick kilns. It will suffice to reproduce the operative orders passed on five last occasions which are as follows:

[3] See paras 27 and 28 of order dated 15.10.2020 reproduced in subsequent part of this order.

A. Order dated 18.12.2019:

"4. In view of the above, while CPCB may conduct further study for assessment of different types of brick kilns with reference to source emissions from different types of fuels, having regard to the conclusion that average fugitive SPM values are almost same in FCBTK and Zig-Zag brick kilns, the interim order directing closure of brick kilns in NCR will continue till the next date. ***Thereafter, brick kilns in NCR may be allowed only consistent with the carrying capacity and siting criteria, subject to GRAP, consent conditions and background concentration of ambient air quality****."*

B. Order dated 06.02.2020:

"3. Since brick kilns can be permitted only after ascertaining the carrying capacity as above, let a report about carrying capacity of the NCR region in above terms be furnished by CPCB before the next date by e-mail at judicial-ngt@gov.in."

C. Order dated 05.03.2020:

"4. In view of the above, a report has been filed by the CPCB on 04.03.2020 as follows:

> *"As per information provided by SPCBs, there are total 3278, 2854 and 19003 brick kilns in Haryana, Punjab and Uttar Pradesh respectively, out of which 1918, 701 and 1343 brick kilns have been converted to Zig-Zag technology. With regard to NCR regions, out of 2187, 2216 and 251 brick kilns in Haryana, Uttar Pradesh and Rajasthan respectively,* ***1504, 1032 and 127 brick kilns have been converted to Zig-Zag technology****.*
>
> *Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts.*
>
> *Different types of activities with potential of air pollution, including operation of brick kilns in Delhi-NCR are regulated through a Graded Response Action Plan (GRAP) by Environmental Pollution Control Authority.* ***As per GRAP, Brick kilns in NCR are required to be shut under severe conditions i.e. when $PM_{2.5}$ and/or PM_{10} concentration goes beyond 250 µg/m^3 and/or 430 µg /m^3 respectively.***
>
> *In view of the expected higher concentration of PM emissions during winter months, brick kilns in the NCR regions were kept closed during this period as per directions of EPCA.* ***However, now, looking into the forecast of favourable meteorological conditions and expected improvement in the air quality, Environmental Pollution Control Authority (EPCA) has directed that operation of those brick kilns in NCR districts, which have converted to Zig-zag technology, be allowed, vide letter No. EPCA-R/2020/L-09 dated February 14, 2020*** *(Copy enclosed as Annexure-I).*

Further, air quality data of 2019 in NCR, was examined. Analysis indicated that ***$PM_{2.5}$*** *concentration in summer months (March-June) is lower (****Average 80 µg /m³)*** *in comparison to winter months (Average 173 µg /m³). Similarly,* ***PM_{10}*** *concentration in summer months (March-June) is lower (****Average 219 µg /m³)*** *in comparison to winter months (Average 283 µg /m3).*

The past data of 2019 w.r.t. PM_{10} & $PM_{2.5}$ concentration in Delhi, is summarized in ***Table 1:***

Table 1: *Monthly data of CAAQMs w.r.t. PM Concentration for 2019, in Delhi*

Month	***$PM_{2.5}$, µg/m³***	***PM_{10}, µg/m³***
January	*203*	*322*
February	*122*	*215*
March	*83*	*184*
April	*83*	*236*
May	*89*	*247*
June	*63*	*209*
July	*47*	*143*
August	*35*	*85*
September	*40*	*98*
October	*128*	*247*
November	*202*	*312*
December	*209*	*316*

Therefore, in view of submission that 65 Nos brick kilns are proposed to be monitored in both NCR and Non-NCR regions, involving total 585 stack emissions' samples, in compliance of the directions of Hon'ble NGT in the matter of 0.A. No. 1016/2019 and 0.A. No. 1088/2018, it is humbly prayed as under:

I. *Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts and if these are to be monitored to assess the performance of brick kilns operating on agro-residues, under comparable situations, the Zig-Zag type brick kilns in NCR regions, which are presently dosed, may have to be made operational, to facilitate monitoring.*

II. *Atleast 04 months' time period may be granted to CPCB, for Monitoring of 65 brick kilns in NCR and Non-NCR regions and submission of report covering* ***i) Impact of brick kilns operation on loss/degradation of top soil, ii) study involving Carrying Capacity Assessment of brick kilns with adequate samples in terms of number of brick kilns and days for which monitoring be conducted, iii) Evaluation of the performance of brick kilns against the background concentration and carrying capacity of the area and iv) Impact on Brick Kilns operation on ambient air, in the matters of O.A. No. 1016/2019 and O.A. No. 1088/2018, after commencement of operation of brick kilns in NCR regions.****"*

5. ***We have heard learned Counsel for the CPCB and for the brick kilns, including those who have filed applications for being implead as party in pursuance of order of Hon'ble Supreme Court dated 20.02.2020 in C.A. No. 1733-35/2020.***

6. Learned Counsel for the CPCB submitted that having regard to the data of air quality, even though as per GRAP brick kilns are to be mandatorily shut throughout NCR only under 'severe conditions', ***no polluting activity, including brick kilns, can be permitted beyond 'carrying capacity' and air quality norms under the Air (Prevention and Control of Pollution) Act, 1981.*** *On the other hand, the stand of the brick kilns is that unless the conditions are 'severe' to attract GRAP and unless prohibited by EPCA, 'Zig-Zag' technology brick kilns have right to operate irrespective of the air quality norms. Reliance has also been placed on norms for brick kilns under Schedule-I, Sr. No. 74 of Environment (Protection), Rules 1986. Alternatively, it is submitted that at such locations where air quality is within norms, brick kilns may be allowed. By way of example, it is stated that the ambient air quality data at Alwar, as on 18.02.2020, is within norms.*

7. ***We do not find any merit in the contention that only in 'severe' conditions brick kilns can be prohibited even if the air quality is beyond permissible norms and the area has no assimilative or supportive capacity. Emission norms of individual brick kilns is not a conclusive factor for dealing with the issue, if the carrying capacity of the area does not allow the brick kilns in question****. However, we do need to consider the submission that where air quality is within the norms and there is carrying capacity, brick kiln can be allowed.*

8. In view of the above, ***it is necessary to look at the relevant data at different locations '24 hourly' and 'monthly average' during the relevant months. Since such data is maintained by the CPCB/PCBs, the CPCB may collect such data for corresponding months of March, April, May and June in the year 2019 and furnish the same before the next date. The break-up of location of the brick kilns District-wise may also be furnished to consider as to which of the brick kilns can be allowed after verification that such brick kilns are actually working on 'Zig-Zag' technology, pending further assessment of the carrying capacity by the CPCB, as already directed earlier vide order dated 06.02.2020****."*

D. <u>Order dated 23.03.2020:</u>

"*6. We have considered the above data which shows that in the corresponding months when brick kilns were operating, standard of air quality was not as per prescribed norms. Thus, the air quality of the area is unable to take further pollution load. In this regard, it may be noted that while considering the issue of operation of brick kilns in non-NCR area, where GRAP was not applicable as such, in O.A. No. 1088/2018, Dinesh Chahal & Ors. vs. Union of India & Ors., the Tribunal vide order dated 30.04.2019 observed that standards of ambient air quality are required to be maintained under Section 17(g) of the Air Act, 1981:*

> *"3. … The matter was again considered on 21.02.2019 with reference to the* ***contention that the impugned order was only for Non-NCR to which order of CPCB or EPCA did not apply. The Tribunal held that even in Non-NCR, Standards of Ambient Air Quality laid down under***

Section 17 (g) of the Air Act are required to be followed. If the impugned order has been passed without undertaking any study on status of ambient air quality without any carrying capacity assessment to take the additional load at concerned areas and without any safeguards on 'Precautionary' principle, the same may not be justifiable having regard to the acknowledged adverse impact of operation of the brick kilns on the ambient air quality. *Reference was made to the Judgements of the Hon'ble Supreme Court in M.C. Mehta v. Union of India, (1998) 9 SCC 149, M.C. Mehta v. Union of India (2000) 7 SCC 422, M.C. Mehta v. Union of India, (2002) 4 SCC 378, K. Guruprasad Rao v. State of Karnataka, (2012) 12 SCC 736 wherein the Hon'ble Supreme Court directed closure or shifting of brick kiln industries and M.C. Mehta v. Union of India, (2001) 9 SCC 235 laying down that brick kilns may be allowed to operate after studying the impact on human population and vegetation."*

7. Learned Counsel for the brick kiln operators, however, submit that prohibition on operation of brick kilns be lifted as some individual brick kilns meet the air quality emission standards laid down under the Environment (Protection) Rules, 1986 and the brick kilns are not the only source of pollution. Contribution of all the brick kilns taken together, to the air pollution, was about 3%. It was also mentioned that as at present air quality norms are within limit in seven districts out of 15 districts of NCR.

8. As observed earlier, ***the question is not merely of an individual brick kiln not emitting pollution or the extent of contribution of the brick kilns taken separately, but of the capacity of the area being already air polluted and unable to take the load of pollution. When there is no carrying capacity in the area for further air pollution, we find it difficult to permit operation of the closed brick kilns to uphold the 'Sustainable Development' principle. When even without operation of the brick kilns the air quality is not within the norms, the impact of operation of the brick kilns cannot be ignored. Thus, we find it difficult to accept the submission that the individual brick kilns maintaining the prescribed standards for discharge of emissions are entitled to operate or that they be allowed to operate on the ground that pollution caused by the brick kilns is less than other pollution from other sources irrespective of carrying capacity of the area. The fact remains that brick kilns add to the air pollution and thereby affect right of citizens to breathe fresh air.***

9. We may now consider another aspect of the matter i.e. impact of the brick kilns on the top soil. As noted in order dated 05.03.2020, CPCB has undertaken to look into this aspect and has not yet completed its study. As per available study, ***there is huge environmental cost in using top soil for making brick making.***[4]

[4] www.journals.sagepub.com/doi/abs/10.1177/0974929214521892# (Environmental Cost of using top-soil for brick making – a case study form India (MoEF, GoI project) (Published in Review of Market Integration, 2013) Vinish Kathuria, Professor, IIT Bombay – March 11, 2015.

Reference may also be made to a study on "The Impact of Brick Kiln operation to the degradation of topsoil quality of Agricultural Land".[5] *There is further issue of unutilized fly ash adversely affecting the environment which may require barring red clay brick kilns. This is proposed in a draft notification of the MoEF&CC 25.02.2019 within 300 kms of coal or lignite based thermal power plants. No doubt the said notification is only a draft but the same is evidence of such step being necessary for sustainable development.*

10. ***Main reason for air pollution by brick kilns is use of coal etc. as fuel. The pollution can be minimized if the fuel which is currently used is considered to be replaced by cleaner fuels like PNG by appropriate modification in design not adding to the PM load. Dealing with the air pollution caused in Morby Industrial Area in Gujarat on account of coal gasifiers in tile manufacturing, the Tribunal directed closing of coal gasifier industries without prejudice to such industries switching over to non-coal gasifiers, PNG or other such technology. It was directed[6]:***

> ***"25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage to the environment and public health."***

11. Issue of allowing operation of brick kilns may give rise to following questions:

(i). The use of cleaner fuels or any other alternative measures to be used to prevent air pollution.

(ii). Siting and carrying capacity.

12. In view of the fact that there is no carrying capacity of the air quality in NCR region to permit any further addition to PM load by permitting unconditional operation of brick kilns using fuel which adds to PM load and since it may be necessary to consider the issue of utilizing fly ash, we require an expert opinion on following issues:

(a) how brick kilns can be allowed in NCR without damage to the air quality;

(b) conditions subject to which it may be done;

(c) number of brick kilns to be allowed and criteria for fixing such numbers.

---

[5]www.researchgate.net/publication/282431176_The_impact_of_brick_kiln_operation_to_the_degradation_of_topsoil_quality_of _agricultural_land.

[6] Order dated 06.03.2019 in O.A. No. 20/2017 (WZ), Babubhai Ramubhai Saini vs. Gujarat Pollution Control Board & Ors.

*13. Let CPCB look into the above issues and furnish a further report within one month for further directions in the matter. The applicants are free to put forward their viewpoint before CPCB.***"**

E. <u>Order dated 15.10.2020:</u>

7. Accordingly, in above backdrop, the CPCB has given its report dated 06.07.2020. The CPCB considered suggestions/objections of the Brick Kiln Owner Association in terms of order of this Tribunal which have been summed up in the report as follows:-

> ***"****(a) The brick kilns are complying with the directions of CPCB w.r.t. shifting from the Old Fixed Chimney Bull Trench Kiln Technology to Zig-Zag Technology.*
>
> *(b) The brick Kilns have been established as per siting criteria.*
>
> *(c) The Hon'ble Supreme Court of India in Civil Appeal No. 1742-43 of 2020 (Diary No. 5935/2020) vide order dated 20/02/2020 requested Hon'ble NGT to decide the O.A. No. 1016/2019, in the light of the provisions of the Graded Response Action Plan (GRAP) of MoEF&CC and EPCA order dated 14/02/2020.*
>
> *(d) The brick kilns in NCR regions are required to be closed under Severe Category (PM_{10} > 430 ug/m^3 or $PM_{2.5}$ > 250 ug/m^3) under GRAP.*
>
> *(e) Brick Kilns based on Zig-Zag technology are less polluting and are complying with the both existing and proposed standards for stack emissions.*
>
> *(f) PNG, CNG and industrial LPG are not available in majority of places where brick kilns are situated.*
>
> *(g) The blanket ban on operation of brick kiln industries has affected livelihood rights of approximately one million people in the national Capital region.*
>
> *(h) The brick Kiln industries are seasonal and hence only operate from January to June and indefinite closure for the want of study would cause and has already caused irreparable damage to the brick kiln industry.*
>
> *(i) Utilization of fly ash may not be treated as a true alternative unless the harmful impacts of fly ash bricks are not studied.*
>
> *(j) A report on "Source Apportionment of $PM_{2.5}$ and PM_{10} of Delhi NCR for identification of major sources" prepared by ARAI and TERI for Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, New Delhi, in the year 2016, reveals that brick kiln industry contributed only about 8% to the air pollution of Delhi and NCR. It was further found that the brick kilns shifting to Zig-Zag technology would further lead to reduction of 3%, 4% and 6 % in total $PM_{2.5}$, PM_{10} and SO2*

emissions. The contribution of the brick kilns is very less in Delhi and NCR after conversion to Zig-Zag technology.
(k) The utilization of fly ash in the manufacture of bricks is not only unfeasible because of several issues involved in the transportation of fly-as to brick- kilns. It poses several health hazards to the inhabitants residing in buildings made thereof, in addition to health hazards to laborers working at brick-kilns and on construction sites.

(l) ***Various kinds of industrial and other activities contribute together to saturate the carrying capacity of the region. It is submitted that saturation of the carrying capacity of Delhi-NCR cannot be the basis for denying permission to brick kilns to operate. This is particularly because brick kilns emissions are not amongst the main contributors to air pollution in Delhi-NCR.***

(m) ***Any directions that prohibit brick kilns from operating in Delhi- NCR on account of saturation of the carrying capacity, without first prohibiting the other more polluting activities, would be arbitrary and violative of Article 14 and Article 19(1)(g) of the Constitution of India****.*

(n) ***The brick kilns may be allowed to operate at par with other activities that together contribute to the carrying capacity of Delhi-NCR, subject to the conditions of the Consent to Operate and guidelines issued by the regulatory bodies so as to avoid fugitive dust emissions.***

(o) The directions issued by the EPCA from time to time are sufficient to ensure that the brick kilns operate in Delhi-NCR without any damage to the air quality.

(p) The brick kilns that do not comply with the conditions of the Consent to Operate and other guidelines issued by the regulatory bodies from time to time may also be closed down with immediate effect.

*(q) The brick kilns, which have adopted the zig-zag technology, may be permitted to operate in Delhi-NCR.***"**

8. Thereafter, the CPCB has referred to the District wise carrying capacity with reference to the monthly average of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) PM_{10} values in the ambient air during the months of March 2019 – June, 2019 and October 2019 – February, 2020 were analysed for NCR districts of Haryana, UP and Rajasthan. Report further refers to the statistic of zig zag type brick kilns in the NCR region and emission load by the brick kilns. With a view to calculate carrying capacity, following components were considered:-

"i. Estimation of Existing Pollution Load w.r.t
ii. Estimation of Assimilative Carrying Capacity w.r.t PM_{10}
iii. Estimation of Supportive Carrying Capacity w.r.t PM_{10}**"**

9. The data with reference to the above parameters are as follows:-

"Table 6: Total Existing Plylio Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in NCR Districts of Haryana.

Table 6(a):

S.No.	Name of District	Total PM_{10} Load, Kg (x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bhiwani	210232	367562	503745	475659	478478	457212	368260	271515	380314
2	Far id (Ballabhgarh)	96701	134048	187497	158420	104164	100606	118395	94829	112797
3	Gurugram	103785	194307	227513	191961	165102	177733	150341	102872	127176
4	Jhajjar	102704	177460	252854	209516	171112	158039	115148	93204	131063
5	Jind	174279	282559	418543	418918	307558	335718	204744	144806	199372
6	Karnal	161280	280186	355607	341349	355809	337093	233508	NA	221082
7	Mahendragarh	104445	190597	212532	206095	174814	136050	106895	117563	127985
8	Nuh(Meyvap	80625	159404	177216	157403	134979	129861	90049	NA	119077
9	Palwal	93895	189997	204889	222688	152939	164475	111147	81141	129514
10	Panipat	65936	140221	243718	153134	236609	212180	209735	62096	184177
11	Rewari	106798	182019	248205	253637	232004	203641	153915	139921	193558
12	Rohtak	NA	123118	169389	179357	169898	166483	173986	141889	NA
13	Sonipat	**117771**	**241036**	**335584**	**332458**	**237579**	**170100**	**151606**	**263718**	**208357**
14	CharkhiDadd	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6(b):

S.No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bhiwani	238900	287158	387496	389885	297192	239378	206887	220744	277602
2	Faridabad (Ballabhgarh)	37050	44534	60095	60466	46090	37124	32085	34234	43052
3	Gurugram	62900	75606	102024	102653	78248	63026	54471	58120	73090
4	Jhajjar	91700	110223	148737	149654	114075	91883	79412	84731	106555
6	Jind	135100	162390	219132	220483	168064	135370	116997	124832	156986
6	Karnal	126000	151452	204372	205632	156744	126252	109116	116424	146412
7	Mahendragarh	94950	114130	154009	154958	118118	95140	82227	87734	110332
8	Nuh(Mewat)	75350	90571	122218	122971	93735	75501	65253	69623	87557
9	Palwal	67550	81195	109566	110242	84032	67685	58498	62416	78493
10	Panipat	63400	76207	102835	103469	78870	63527	54904	58582	73671
11	Rewari	79700	95799	129273	130070	99147	79859	69020	73643	92611
12	Rohtak	87250	104875	141520	142392	108539	87425	75559	80619	101385
13	Sonipat	106100	127532	172094	173155	131988	106312	91883	98036	123288
14	Charkhi Dadri	69050	82998	111999	112699	85898	69188	59797	63802	80236

Table 6(c):

S.No.	Name of District	Supportive Carrying Capacity, Kg (z) i.e (y-x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bhiwani	28668	-80404	-116249	-85775	-181287	-217834	-161372	-50771	-102713
2	Faridabad (Ballabhgarh)	-59651	-89514	-127402	-97954	-58074	-63482	-86309	-60595	-69744
3	Gurugram	-40885	-118701	-125489	-89308	-86855	-114707	-95870	-44752	-54086
4	Jhajjar	-11004	-67236	-104116	-59862	-57037	-66156	-35735	-8473	-24508
5	Jind	-39179	-120169	-199410	-198435	-139493	-200348	-87747	-19973	-42386
6	Karnal	-35280	-128734	-151235	-135717	-199065	-210841	-124392	NA	-74670
7	Mahendragarh	-9495	-76467	-58523	-51136	-56697	-40910	-24668	-29829	-17653
8	Nuh (Mewat)	-5275	-68834	-54998	-34432	-41244	-54361	-24796	NA	-31520
9	Palwal	-26345	-108801	-95323	-112446	-68906	-96790	-52648	-18725	-51021
10	Panipat	-2536	-64014	-140884	-49665	-157739	-148653	-154830	-3515	-110506
11	Rewari	-27098	-86219	-118932	-123567	-132857	-123782	-84895	-66279	-100946
12	Rohtak	NA	-18244	-27870	-36965	-61359	-79059	-98428	-61270	NA
13	Sonipat	-11671	-113504	-163489	-159303	-105591	-63787	-59724	-165682	-85069
14	Charkhi Dedri	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7: Total Existing PM_{10} Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in NCR Districts of Uttar Pradesh

Table 7(a):

S.No.	Name of District	Total PM_{10} Load, Kg (x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	106341	208801	281760	316913	187339	201855	148718	58589	161943
2	Bulandshahr	417360	604712	640366	913084	687684	655548	472794	481530	537402
3	Gautam Budh Nagar	117303	187227	227695	266759	220084	213880	189846	134448	166100
4	Ghaziabad	127332	217534	241911	315557	214135	203194	175104	124736	160290
8	Hapur	55440	97578	153620	69300	98525	96883	74017	79279	46399
6	Muzaffarnagar	304608	537164	562334	706434	501088	616458	301971	368488	421485
7	Meerut	182073	218780	277018	261278	391558	337182	289200	243545	289922
8	Shamli	81088	97476	135096	124187	113792	107556	103462	NA	NA

Table 7(b):

S.No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	66050	79392	107133	107794	82166	66182	57199	61030	76750
2	Bulandshahr	225600	271171	365923	368179	280646	226051	195370	208454	262147
3	Gautam Budh Nagar	64100	77048	103970	104611	79740	64228	55511	59228	74484
4	Ghaziabad	58950	70858	95617	96206	73334	59068	51051	54470	68500
5	Hapur	33000	39666	53526	53856	41052	33066	28578	30492	38346
6	Muzaffarnagar	200400	240881	325049	327053	249298	200801	173546	185170	232865
7	Meerut	127950	153796	207535	208814	159170	1 28206	110805	118226	148678
8	Sham li	58379	70172	94691	95275	72623	5849,6	50556	53942	67836

Table 7(c):

S.No.	Name of District	Supportive Carrying Capacity, Kg (z) i.e (y-x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Bagpat	-40291	-129409	-174627	-209120	-105173	-135673	-91519	2441	-85193
2	Bulandshahr	-191760	-333541	-274442	-544905	-406937	-429497	-277425	-273075	-275255
3	Gautam Budh Nagar	-53203	-110179	-123725	-162147	-140343	-149652	-134336	-75220	-91616
4	Ghaziabad	-68382	-146676	-146294	-219351	-140801	-144126	-124053	-70266	-91790
5	Hapur	-22440	-57912	-100094	-15444	-57473	-63817	-45439	-48787	-8053
6	Muzaffarnagar	-104208	-296283	-237286	-379381	-251791	-415658	-128424	-183318	-188620
7	Meerut	-54123	-64984	-69483	-52463	-232388	-208976	-178396	-125319	-141244
8	Sham li	-22709	-27305	-40406	-28913	-41168	-49060	-52905	NA	NA

Table 8: Total Existing Plylio Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in NCR Districts of Rajasthan

Table 8(a):

S.No.	Name of District	Total PM_{10} Load, Kg (x)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Alwar	574030	1052603	1291274	1053064	807916	793494	674908	669780	740055
2	Bharatpur	347021	636335	780620	636614	488413	479694	408006	404905	447389

Table 8(b):

S.No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Mar-19	Apr-19	May-19	Jun-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Alwar	419000	503638	679618	683808	521236	419838	362854	387156	486878
2	Bharatpur	253300	304467	410853	413386	315105	253807	219358	234049	294335

Table 8(c):

S.No.	Name of District	Supportive Carrying Capacity, Kg (z) i.e (y-x)								
		Mar-19	**Apr-19**	**May-19**	**Jun-19**	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1	Alwar	-155030	-548965	-611656	-369256	-286680	-373656	-312054	-282624	-253177
2	**Bharatpur**	-93721	-331869	-369767	-223228	-173308	-225888	-188648	-170856	-153054

10. It was concluded from the above data that there was no supporting carrying capacity to operate brick kilns during the entire brick kilns operating season. However, with regard to Districts where supporting carrying capacity was available in particular months such number was worked out for Haryana, UP and Rajasthan as follows:-

"Table 9: Number of brick kilns which can be operated in NCR Districts of Haryana during March-June.

S.No.	Name of District	Load in Excess of Assimilative Carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Bhiwani	-28668	80404	116249	85775	132	161	52	16	46
2	Faridabad (Ballabhgarh)	59651	89514	127402	97954	85	25	-5	-42	-13
3	Gurugram	40885	118701	125489	89308	6	-35	-113	-119	-83
4	Jhajjar	11004	67236	104116	59862	387	376	320	283	327
5	Jind	39179	120169	199410	198435	111	72	-9	-88	-87
6	Kornai	35280	128734	151235	135717	92	57	-37	-59	-44
7	Mahendragarh	9495	76467	58523	51136	42	33	-34	-17	-9
8	Nuh (Mewat)	5275	68834	54998	34432	62	57	-7	7	28
6	Palwal	26345	108801	95323	112446	110	84	1	15	-2
10	Panipat	2536	64014	140884	49665	87	84	23	-54	37
11	Rewari	27098	86219	118932	123567	76	49	-10	-43	-48
12	Rohtak	NA	18244	27870	36965	49	NA	31	21	12
13	Sonipat	11671	113504	163489	159303	265	253	151	102	106
14	Charkhi Dadri	NA I	NA I	NA I	NA	29	NA	1\ NA	NA	NA

Note: CAAQMS and AOD values for Charkhi Dadri were not available;

***Negative Values indicate that no brick kiln can be operated**

Table 10: Number of brick kilns which can be operated in NCR Districts of Haryana during October- February.

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated				
		October	Novembe	December	Januar	February		October	November	December	Januar	Februar
1	Bhiwani	-181287	-217834	-161372	-50771	-102713	132	-181	-218	-161	-51	-103
2	Faridabad (Ballabhgarh)	-58074	-63482	-86309	-60595	-69744	85	-58	-63	-86	-61	-70
3	Gurugram	-86855	-114707	-95870	-44752	-54086	6	-87	-115	-96	-45	-54
4	Jhajjar	-57037	-66156	-35735	-8473	-24508	387	-57	-66	-36	-8	-25
5	Jind	-139493	-200348	-87747	-19973	-42386	111	-139	-200	-88	-20	-42
6	Karnal	-199065	-210841	-124392	NA	-74670	92	-199	-211	-124	NA	-75
7	Mahendragarh	-56697	-40910	-24668	-29829	-17653	42	-57	-41	-25	-30	-18
8	Nuh (Mewat)	-41244	-54361	-24796	NA	-31520	62	-41	-54	-25	NA	-32
9	Palwal	-68906	-96790	-52648	-18725	-51021	110	-69	-97	-53	-19	-51
10	Panipat	-157739	-148653	-154830	-3515	-110506	87	-158	-149	-155	-4	-111
11	Rewari	-132857	-123782	-84895	-66279	-100946	76	-133	-124	-85	-66	-101
12	Rohtak	-61359	-79059	-98428	-61270	NA	49	-61	-79	-98	-61	NA
13	Sonipat	-105591	-63787	-59724	-165682	-85069	265	-106	-64	-60	-166	-85
14	Charkhi Dadri	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA

Negative Values indicate that no brick kiln can be operated

The month-wise number of brick kilns which can be operated within the assimilative capacity during March-June and October- February are presented in Table 11 and Table 12 respectively, for NCR districts of Uttar Pradesh.

Table 11: *Number of brick kilns which can be operated in NCR Districts of Uttar Pradesh during March-June.*

S.No.	Name of District	Load in Excess of Assimilative carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Bagpat	40291	129409	174627	209120	340	300	211	166	131
2	Bulandshahr	191760	333641	274442	644906	200	8	-134	-74	446
3	Gautam Budh Nagar	63203	110179	123726	162147	66	12	-46	-69	-97
4	Ghaziabad	68382	146676	146294	219361	79	11	-68	-67	-140
6	Hapur	22440	67912	100094	16444	62	30	-6	-48	NA
6	Muzaffarnagar	104208	296283	237286	379381	146	42	-160	-91	-233
7	Meerut	64123	64984	69483	62463	70	16	6	1	18
8	Shamli	22709	27306	40406	28913	80	67	63	40	61

Negative Values indicate that no brick kiln can be operated

Table 12: *Number of brick kilns which can be operated in NCR Districts of Uttar Pradesh during October-February.*

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated				
		October	November	Decembe	January	Februar		October	November	December	Januar	Februar
1	Bagpat	-105173	-135673	-91519	2441	-85193	340	-105	-136	-92	2	-85
2	Bulandshahr	-406937	-429497	-277425	-273075	-275255	200	-407	-429	-277	-273	-275
3	Gautam Budh Nagar	-140343	-149652	-134336	-75220	-91616	65	-140	-150	-134	-75	-92
4	Ghaziabad	-140801	-144126	-124053	-70266	-91790	79	-141	-144	-124	-70	-92
5	Hapur	-57473	-63817	-45439	-48787	-8053	52	-57	-64	-45	**-49**	-8
6	Muzaffamagar	-251791	-415658	-128424	-183318	-188620	146	-252	-416	-128	-183	-189
7	Meerut	-232388	-208976	-178396	-125319	-141244	70	-232	-209	-178	-125	-141
8	Shamli	-41168	-49060	-52905	NA	NA	80	-41	-49	-53	NA	NA

Negative Values indicate that no brick kiln can be operated

The month-wise number of brick kilns which can be operated within the assimilative capacity during March-June and October- February are presented in Table 13 and Table 14 respectively, for NCR districts of Rajasthan.

Table 13: *Number of brick kilns which can be operated in NCR Districts of Rajasthan during March-June.*

S.No.	Name of District	Load in Excess of Assimilative Carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Alwar	155030	548965	611656	369256	70	-85	-479	-542	-299
2	Bharatpur	93721	318168	311467	120320	60	-34	-258	-251	-60

***Negative Values indicate that no brick kiln can be operated**

Table 14: *Number of brick kilns which can be operated in NCR Districts of Rajasthan during October-February.*

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Tag Zag	No of Zig Zag type Brick Kilns, which can be				
		October	November	Decembe	January	Februar		Octobe	November	December	Januar	Februar
1	Alwar	-286680	-373656	-312054	-282624	-253177	70	-2867	-3737	-3121	-2826	-2532
2	Bharatpur	-173308	-225888	-188648	-170856	-153054	60	-1733	-2259	-1886	-1709	-1531

Negative Values indicate that no brick kiln can be operated"

11. Finally, it has been concluded:-

"2.3. CPCB's Opinion:

CPCB was directed by Hon'ble NGT to give an expert opinion on the following:

(a) How brick kilns can be allowed in NCR without damage to the air quality;
(b) Conditions subject to which it may be done;
(c) Number of brick kilns to be allowed and criteria for fixing such numbers.

Following is the submission of CPCB on the above points:

i) Based on the evaluation of the data and estimation of the carrying capacity as explained in the previous section, there is no assimilative capacity available in the ambient air environment in the NCR districts of Haryana, Uttar Pradesh and Rajasthan for simultaneous operation of all the existing brick kilns, even after adopting Zig-zag technology. Based on the available assimilative capacity, some brick kilns may operate.

ii) An effort was made to estimate the number of brick kilns which can be operated, within the assimilative capacity of the ambient air environment. The outcome of the month-wise and district-wise estimation w.r.t. the number of brick kilns which can be operated within the assimilative capacity without any negative effect on the ambient air is summarized in ***Table 15.*** *In the districts, where ambient air quality data for the past is not available, due to non-availability of CAAQMS or AOD, the data of the districts having comparable population and geographical area, may be used for estimating the number of brick kilns which can be operated without affecting the ambient air quality, by the respective State Pollution Control Boards, while doing such exercise.*

xxx ……xxx……xxx

iii. ***However, the Zig-Zag type brick kilns may be asked to comply with the proposed Particulate matter standards of 250 mg/Nm^3 at 17 % 02 w.r.t. stack emissions of Particulate Matter (PM). State Pollution***

Control Boards may ensure operation of only permitted number of Zig-Zag type brick kilns and compliance of PM emission norms of 250 mg/Nm³ at 17 % 02.

iv. The examination of the month-wise and district-wise carrying capacity, indicates that Zig-zag type brick kilns in NCR districts should preferably be operated in summer months only, unless or until there is improvement in environmental condition through reduction in PM_{10} emissions by various sources which contribute towards PM_{10} emissions in Delhi NCR, leading to availability in the supportive carrying capacity.

The reduction in PM_{10} emissions by all the contributing sources of PM_{10} emissions in Delhi-NCR becomes more significant in view of the fact that , the findings of a study on "Source Apportionment of $PM_{2.5}$ and PM_{10} of Delhi NCR for identification of major sources" prepared by Automotive Research Association of India (ARAI) and The Energy and Resources Institute (TERI) for Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, New Delhi, in the year 2016, indicates that that brick kiln industry contributed about 5 & 7% w.r.t. PM_{10} emissions in Winter and summer respectively, in ambient air of Delhi and NCR . Further reduction of 4% in total PM_{10} was expected after conversion to Zig-Zag technology, which has now been implemented by brick Kilns in Delhi-NCR.

v. The ***selection of brick kilns which can be operated, should be made in such a manner that there is distance of 500 mtr between two operational brick kilns, so as to ensure minimum localized impact on the ambient air.***

vi. In the study conducted by CPCB in the matter of O.A. No. 1088 of 2018 (I.A. No. 98/2019, 100/2019, 101/2019, 119/2019 & 266/2019); Dinesh Chahal & Ors. Vs Union of India & Ors., it was observed that stack emissions are three time higher during start-up of firing process, irrespective of firing technology, which lasts for around 7 days. ***Therefore, it is recommended that even if there is enough supportive carrying capacity to operate all the zig-zag type brick kilns in any district, the start-up firing may be allowed in three batches of 33% of the total Zig-Zag type brick kilns which can be operated, with a gap of 7 days within two batches. This is to ensure that PM_{10} emission load in the ambient air mostly remains within assimilative carrying capacity***.

vii. ***In view of the carrying capacity limitations simultaneous operation of all the brick kilns may not be advisable, therefore, staggered permission for operation may be given to the existing brick***

kilns in such a way that only estimated number of brick kilns in area operate during any given time.

viii. ***However, all Zig-Zag brick kilns may be considered to perform upstream activities such as green brick manufacturing, stacking of green bricks, etc. during non-firing period.***

ix. In the districts, where ambient air quality data for the past is not available, due to non-availability of CAAQMS, the data of the districts having comparable population and geographical area, may be used for estimating the number of brick kilns which can be operated without affecting the ambient air quality.

x. ***In order to control fugitive dust emissions, adequate measures such as sprinkling of water must be taken and compliance of the conditions of the Consent to Operate/guidelines issued by concerned SPCB must be ensured.***

xi. References w.r.t. use of Piped Natural Gas (PNG), as fuel in brick manufacturing are available, but in Tunnel type brick Kilns. It is, therefore, recommended that a techno-economic feasibility study may be conducted by an expert agency, for making an assessment w.r.t. use PNG and other cleaner fuels such as internal fuels, with different types of firing technologies, for making brick manufacturing sustainable and environmental friendly, at locations where such fuels are available."

11. Considering the objections of the brick kilns owners, it was observed:-

"15. We are unable to find any substance in the objections. CPCB has duly explained that the Carrying Capacity is based on monthly average data on PM_{10} generated from CAAQMS and where no such data was available, Aerosol Optical Depths were extrapolated to PM. Further, carrying capacity has been assessed by taking mixing heights into consideration and comparing with identical air shed of districts geographical area and dispersion air volume conditions. With regard to emission load, the load is based on actually monitored values taking stack diameter, velocity, temperature and pressure of flue gases and standard of 250 mg/Nm 3 at 17% O 2. Overall fact is that entire NCR has no carrying capacity to take load of the pollution of the brick kilns as already levels of PM_{10} and $PM_{2.5}$ are exceeding daily/annual standards. As per Table 15 of the Report, no brick kiln has scope to operate except, some may, during March to June.

16. Other issues raised are no longer res integra and are covered against the objectors by the law laid down by the Hon'ble Supreme Court. Reference may be made to some of the judgements dealing with the issue.

Supreme Court judgments dealing with Air quality of NCR, Precautionery principle, control of pollution from one source hen there are multiple sources and enforcement of environment norms where right to trade is pleaded

17. In Arjun Gopal & Ors. v. UOI & Ors.[7]*, it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was smoked into an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-*

> *"4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m^3, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m^3 — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m^3 and with an annual average $PM_{2.5}$ level of 122 µg/m^3, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> ***5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and***

[7] (2017) 1 SCC 412

Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:

Tables 1 and 2 have already been reproduced in para 1 above and are not being repeated.

xxx.....xxx xxx
xxx.....xxx xxx

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with

apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

18. In the context of banning sale of crackers having adverse impact on the air quality, it was held that ***even if there were several sources of pollution, a particular polluting activity could be prohibited****. No equality could be pleaded in this regard. Right to trade was not absolute and could be restricted for protection of Environment which was a specific Directive Principle of State Policy enforcement of which was a reasonable restriction on fundamental right to trade. The ‘Precautionery Principle’ of environmental law allows prohibition of a polluting activity even in absence of scientific certainty. Relevant extracts are as follows:-*

“*37* ***The aforesaid findings are sufficient to negate the arguments of the opposite side that there is absence of scientific study*** *about the adverse effect of firecrackers during Diwali. In environmental law, “precautionary principle” is one of the well-recognised principles which is followed to save the environment. It is rightly argued by the petitioners that this principle does not need exact studies/material. The very word*

"precautionary" indicates that such a measure is taken by way of precaution which can be resorted to even in the absence of definite studies. In Vellore Citizens' Welfare Forum [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647], this Court explained the principle in the following manner: (SCC pp. 658 & 660, paras 11 & 14-16)

> *"11. Some of the salient principles of "Sustainable Development", as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection, the Precautionary Principle, Polluter Pays Principle, Obligation to Assist and Cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that "the precautionary principle" and "the polluter pays principle" are essential features of "Sustainable Development". The "precautionary principle" — in the context of the municipal law — means:*
>
> *(i) Environmental measures — by the State Government and the statutory authorities — must anticipate, prevent and attack the causes of environmental degradation.*
>
> *(ii)* ***Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.***
>
> *(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.*
>
> ***
>
> *14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.*
>
> *15. Even otherwise once these principles are accepted as part of the Customary International Law there would be no difficulty in accepting them as part of the domestic law. It is almost an accepted proposition of law that the rules of Customary International Law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law. To support we may refer to H.R. Khanna, J.s' opinion in ADM, Jabalpur v. Shivakant Shukla [ADM, Jabalpur v. Shivakant Shukla, (1976) 2 SCC 521] , Jolly George Varghese case [Jolly George Varghese v. Bank of Cochin, (1980) 2 SCC 360] and Gramophone Co. case [Gramophone Co. of India Ltd. v. Birendra Bahadur Pandey, (1984) 2 SCC 534 : 1984 SCC (Cri) 313] .*
>
> *16. The constitutional and statutory provisions protect a person's right to fresh air, clean water and pollution-free environment, but the source of the right is the inalienable common law right of clean environment. …"*

38. The precautionary principle accepted in the aforesaid judgment was further elaborated in A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] as under: (SCC pp. 732-34, paras 31-35)

"31. The "uncertainty" of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum v. Union of India [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] a three-Judge Bench of this Court referred to these changes, to the "precautionary principle" and the new concept of "burden of proof" in environmental matters. Kuldip Singh, J. after referring to the principles evolved in various international conferences and to the concept of "sustainable development", stated that the precautionary principle, the polluter pays principle and the special concept of onus of proof have now emerged and govern the law in our country too, as is clear from Articles 47, 48-A and 51-A(g) of our Constitution and that, in fact, in the various environmental statutes, such as the Water Act, 1974 and other statutes, including the Environment (Protection) Act, 1986, these concepts are already implied. The learned Judge declared that these principles have now become part of our law. The relevant observations in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] in this behalf read as follows: (SCC p. 660, para 14)

'14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.'

The Court observed that even otherwise, the abovesaid principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law. In fact, on the facts of the case before this Court, it was directed that the authority to be appointed under Section 3(3) of the Environment (Protection) Act, 1986

'shall implement the "precautionary principle" and the "polluter pays principle"'.

The learned Judges also observed that the new concept which places the burden of proof on the developer or industrialist who is proposing to alter the status quo, has also become part of our environmental law.

32. The Vellore [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] judgment has referred to these principles briefly but, in our view, it is necessary to explain their meaning in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them.

33. ***A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the "assimilative capacity" rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers with the information and means necessary to avoid encroaching upon the capacity of the***

environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the "precautionary principle", *and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:*

'Principle 15.—In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.'

34. In regard to the cause for the emergence of this principle, Charmian Barton, in the article earlier referred to in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] says:

'There is nothing to prevent decision-makers from assessing the record and concluding that there is inadequate information on which to reach a determination. If it is not possible to make a decision with "some" confidence, ***then it makes sense to err on the side of caution and prevent activities that may cause serious or irreversible harm****. An informed decision can be made at a later stage when additional data is available or resources permit further research. To ensure that greater caution is taken in environmental management, implementation of the principle through judicial and legislative means is necessary.'*

In other words, the inadequacies of science is the real basis that has led to the precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible.

35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the

international customary law, 'the consequences of its application in any potential situation will be influenced by the circumstances of each case'. (See First Report of Dr. Sreenivasa Rao Pemmaraju — Special Rapporteur, International Law Commission dated 3-4-1998, paras 61 to 72.)"

(emphasis in original)

39. In such cases which pertain to the protection of environment, thrusting of "onus of proof" on the developer/industrialist in Vellore Citizens' Welfare Forum [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] was also elaborated by the Court in the following manner: (A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] , SCC pp. 734-35, paras 36-38)

"36. We shall next elaborate the new concept of burden of proof referred to in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] at p. 658. In that case, Kuldip Singh, J. stated as follows: (SCC p. 658, para 11)

'(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.'

37. It is to be noticed that while the inadequacies of science have led to the "precautionary principle", the said "precautionary principle" in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, — is placed on those who want to change the status quo (Wynne, "Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm" [(1992) 2 Global Environmental Change 111 at p. 123]). This is often termed as a reversal of the burden of proof, because otherwise in environmental cases, those opposing the change would be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the ***party attempting to preserve the status quo by maintaining a less polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden.*** *(See James M. Olson, "Shifting the Burden of Proof: How the Common Law can Safeguard Nature and Promote an Earth Ethic" [(1990) 20 Environmental Law 891 at p. 898] .) (Quoted in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] at pp. 519, 550.)*

38. The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. (See Report of Dr

Sreenivasa Rao Pemmaraju, Special Rapporteur, International Law Commission, dated 3-4-1998, Para 61.)"
(emphasis in original)

41. It may be stressed that in Vellore Citizens' Welfare Forum case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] , this Court had banned the tanneries when it was found that they were causing immense damage to the environment. Thus, environment protection, which is a facet of Article 21, was given supremacy over the right to carry on business enshrined in Article 19(1)(g). We state at the cost of repetition that right to health, which is recognised as a facet of Article 21 of the Constitution and, therefore, is a fundamental right, assumes greater importance. It is not only the petitioners and other applicants who have intervened in support of the petitioners but the issue involves millions of persons living in Delhi and NCR, whose right to health is at stake. However, for the time being, without going into this debate in greater details, our endeavour is to strive at balancing of two rights, namely, right of the petitioners under Article 21 and right of the manufacturers and traders under Article 19(1)(g) of the Constitution.

44. Applying the aforesaid principle, in the first blush it may appear that the aforesaid argument has substantial force in it. However, that would be only one side of the picture as there are two contra-arguments which are sufficient to take the sheen out of the aforesaid plea. First aspect is that the argument of economic hardship is pitched against right to health and life. ***When the Court is called upon to protect the right to life, economic effect of a particular measure for the protection of such right to health will have to give way to this fundamental right. Second factor, which is equally important, is that the economic loss to the State is pitched against the economic loss in the form of cost of treatment for treating the ailments with which people suffer as a result of burning of these crackers. Health hazards in the form of various diseases that are the direct result of burning of crackers have already been noted above. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of $PM_{2.5}$ are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life****. Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial. It may be more than the revenue which is generated from the manufacturers of the crackers. However, we say no more for want of precise statistical data in this behalf."*

Carrying Capacity Concept

*19. Carrying capacity is a facet of sustainable development. It is inherent in 'Precautionary Principle' as well as in 'Inter-generational Equity'. In MC Mehta v. UOI & Ors.[8], **construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity.** It was observed that:-*

> ***"Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration."***

20. In Vellore Citizens' Welfare Forum v. UOI & Ors.[9], it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-

> ***"**10……. **During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems**. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.**"***

21. These observations are reiterated in (2006) 6 SCC 371.[10]

Pollution from Brick kilns – shifting from coal to Natura gas as fuel

22. In M.C. Mehta (Taj Trapezium Pollution) v. UOI & Ors.[11], the Hon'ble Supreme Court held that pollution caused by brick kilns in Taj Trapezium area was harmful to the Taj. Brick kilns within radius of 20 km were directed to be closed/relocated and replacement of the fuel by natural gas was suggested.[12]

CNG replaced for diesel as fuel, closing Thermal Plant and controlling carbon emitting activities to control pollution

23. In M.C. Mehta v. UOI & Ors.[13] the issue for consideration was vehicular pollution on account of use of diesel considering the constitutional obligation, adverse impact of air pollution on health, the Hon'ble Supreme Court directed allocation of CNG and replacement of

---

[8] (1997) 3 SCC 715
[9] (1996) 5 SCC 647
[10] Para 66 to 76
[11] (2001) 9 SCC 235
[12] Para 1 & 2
[13] (2002) 4 SCC 356

diesel vehicles of CNG.[14] In M.C. Mehta v. UOI & Ors.,[15] various directions were issued to deal with the adverse air quality in Delhi including phasing out of old vehicles, ***closing Badarpur Thermal Power Station*** *increasing Metro frequency, stopping burning of waste, vacuum cleaning of roads.*

Tribunal's Approach to the subject

24. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the National Green Tribunal Act, 2010 and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[16] and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.[17] Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).[18]

25. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of* ***vehicular pollution[19], industrial and construction sector pollution[20], power sector pollution[21] and agricultural sector pollution[22]*** *and orders of this Tribunal dealing with the said issues[23]. The*

---

[14] Para 1,3,11,21 to 24, 26 & 29

[15] (2016) 4 SCC 269

[16] 2019 SCC online SC 322, Para 43-47

[17] AIR 2020 (SC) 3471, Para 75

[18] (2019) 15 SCC 401

[19] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[20] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[21] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[22] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[23] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017[24] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such ***as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[25]***

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[26]

5. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.

6. The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles."

7to13..xxx……xxxx……xxx

14. According to the CPCB, draft framework has been prepared and SA study completed in four States (for 05 cities). Study was under progress in 14 States (for 54 cities), and at proposal stage in 10 States (for 37 cities). Methodology for carrying capacity has been shared with State PCBs/PCCs. Twelve (12) States/UTs have given the details of the carrying

---

[24] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[25] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[26] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

*capacity and the remaining have yet to take necessary steps. CC/SA studies are pre requisite for meaningful planning to enforce environmental law. This pre-requisite should have been undertaken long ago. Air quality norms have been statutorily laid down under the Air (Prevention and Control of Pollution) Act, 1981 as well as the Environment (Protection) Act, 1986 and such norms are being flagrantly violated, which has been made by the Parliament a criminal offence. If the rule of law has to have meaning and guilty are to be punished, the policies of the State have to be based on scientific studies to contain polluting activities within the scope of Carrying Capacity.***"**

26. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. This was referred in the earlier order of this Tribunal in the present matter. It was further observed that while under the orders of the Hon'ble Supreme Court, GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation.

Conclusion

27. Thus, in view of report of the CPCB, at this stage ***it is not possible to vacate direction not to permit operation of brick kilns in NCR beyond the carrying capacity found by the CPCB. All applications of the brick kiln owners seeking rejection of CPCB report and vacation of interim order against operation of brick kilns, without air quality assimilative capacity permitting such activity will stand rejected subject to further exploring viable options, including change to clean fuel like natural gas****. We are conscious that brick kilns may be necessary. Object of this order is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to file. The source apportionment studies, placed on record, show that brick kilns contribute 5-7% PM. Air pollution Control devices to be installed by the polluting sources including the brick kilns need to comply not only the consent standards but are also the Ambient Air Quality norms and available assimilative capacity of the region.* ***If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of PM_{10} and $PM_{2.5}$ affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases****.*[27]

28. Accordingly, we direct CPCB to constitute a Committee of five experts to suggest ways and means, if any, by which sustenance of brick kilns activities may be viable. It will be

[27] https://airqualitynews.com/2020/08/13/the-link-between-air-pollution-and-covid-19/http://www.babushahi.com/full-news.php?id=107487

open to CPCB to nominate in-house or other Experts. The CPCB may also explore viability of PNG as replacement of coal and other best practices in terms of fuel used, at other places or in other Countries. It will be open to the brick kilns owners/associations to give any other suggestions or alternatives for consideration by CPCB in spirit of collaboration with a view to find a solution within two weeks from today. Subject to the report of the expert Committee finding it viable, possibility of permitting operation of brick kilns, having regard to the extent of pollution load and its effect on the air pollution level in NCT of Delhi may be considered. The CPCB may constitute an expert Committee within three weeks which may give its report within six weeks thereafter. Further report may be furnished in the matter before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."

12. As mentioned earlier, the CPCB has filed its further report dated 08.02.2021, stating that it constituted a five-member Committee of following members:-

- Mr. Mohan A Patil, Senior Director, **Federation of Indian Chambers of Commerce & Industry (FICCI),** New Delhi
- Dr Sameer Maithel, Director, Greentech Knowledge Solutions Pvt. Ltd (GKSPL), New Delhi
- Dr. Neeraj Jain, Principal Scientist, CSIR-**Central Building Research Institute**, Roorkee
- Er Pritpal Singh, Additional Director, Punjab State Council for Science and Technology (PSCST), Chandigarh
- Dr. Narender Sharma, Scientist 'E', Central Pollution Control Board (CPCB).

13. The Committee was to suggest ways and means to sustain brick kilns activities. However, **in terms of order of this Tribunal dated 15.10.2020, paras 27 and 28, the scope of the Committee was limited to examine ways and means for sustainability of brick kilns activities either by replacing the fuel or any other such alternatives as enable**

pollution free brick kiln activities in 'severe' conditions. It seems the Committee has misunderstood its mandate and, on suggestion of brick kilns, made recommendations without concern for the pollution load which air quality during 'severe' condition cannot take. Its suggestions of improving monitoring and operation procedures is not enough to accept that in practical terms, there will be no pollution load. Such measures may be at best helpful only where air quality is not 'severe' and only issue is mitigating measures. The summary of observations and recommendations of the Committee are as follows:-

> ***"2.2 Preventing/ Reducing Air Pollution Generation at Source in Existing zig-zag kilns***
>
> ***Adoption of Standard operating practices for zig-zag kiln operation:*** *Representations by brick kiln associations and presentations made by them during the January 4, 2021 meeting, revealed that a large number of brick kilns which have recently converted from FCBTK to zig-zag kiln technology, are not familiar with the standard operating practices and also face a problem of non-availability of trained workers (firemen and brick setters) to operate zig-zag kilns. Sample surveys and performance measurements conducted immediately after conversion from FCBTK to zig-zag kilns carried out in Bihar[28] & NCR[29] corroborate the fact that all newly converted zig-zag kilns may not be following standard operating practices resulting in them not being able to achieve the desired level of performance with respect to reduced air pollution, fuel savings and improved quality of fired bricks. The Expert Committee has compiled the Standard Operating Practices, and are presented in* ***Annexure-4*** *which covers the following aspects:*
>
> - *Stacking of bricks in a zig-zag kiln*
> - *Fuel preparation and fuel feeding practices in a zig-zag kiln*
> - *Air leakage management in a zig-zag kiln*
> - *Temp. measurement & instrumentation to control the operation of a zig-zag kiln*
> - *Air flow and draught control in a zig-zag kiln.*
>
> *The expert committee also deliberated on various measures as elaborated in* ***Annexure- 5****, to improve the combustion of fuel and thus reduction in source emissions:*

---

[28] GKSPL 2018: Learnings from Bihar's Experience of Implementing Cleaner Brick Kiln Directive: A Case Study, Greentech Knowldeg Solutiosn Pvt. Ltd. Delhi. https://www.gkspl.in/wp-content/uploads/2019/01/Learnings-trom-Bihar-Experience-ot-Implementing-Cleaner-Brick-Kiln-Directive A Case Study pdf

[29] CSE 2018: Conversion of Brick Kilns in Delhi: NCR to Clean Technology: A Status Report, Centre for Science & Technology https://www.cseindia.org/makeover-conversion-of-brick-kilns-in-dehi-ncr-to-a-cleaner-technoiogy-8843

i. *Optimising Combustion & Minimising Air Leakages by Using Instrumentation and Process Control System.*
ii. *Increasing Settling of Dust in Flue Ducts (in-built Settling Chamber) by reducing Air Leakages.*
iii. *Use of Internal Fuel.*
iv. *Use of mechanized fuel feeding devices.*

2.3. Preventing/ Reducing Air Pollution Generation at Source by Change of Brick Kiln Technology and/or shift to cleaner gaseous fuels Tunnel Kiln Technology: *Tunnel kiln is a continuous moving ware kiln in which the bricks are passed on cars through a long horizontal tunnel. The firing of products occurs at the central part of the tunnel. The main advantages of tunnel kiln technology lie in its ability to fire a wide variety of clay products, better control over the combustion/ firing process and high quality of the products. Due to the better control over the combustion process, the emission of particulate matter in stack gas is lower in tunnel kilns. After Second World War, the technology was widely adopted and lead to the transformation of European brick industry from several thousand small and scattered brick making units into few hundred large scale and highly mechanised tunnel kiln units. In Asia, China and Vietnam started adopting the technology during 1970's and now have several hundred tunnel kilns in operation. Depending on its design and construction a tunnel kiln to manufacture around 50,000 bricks per day can cost anywhere between Rs. 7-15 crore in India. As per information available with the Expert Committee there are only 1-2 operating tunnel kilns in the NCR which are mainly producing Value Added Products.*

PNG/CNG: *Gaseous fuels like piped natural gas, compressed natural gas or biogas are cleaner fuels which results in less air pollution as well as they also help in reducing CO_2 emissions. Recently, Wienerberger India (a large international company involved in manufacturing of bricks), has converted their existing tunnel kiln located at Kunigal, Karnataka to natural gas firing. CPCB was also directed by Hon'ble NGT to look into alternate fuels such as PNG. In this regard, CPCB Regional Directorate, Bangalore was requested to study and conduct in depth monitoring of a PNG based brick kiln namely M/s Weinberger Building Material Solutions operating at Plot No. 1 & 2, Kunigal Industrial Area, Phase II, Gottigere Village, Kunigal, Karnataka. The study has been conducted by CPCB RD, Bangalore on 22-23 December, 2020 and the report is enclosed as* ***Annexure-6****. The techno-economics of supply of natural gas for brick firing will require a detailed study.*

Air Pollution Control Devices (End-of-the Pipe Technologies): *The Expert Committee is of the view that zig-zag technology itself is adequate to achieve the existing and proposed norms prescribed for brick kilns, if operated as per design parameters.*

Further, the technology selection for an air pollution control device depends on characteristics of the pollutant(s) i.e. particle size, particle loading, required pollutant(s) removal efficiencies and flue gas properties like pressure, temperature, humidity, composition, reactivity etc. The various types of Air Pollution Control Devices (APCD) and their applications are tabulated as ***Annexure-7****.*

2.4. Applied research/pilot testing for improvement in brick manufacturing process

Based on the discussions presented above, various suggestions have been made by the Expert Committee as elaborated in ***Annexure-8****, for undertaking applied research to demonstrate and pilot test technical measures to improve brick manufacturing process and to reduce air pollution/improve resource efficiency.*

3. Summary of Observations:

The Expert Committee was directed by Hon'ble NGT, to suggest ways and means, if any, by which sustenance of brick kilns activities, may be viable. The summary of observations and analysis made by the Expert Committee in Section 2, so as to ensure environmentally sustainable and financially viable operation of brick kilns which have already been converted to zig-zag technology, in NCR districts of Haryana, Uttar Pradesh and Rajasthan is as follows:

a) *As per data available as on 16.12.2020 with CPCB based on the information received from respective SPCBs, out of total 4635 Nos. brick kilns in NCR, 2697 Nos. brick kilns (Uttar Pradesh: 1024 Nos.; Haryana: 1543 Nos. and Rajasthan: 216 Nos.) have been converted to Zig-zag technology, as on date (****Table 1****).*

Table 1: *Conversion status of brick kilns from Fixed Chimney Bull Trench Kiln (FCBTK) technology to Zig-zag technology in NCR Regions*

S.No.	*Name of State*	*No. of Total no. of brick kilns*	*Total Brick Kilns converted into Zig-Zag Technology*
1	*Uttar Pradesh*	*2216*	*1024*
2	*Haryana*	*2163*	*1543*
3	*Rajasthan*	*255*	*216*
TOTAL		*4634*	*2783*

b) *The zig-zag kiln technology,* ***if operated as per standard operating practices,*** *are adequate to achieve both the existing norms of 750 mg/Nm^3 SPM and the proposed stricter norms of 250 mg/Nm^3 at 17% oxygen concentration (as per the draft notification of MoEF&CC vide No. GSR 233 (E) dated 15/3/2018).*

c) *Several* ***additional measures for incremental improvements undertaken to further reduce stack emission generation at source from can be existing zig-zag kilns as well as improve resource use efficiency so as to further reduce the environment footprint of the brick industry. These include, optimizing combustion & minimizing air leakages by using instrumentation and process control system; increasing settling of dust in flue ducts (in-built Settling Chamber) by reducing air leakages; use of VFDs for air flow and draught control; addition of internal fuel etc. These measures require further applied research/pilot demonstration****, as elaborated in Annexure-5 and Annexure-8 of the report, before they can be recommended for large-scale implementation.*

d) *As such, implementation of additional Air Pollution Control Devices (APCDs) are not required in zig-zag technology to meet the existing and proposed norm if operated as per design parameters as well as standard operating procedures. However, for further reduction in stack emission with special reference to reduce PM 10 and PM 2.5,* ***suitable APCD may be designed and piloted****.*

e) Regarding the use of PNG/CNG in brick kilns, there is only one reference of PNG based brick kiln in India i.e. M/s Weinberger Building Material Solutions operating at Village Kunigal, Karnataka installed at a cost of Rs. 150 Crores, using tunnel kiln technology, for producing hollow blocks. The Expert Committee is of the opinion that the conversion of Zig-zag kilns into PNG/CNG based tunnel kilns does not seem to be a viable option, at this stage.

f) *The measurement of stack emissions at 8D (Where D is the internal diameter of the chimney) level, as specified in USEPA/CPCB method may not be feasible in some brick kilns having large diameters.* ***CPCB should relook into the current methodology of stack emission monitoring in brick kilns and come out with a guideline on how to conduct stack emission monitoring in zig-zag brick kilns.*** *Such a guideline and subsequent monitoring using these guidelines are important to reassess/revalidate the emission load and contribution of particulate matter emissions by zig-zag brick kilns in ambient air environment.*

4. Recommendations of Expert Committee

The following mechanism is recommended by the Expert Committee, for operationalization of zig-zag type brick kilns in NCR regions:

i. *The brick kilns which have already been converted to Zig-zag technology may only be allowed to operate,* ***subject to the compliance of all the applicable environmental notifications, sitting guidelines, conditions of the consent to operate granted by respective State Pollution Control Boards (SPCBs) with special reference to control of fugitive dust emissions****.*

ii. ***The new brick kilns be allowed to operate in NCR regions, as per directions issued by CPCB vide CPCB/IPC I-VI/PNG/2862-2870 dated November 27, 2020*** *(Copy attached as* ***Annexure-10****).*

iii. ***The permission to operate the brick kilns in the winter months must be subjected to the restrictions, if any, on the operation of industries, to control the concentration of particulate matter in the ambient air environment of Delhi NCR***

iv. *The CPCB in consultation with expert agencies/organisations should develop methodology for conducting stack emission monitoring in zig-zag brick kilns at monitoring the earliest. All brick kilns would be required to provide port holes and platform and ladders as finalized by CPCB.*

v. *It is recommended that training programmes on standard operating practices may be organized by various brick kiln associations in collaboration with expert agencies in this field. CPCB may provide technical guidance to the brick kilns associations in this regard, if required. An outline of the training programme is provided in* ***Annexure-9****.*

vi. *It is recommended to implement the following additional measures:*
- *One night-vision CCTV camera to be installed and focused on the exit of brick kilns stack with connectivity to SPCBs & CPCB, to ensure visual monitoring of smoke emissions.*
- *Requisite number of ambient air quality monitoring stations (AAQMS) should be installed by State Pollution Control Boards in all the districts in accordance with the criteria developed by CPCB.*

vii. *The long term sustenance of the brick kilns in NCR depends on implementation of measures* ***to further improve design and operation of existing zig-zag kilns for pollution prevention at source and improve resource use efficiency****. The committee has given suggestions, based on which applied research and pilot demonstration can be taken up besides developing a Roadmap for time bound implementation."*

14. The report also annexes a study of *Tunnel kiln* technology, using PNG as fuel, employed by M/s Wienerberger Building Solutions Private Limited, KIADB Industrial Area, Kunigal, Karnataka, **(which has not been found viable by the Committee),** as follows:-

"5.0 Plant Description:

M/s Wienerberger Building Materials Solutions Private Limited, a Brick Manufacturer founded in 1819 in Vienna, Austria, is having 204 plants spread across 30 countries, is engaged in using natural, eco-friendly building material of international quality standards. The unit located in Plot No. 1 & 2, Kunigal Industrial Area, Phase II, Gottikere Village, Kunigal, Karnataka has Tunnel kiln, a continuous moving ware kiln technology. Wienerberger at Kunigal is the production facility, 70 kms from Bangalore, is Austria-based Wienerberger's first Asian manufacturing unit. The fully automated, state-of-the-art facility manufactures bricks called porotherm perforated clay bricks. The environment friendly production unit runs 365 days a year, producing 450 tonnes of bricks per day. Quality is ensured by the latest European production equipments 24 hour factory production control with in-house laboratory for chemical and physical tests of raw materials and finished products. The unit makes different types of horizontal and vertical perforated light weight clay bricks. The porotherm horizontally perforated light weight clay bricks has following advantages:

- *Weighs 60 % less than conventional walling material*
- *Compressive strength ≥3.5 N/mm^2*
- *Density of approx. 700-800kg/m^3*
- *Conveniently large and light weight bricks*
- *Excellent thermal insulation*
- *Low water absorption ~ 15%*

Brick is a 100 % natural clay product with natural additives like coal ash, rice husk and granites slurry. No toxic or any chemical additives are used, thereby free from toxic gases."

15. The report also refers to direction issued by the CPCB on 27.11.2020 under Section 18 (1) (b) of the Air (Prevention & Control of Pollution) Act, 1981 for upcoming industrial units in NCR **to use only gas** and also refers to an earlier order requiring even the existing industries in NCR Delhi, **to shift to PNG by 31.03.2019 where gas supply is available**. The relevant part of the order is quoted below:-

"xx xx xx xx xx

Whereas, considering the Considering deteriorating air quality in NCR-Delhi and also the fact that ***already directions have been issued to all the existing industries in NCR-Delhi to switch over to cleaner fuels, it is decided that only those new industrial units shall be allowed to set-up in NCR-Delhi, which use cleaner fuels namely, natural gas (PNG/CNG), liquefied petroleum gas, bio gas, propane, butane etc. and***

Now therefore, in view of the above and exercising the powers conferred under section 8(1)(b) of Air (Prevention and Control of Pollution) Act, 1981, you are hereby directed to allow only those new industrial units in NCR-Delhi, which are using cleaner fuels, namely, natural gas (PNG/CNG), liquefied petroleum gas, bio-gas, propane, butane etc."

16. We have heard Counsel for the brick kiln operators at great length and also perused the written submissions filed by them but their effort being to revisit the earlier order against which their appeal stands dismissed, we do not find any reason to pass any different order. As already observed in the beginning of this order, the data in Table 15 in the CPCB report shows that in severe air quality condition, coal fired brick kilns using zig zag technology are not sustainable in view of carrying capacity of the region. **Only from March to June, limited number of brick kilns operated by zig zag technology can be permitted**. Thus, unless there is change to cleaner fuel (PNG), brick kilns beyond the capacity shown by Table 15 above cannot be allowed.

17. There is variance of figures of brick kilns permissible during March to June within the carrying capacity. Nature of brick kiln activity being continuous, only such number can be allowed which can be sustained throughout the said period i.e. the minimum figure of a particular month out of the four months, which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Thus, only this number can be allowed for the time being during the period air quality is not severe. Shortlisting for the purpose may be done applying a suitable siting criteria taking into account inter-se distance, distance from sensitive locations and compliance of consent conditions. Further, location of brick kilns be scattered on pro-rata basis, in different directions of the area, having regard to background and carrying capacity parameters. On that broad basis, selection criteria be worked out by a joint Committee of CPCB and State PCBs. Those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond the number of brick kilns on Zig-Zag technology within the carrying capacity. This can be revisited if air quality improves or if carrying capacity increased as a result of measures adopted by the State authorities in future, by reducing pollution load from different sources.

18. The Tunnel kiln technology with PNG can be followed, if viable, on which it may be permissible for the brick kilns to function even in severe conditions for existing or new brick kilns. The direction dated 27.11.2020 by CPCB also shows the need for reducing pollution load and not to allow activities by using coal.

19. As mentioned earlier, the recommendation that the brick kilns can be allowed with effective monitoring appears to be hypothetical in view of monitoring having been found to be hardly effective, on performance audit

of PCBs, as will be shown in later part of this para. While in absence of carrying capacity, brick kilns are not permissible in 'severe' air quality situation, need for improving monitoring and minimising pollution is undisputed. In this regard, matter has been considered by this Tribunal in OA 95/2018, *Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.*[30], and in the light of report of performance audit of State PCBs, it has been found that performance is inadequate in terms of staff, equipment and functioning. Similar situation has been found in OA 837/2018, *Sandeep Mittal Ministry of Environment, Forests & Climate Change & Ors.*[31], in relation to monitoring of EC conditions by the MoEF&CC. We have recently come across several cases of industrial accidents[32] and one of the

[30] vide order dated 05.02.2021

[31] Vide order dated 01.02.2021

[32]

i. Order dated 01.06.2020, relating to incident of gas leak dated 07.05.2020 in **LG Polymers India Pvt. Limited** at Vishakhapatnam, resulting in death of 11 persons and injuries to more than 100, apart from other damage (OA No. 73/2020, In re: Gas Leak at LG Polymers Chemical Plant in RR Venkatapuram Village Visakhapatnam in Andhra Pradesh);

ii. Order dated 03.02.2021, relating to incident dated 03.06.2020 in a chemical factory, **Yashyashvi Rasayan Pvt. Ltd**. at Dahej, District Bharuch, Gujarat resulting in deaths and injuries and other damage (OA No. 85/2020) (Earlier OA 22/2020) (WZ), Aryavart Foundation through its President vs. Yashyashvi Rasayan Pvt. Ltd. & Anr.);

iii. Order dated 06.08.2020, in relation to incident of **oil well blow out on 27.05.2020 at Baghjan in the Tinsukia District of Assam** resulting in deaths, injuries and damage to the environment (OA No. 43/2020(EZ), Bonani Kakkar vs. Oil India Limited & Ors.).

iv. Orders dated 06.07.2020 and 22.12.2020, relating to incident dated 30.06.2020 on account of gas leakage at **Sainor Life Sciences** factory at Parawada in industrial area on the outskirts of Vishakhapatnam (OA No. 106/2020, News item published in the local daily "Economic Times" dated 30.06.2020 titled "Another Gas Leakage at Vizag Factory kills two, critically injures four…");

v. Orders dated 08.07.2020 and 22.12.2020, dealing with the incident dated 01.07.2020 resulting in death of 6 person and injury to 17 due to blast of boiler in **M/s Neyveli Thermal Power Station** (NLCIL), Cuddalore (OA No. 108/2020, News item published in the "Indian Express" dated 01.07.2020 titled "Tamil Nadu Neyveli boiler blast: 6 dead, 17 injured") and;

vi. Orders dated 23.07.2020 and 22.12.2020, in relation to incident of **fire engulfed the chemical plant** of **Visakha Solvents Ltd**, Vizag on 13.07.2020 at Ramky CETP Solvents building in Pharma City resulting in injuries (OA No. 134/2020, News item published on 13.07.2020 in the local daily named "India Today" titled "Massive fire engulf Vizag chemical plant, explosions heard, injuries reported").

vii. Order **dated 18.12.2020**, in relation to incident of **explosion in a plastic recycling factory at Sujapur in Malda on 1.12.2020** resulting in death of six persons, including two minors and serious injuries to four persons (OA No. 272/2020, News item published in the "Times of India" dated 20.11.2020 entitled "Six killed as blast tears through Malda Plastic recycling factory").

viii. Order dated **18.12.2020**, in relation to incident of **methane gas leak in a sugar factory** called Lokenete Bapurao Patil Agro Industries Ltd. in Mohol Taluka of Solapur District, Maharashtra on 21.11.2020 resulting in deaths and injuries and other damage (OA No. 274/2020, News item published in the "Indian Express" dated 23.11.2020 entitled "Maharashtra: Two Killed, eight injured in methane gas leak in sugar factory").

reasons for the same is inadequate monitoring. In OA 85/2020, *Aryavart Foundation through its President v. Yashyashvi Rasayan Pvt. Ltd. & Anr.*[33], directions have been issued to improve the same. We have already noted in other proceedings[34] that as per official statistics, 100 industrial clusters are polluted, 351 river stretches are polluted and 122 cities are non-attainment in terms of air quality, apart from huge gaps in waste generation and management. Inspite of monitoring of the said issues by this Tribunal, the situation is far from any improvement. Thus, it is undeniable that stringent steps for monitoring to achieve goal of sustainable development are required. While monitoring must certainly improve, such suggestion is not enough to presume that pollution load by coal-fired brick kilns will reach zero so as to sustain coal-fired brick kilns in NCR in severe air quality conditions. In such situation, potential damage to public health cannot be ignored, while dealing with the issue of

---

ix. Order dated 08.01.2021, in relation **to Gas Leak in Agro Company** (O.A No. 107/2020, In RE: News item published in the local daily "Indian Express Sunday Express" dated 28.06.2020 titled "Gas Leak in Agro Company Claims life of one")

x. Order dated 18.01.2021, in relation to News item published in Navbharat Times dated 24.12.2020 titled "**Gas leaks in IFFCO Plant**, 2 Officers dead" (O.A No. 04/2020, In re : News item published in Navbharat Times dated 24.12.2020 titled "Gas leaks in IFFCO Plant, 2 Officers dead")

xi. Order dated **11.02.2021**, in relation to accident of **toxic gas leak in Rourkela Steel Plant in Orissa**" (O.A. No. 09/2021, In re: News item published in The Indian Express dated 07.01.2021 titled "Four workers dead due to toxic gas leak in Rourkela Steel Plant")

[33] Vide order dated 03.02.2021

[34] (i) Vide order dated 21.09.2020, OA 673/2018, *In Re: News item published in "The Hindu" authored by Shri Jacob Koshy, titled "More river stretches are now critically polluted: CPCB*"

(ii) Vide order dated 21.08.2020, OA 681/2018, News item published in "The Times of India" Authored by Shri Vishwa Mohan titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15"

(iii) Vide order dated 14.11.2019 in OA 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels"

(iv) Vide order dated 28.02.2020 in OA No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016.

(v) Vide order dated 18.01.2021 in OA 710/2017, *Shailesh Singh, v. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors.* with regard to **bio-medical waste**

(vi) Vide order dated 29.01.2021 in OA 804/2017, *Rajiv Narayan v. Union of India & Ors.* with regard to **hazardous waste.**

(vii) Vide order dated 15.01.2021in OA 512/2017, *Shailesh Singh v. State of UP* with regard to **e-waste.**

(viii) Vide order dated 08.01.2021 in EA 13/2019 in OA 247/2017, *Central Pollution Control Board v. State of Andaman & Nicobar & Ors.* with regard to **plastic waste.**

activity having potential for pollution, in the area having no carrying capacity to sustain further pollution load.

20. Thus, we conclude that going by the order dated 15.10.2020, in 'severe' air quality conditions, coal-fired brick kilns cannot be allowed to operate in NCR even if zig zag technology is used and improved procedures are followed, as suggested by the Committee, unless there is switch over to the PNG. All other issues have already been dealt with in the earlier order. In para 7 of order dated 05.03.2020 and para 8 of order dated 23.03.2020, we have already held that compliance by an individual brick kiln, otherwise contributing to pollution load beyond carrying capacity, does not confer a right to continue such activity, when such activity attracts GRAP in 'severe' air quality condition. As noted in par 11 of the order dated 15.10.2020, the CPCB has found that there is no assimilative capacity during the period air quality is 'severe' and only during months of March to June there is a limited capacity. Inter-se distance of atleast 500 meters is required to be maintained in location of brick kilns. When brick kilns start, they should not be allowed to start simultaneously but their firing should be staggered to avoid adverse impact on the environment. Other safeguards of fugitive dust emission management need to be adopted. In para 18 of order dated 15.10.2020, the issue of non-availability of plea of discrimination to GRAP, attracting some polluting categories and not attracting other polluting activities, has already been dealt with. Accordingly, we reiterate this mandate.

21. In view of the above discussion, unless there is change to cleaner fuel (PNG), brick kilns beyond the number mentioned in Table 15 above cannot be allowed, in the NCR. Since there is variance of figures given during March to June, only such number can be allowed which can be

sustained throughout the period i.e. the minimum figure of a particular month out of the four months which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Such shortlisting may be done applying a suitable siting criteria taking into account inter-se distance and distance from sensitive locations and compliance of consent conditions for which the CPCB, State PCB may work out an appropriate mechanism. Further, location of brick kilns be scattered on pro-rata basis, in different directions of concerned area, having regard to background and carrying capacity parameters. Needless to say, those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond limited number mentioned, subject to compliance with law.

The application will stand disposed of in above terms.

A copy of this order be forwarded to CPCB, UP, Haryana and Rajasthan State PCBs for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

February 17, 2021
Original Application No. 1016/2019
AK

Item No. 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 72/2021

Dalchand Yadav Applicant

Versus

DSY Brick Field Company Respondent

Date of hearing: 22.03.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

ORDER

1. Grievance in this application is against operation of DSY Eint Udyog at Village Gauna Sehwanpur, Tehsil Khekada, P.S. Chandinagar, District Baghpat, Uttar Pradesh. It is stated that the brick kiln is being operated in violation of environmental norms. It is located within 200 meters from the village and is using prohibited fuel, like rubber. Many people have died of cancer. The brick kiln does not have any permission from the Mining Department. It is also within 250 meters from a temple.

2. We have considered the matter. Since this Tribunal has already directed remedial action against operation of brick kilns in NCR,not complying with the prescribed norms and in excess of carrying capacity, vide order dated 17.02.2021 in *O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors.*, this matter can be dealt with in terms of the said order. Operative part of the order is as follows:

> **"***20. Thus, we conclude that going by the order dated 15.10.2020, in 'severe' air quality conditions, coal-fired brick kilns cannot be allowed to operate in NCR even if zig zag technology is used and improved procedures are followed, as suggested by the Committee, unless there is switch over to the PNG. All other issues have already been dealt with in the earlier order. In para 7 of order dated 05.03.2020 and para 8 of order dated 23.03.2020, we have already held that compliance by an individual brick kiln, otherwise contributing to pollution load beyond carrying capacity, does not confer a right to continue such activity, when such activity attracts GRAP in 'severe' air quality condition. As noted in par 11 of the order dated 15.10.2020, the CPCB has found that there is no assimilative capacity during the period air quality is 'severe' and only during months of March to June there is a limited capacity. Inter-se distance of atleast 500 meters is required to be maintained in location of brick kilns. When brick kilns start, they should not be allowed to start simultaneously but their firing should be staggered to avoid adverse impact on the environment. Other safeguards of fugitive dust emission management need to be adopted. In para 18 of order dated 15.10.2020, the issue of non-availability of plea of discrimination to GRAP, attracting some polluting categories and not attracting other polluting activities, has already been dealt with. Accordingly, we reiterate this mandate.*
>
> *21. In view of the above discussion, unless there is change to cleaner fuel (PNG), brick kilns beyond the number mentioned in Table 15 above cannot be allowed, in the NCR. Since there is variance of figures given during March to June, only such number can be allowed which can be sustained throughout the period i.e. the minimum figure of a particular month out of the four months which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Such shortlisting may be done applying a suitable siting criteria taking into account interse distance and distance from sensitive locations and compliance of consent conditions for which the CPCB, State PCB may work out an appropriate mechanism. Further, location of brick kilns be scattered on pro-rata basis, in different directions of concerned area, having regard to background and carrying capacity parameters. Needless to say, those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond limited number mentioned, subject to compliance with law.***"**

3. In view of above, the matter may now be dealt with by a joint Committee of the State PCB, the SEIAA and the District Magistrate, Bhagpat.The State PCB will be the nodal agency to organise a joint meeting for consideration and further action. We have not issued notice to the concerned brick kiln, as the concerned authorities will follow due process of law.

The Application is disposed of.

A copy of this order be forwarded to theState PCB, the SEIAA and the District Magistrate, Bhagpatby e-mail for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

March 22, 2021
Original Application No. 72/2021
AVT

Item No. 03 (Court No.1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 93/2021

(With report dated 04.08.2021)

Mukesh Kumar Aggarwal Applicant

Versus

Central Pollution Control Board & Anr. Respondent(s)

Date of hearing: 12.08.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant: Mr. Salik Shafique, Advocate

Respondent(s): Mr. Mukesh Kumar, Advocate for CPCB
Mr. Pradeep Misra, &
Mr. Daleep Dhyani, Advocates for UPPCB
Mr. S.P Singh Senior Advocate with Mr Raunak Parekh, Advocate for Om Guru Ent Udyog (R-107)

ORDER

1. The issue for consideration is the remedial action against air pollution caused by brick kilns in Mathura District, particularly Mant and Chhata areas, where large number of brick kilns are functioning - practically without any regulation, in violation of environment norms. The said activity is source of emissions rendering air pollution beyond prescribed and tolerable limits, posing health hazard, threatening the right of citizens to breathe fresh air. Serious and unchecked violations are acknowledged in the report dated 4.8.2021 filed before this Tribunal by a joint Committee of CPCB, State PCB and the District Magistrate but no adequate remedial action has been taken even on that basis. The

problem is much more grave than the report depicts, as rightly submitted on behalf of the applicant for cogent reasons. We note that notices have not been issued to the individual brick kilns. However, there is no violation of natural justice as the statutory authorities, in exercise of their statutory powers can take remedial action, as per law. We are dealing with the general problem and not passing order against any individual. We gave liberty to any aggrieved person to appear to respond to the report of the Committee. One Brick kiln owner has chosen to enter appearance and we have heard his learned Counsel. Under the circumstances, we propose to direct action in terms of the recommendations of the joint Committee forthwith, pending further exhaustive report. Details follow.

Applicant's Case

2. The applicant has stated that he is permanent resident of Kosi Kalan (Rural), Tehsil Chhata, District Mathura and is living with his old age parents. They are severely affected by the air pollution in Mathura District where AQI crosses 400. One of the identified causes of air pollution is 350 brick kilns operated by coal using polluted fuel like spent organic, solvent, oily residue, pet coke, filter press cake, plastic rubber, leather waste etc. Operation of such brick kilns is against declared norms for siting by maintaining prescribed distance of habitations, educational institutions and hospitals. The said kilns do not have the requisite consents and are non-compliant with regard to the siting norms prescribed by CPCB as well as under the Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012. The applicant has filed satellite images of a kiln in village – Surir situated at the distance only 20 kms from Kosi Kalan and Mathura, Uttar Pradesh, where a cluster of around 65 brick kilns is being operated within the

small area of 4 km. belt which is highly populated residential area. A Government Hospital is situated only at the distance of 265 mtrs. Rashtriya Inter College is situated at the distance of 400 mtrs. Air quality of Mathura is as bad as air quality of NCR and safeguards are needed at par with the Taj Trapezium Zone (TTZ). But while remedial measures have been taken for preventing polluting activities in NCR and TTZ, similar measures are required for Mathura District.

3. The applicant has referred to Comprehensive Environment Pollution Index (CEPI) compiled by the CPCB with regard to the Industrial areas in the country, based on the air, water and land pollution. CPCB has on that basis categorised industrial areas as critically polluted/severely polluted and polluted. Those above the score of 70 are critically polluted. The score of Mathura industrial area is 91.10. Brick kilns are mushrooming and are being allowed to be set up without requisite consents and safeguards. Adverse health impacts of polluted air quality have been noted inter-alia in judgement of Hon'ble Supreme Court in M.C. Mehta v. UOI[1], M.C. Mehta v. UOI[2], M.C. Mehta v. UOI[3] and K. Guruprasad Rao v. State of Karnataka[4] and order of this Tribunal dated 17.02.2021 in O.A. No. 1016/2019, *Utkarsh Panwar v. CPCB & Or*s. wherein the Tribunal directed stopping of all brick kilns in NCR beyond the assimilative carrying capacity in the air in NCR, till such brick kilns shift to PNG. Till shifting to PNG, it was directed that the brick kilns cannot operate except in limited number and only from March to June when assimilative air capacity permits such operations. The operative part of the said order is as follows:-

"1to15...xxx.....xxx.....xxx

[1] (1998) 9 SCC 149
[2] (2000) 7 SCC 422
[3] (2002) 4 SCC 378
[4] (2012) 12 SCC 736

16. We have heard Counsel for the brick kiln operators at great length and also perused the written submissions filed by them but their effort being to revisit the earlier order against which their appeal stands dismissed, we do not find any reason to pass any different order. As already observed in the beginning of this order, the data in Table 15 in the CPCB report shows that in severe air quality condition, coal fired brick kilns using zig zag technology are not sustainable in view of carrying capacity of the region. ***Only from March to June, limited number of brick kilns operated by zig zag technology can be permitted****. Thus, unless there is change to cleaner fuel (PNG), brick kilns beyond the capacity shown by Table 15 above cannot be allowed.*

17. There is variance of figures of brick kilns permissible during March to June within the carrying capacity. Nature of brick kiln activity being continuous, only such number can be allowed which can be sustained throughout the said period i.e. the minimum figure of a particular month out of the four months, which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Thus, only this number can be allowed for the time being during the period air quality is not severe. Shortlisting for the purpose may be done applying a suitable siting criteria taking into account inter-se distance, distance from sensitive locations and compliance of consent conditions. Further, location of brick kilns be scattered on pro-rata basis, in different directions of the area, having regard to background and carrying capacity parameters. On that broad basis, selection criteria be worked out by a joint Committee of CPCB and State PCBs. Those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond the number of brick kilns on Zig-Zag technology within the carrying capacity. This can be revisited if air quality improves or if carrying capacity increased as a result of measures adopted by the State authorities in future, by reducing pollution load from different sources.

18. The Tunnel kiln technology with PNG can be followed, if viable, on which it may be permissible for the brick kilns to function even in severe conditions for existing or new brick kilns. The direction dated 27.11.2020 by CPCB also shows the need for reducing pollution load and not to allow activities by using coal.

19. As mentioned earlier, the recommendation that the brick kilns can be allowed with effective monitoring appears to be hypothetical in view of monitoring having been found to be hardly effective, on performance audit of PCBs, as will be shown in later part of this para. While in absence of carrying capacity, brick kilns are not permissible in 'severe' air quality situation, need for improving monitoring and minimising pollution is undisputed. In this regard, matter has been considered by this Tribunal in OA 95/2018, Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.[5]*, and in the light of report of performance audit of State PCBs, it has been found that performance is inadequate in terms of staff, equipment and functioning. Similar situation has been found in OA 837/2018, Sandeep Mittal Ministry of Environment, Forests & Climate Change*

[5] vide order dated 05.02.2021

& Ors.[6], in relation to monitoring of EC conditions by the MoEF&CC. We have recently come across several cases of industrial accidents[7] and one of the reasons for the same is inadequate monitoring. In OA 85/2020, Aryavart Foundation through its President v. Yashyashvi Rasayan Pvt. Ltd. & Anr.[8], directions have been issued to improve the same. We have already noted in other proceedings[9] that as per

---

[6] Vide order dated 01.02.2021

[7]

i. Order dated 01.06.2020, relating to incident of gas leak dated 07.05.2020 in **LG Polymers India Pvt. Limited** at Vishakhapatnam, resulting in death of 11 persons and injuries to more than 100, apart from other damage (OA No. 73/2020, In re: Gas Leak at LG Polymers Chemical Plant in RR Venkatapuram Village Visakhapatnam in Andhra Pradesh);

ii. Order dated 03.02.2021, relating to incident dated 03.06.2020 in a chemical factory, **Yashyashvi Rasayan Pvt. Ltd**. at Dahej, District Bharuch, Gujarat resulting in deaths and injuries and other damage (OA No. 85/2020) (Earlier OA 22/2020) (WZ), Aryavart Foundation through its President vs. Yashyashvi Rasayan Pvt. Ltd. & Anr.);

iii. Order dated 06.08.2020, in relation to incident of **oil well blow out on 27.05.2020 at Baghjan in the Tinsukia District of Assam** resulting in deaths, injuries and damage to the environment (OA No. 43/2020(EZ), Bonani Kakkar vs. Oil India Limited & Ors.).

iv. Orders dated 06.07.2020 and 22.12.2020, relating to incident dated 30.06.2020 on account of gas leakage at **Sainor Life Sciences** factory at Parawada in industrial area on the outskirts of Vishakhapatnam (OA No. 106/2020, News item published in the local daily "Economic Times" dated 30.06.2020 titled "Another Gas Leakage at Vizag Factory kills two, critically injures four…");

v. Orders dated 08.07.2020 and 22.12.2020, dealing with the incident dated 01.07.2020 resulting in death of 6 person and injury to 17 due to blast of boiler in **M/s Neyveli Thermal Power Station** (NLCIL), Cuddalore (OA No. 108/2020, News item published in the "Indian Express" dated 01.07.2020 titled "Tamil Nadu Neyveli boiler blast: 6 dead, 17 injured") and;

vi. Orders dated 23.07.2020 and 22.12.2020, in relation to incident of **fire engulfed the chemical plant** of **Visakha Solvents Ltd**, Vizag on 13.07.2020 at Ramky CETP Solvents building in Pharma City resulting in injuries (OA No. 134/2020, News item published on 13.07.2020 in the local daily named "India Today" titled "Massive fire engulf Vizag chemical plant, explosions heard, injuries reported").

vii. Order **dated 18.12.2020**, in relation to incident of **explosion in a plastic recycling factory at Sujapur in Malda on 1.12.2020** resulting in death of six persons, including two minors and serious injuries to four persons (OA No. 272/2020, News item published in the "Times of India" dated 20.11.2020 entitled "Six killed as blast tears through Malda Plastic recycling factory").

viii. Order dated **18.12.2020**, in relation to incident of **methane gas leak in a sugar factory** called Lokenete Bapurao Patil Agro Industries Ltd. in Mohol Taluka of Solapur District, Maharashtra on 21.11.2020 resulting in deaths and injuries and other damage (OA No. 274/2020, News item published in the "Indian Express" dated 23.11.2020 entitled "Maharashtra: Two Killed, eight injured in methane gas leak in sugar factory").

ix. Order dated 08.01.2021, in relation **to Gas Leak in Agro Company** (O.A No. 107/2020, In RE: News item published in the local daily "Indian Express Sunday Express" dated 28.06.2020 titled "Gas Leak in Agro Company Claims life of one")

x. Order dated 18.01.2021, in relation to News item published in Navbharat Times dated 24.12.2020 titled "**Gas leaks in IFFCO Plant**, 2 Officers dead" (O.A No. 04/2020, In re : News item published in Navbharat Times dated 24.12.2020 titled "Gas leaks in IFFCO Plant, 2 Officers dead")

xi. Order dated **11.02.2021**, in relation to accident of **toxic gas leak in Rourkela Steel Plant in Orissa**" (O.A. No. 09/2021, In re: News item published in The Indian Express dated 07.01.2021 titled "Four workers dead due to toxic gas leak in Rourkela Steel Plant")

[8] Vide order dated 03.02.2021

[9] (i) Vide order dated 21.09.2020, OA 673/2018, *In Re: News item published in "The Hindu" authored by Shri Jacob Koshy, titled "More river stretches are now critically polluted: CPCB*"

(ii) Vide order dated 21.08.2020, OA 681/2018, News item published in "The Times of India" Authored by Shri Vishwa Mohan titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15"

(iii) Vide order dated 14.11.2019 in OA 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels"

official statistics, 100 industrial clusters are polluted, 351 river stretches are polluted and 122 cities are non-attainment in terms of air quality, apart from huge gaps in waste generation and management. Inspite of monitoring of the said issues by this Tribunal, the situation is far from any improvement. Thus, it is undeniable that stringent steps for monitoring to achieve goal of sustainable development are required. While monitoring must certainly improve, such suggestion is not enough to presume that pollution load by coal-fired brick kilns will reach zero so as to sustain coal-fired brick kilns in NCR in severe air quality conditions. In such situation, potential damage to public health cannot be ignored, while dealing with the issue of activity having potential for pollution, in the area having no carrying capacity to sustain further pollution load.

20. Thus, we conclude that going by the order dated 15.10.2020, in 'severe' air quality conditions, coal-fired brick kilns cannot be allowed to operate in NCR even if zig zag technology is used and improved procedures are followed, as suggested by the Committee, unless there is switch over to the PNG. All other issues have already been dealt with in the earlier order. In para 7 of order dated 05.03.2020 and para 8 of order dated 23.03.2020, we have already held that compliance by an individual brick kiln, otherwise contributing to pollution load beyond carrying capacity, does not confer a right to continue such activity, when such activity attracts GRAP in 'severe' air quality condition. As noted in par 11 of the order dated 15.10.2020, the CPCB has found that there is no assimilative capacity during the period air quality is 'severe' and only during months of March to June there is a limited capacity. Inter-se distance of atleast 500 meters is required to be maintained in location of brick kilns. When brick kilns start, they should not be allowed to start simultaneously but their firing should be staggered to avoid adverse impact on the environment. Other safeguards of fugitive dust emission management need to be adopted. In para 18 of order dated 15.10.2020, the issue of non-availability of plea of discrimination to GRAP, attracting some polluting categories and not attracting other polluting activities, has already been dealt with. Accordingly, we reiterate this mandate.

21. In view of the above discussion, unless there is change to cleaner fuel (PNG), brick kilns beyond the number mentioned in Table 15 above cannot be allowed, in the NCR. Since there is variance of figures given during March to June, only such number can be allowed which can be sustained throughout the period i.e. the minimum figure of a particular month out of the four months which comes to 444 in Haryana (in the month of May) and 200 in UP

(iv) Vide order dated 28.02.2020 in OA No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016.

(v) Vide order dated 18.01.2021 in OA 710/2017, *Shailesh Singh, v. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors*. with regard to **bio-medical waste**

(vi) Vide order dated 29.01.2021 in OA 804/2017, *Rajiv Narayan v. Union of India & Ors*. with regard to **hazardous waste.**

(vii) Vide order dated 15.01.2021in OA 512/2017, *Shailesh Singh v. State of UP* with regard to **e-waste.**

(viii) Vide order dated 08.01.2021 in EA 13/2019 in OA 247/2017, *Central Pollution Control Board v. State of Andaman & Nicobar & Ors*. with regard to **plastic waste.**

(in the month of June). Such shortlisting may be done applying a suitable siting criteria taking into account inter-se distance and distance from sensitive locations and compliance of consent conditions for which the CPCB, State PCB may work out an appropriate mechanism. Further, location of brick kilns be scattered on pro-rata basis, in different directions of concerned area, having regard to background and carrying capacity parameters. Needless to say, those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond limited number mentioned, subject to compliance with law."

4. In Mathura, brick kilns are operative throughout the year without any study of the assimilative air capacity of the area and without following the laid down siting criteria and without consents. The statutory regulatory authorities have not taken any meaningful action. The applicant has also pointed out letters of CPCB seeking information on the subject from the UP State PCB but it appears that no further action has been taken. Brick kilns in question do not even follow Zig Zag Technology which is being followed in other air polluted areas and even outside the air polluted areas, in pursuance of directions of State PCB dated 28.06.2017 as follows:-

> **"***1. All the Brick kilns operating without permission and valid consent from SPBs, not meeting prescribed norms and siting guidelines be closed down with immediate effect.*
> *2.* ***Provide status on conversion of natural draft to induced draft brick kilns (with rectangular kiln shape and zig zag brick setting).***
> *3. Enforce strictly the siting criteria guideline for brick kilns.*
> *4. All the moving area around the main Brick Kiln should be paved with the bricks to minimize the fugitive dust emission from the Brick Kilns operations. This condition should be incorporated in the consent conditions while grating the Consent by the UP Pollution Control Board.*
> *5. Ensure that fine dust not to accumulate all around the brick kiln."*

5. The applicant has filed a list of 189 Brick kilns which according to the applicant are violating the siting criteria or other environmental norms. It is also submitted that even if there is compliance by any individual brick kiln, if the assimilative air capacity cannot sustain coal

fired brick kilns, such brick kilns cannot operate adding further to the already polluted air. The applicant has stated that the brick kilns in question are contributing upto 28% air pollution.

Order dated 13.4.2021

6. Vide order dated 13.04.2021, the Tribunal required a joint Committee comprising CPCB, State PCB and District Magistrate, Mathura to verify the facts and furnish a factual and action taken report in terms of compliance of siting and environmental norms, including the assimilative capacity of the air to sustain particular number of brick kilns. It was further directed that the Committee may look into the report dated 06.07.2020 furnished in O.A. No. 1016/2019, supra, relating to control of pollution in the NCR, as well as discussion in the said order. The State PCB was also to verify whether brick kilns in question are operating without consent, as alleged, in which case the State PCB was to take remedial action, following due process of law. The report was to be and has been uploaded on the website of the CPCB, so as to be accessed by any affected party. Objections to the report, if any, could be filed before the hearing.

7. In view of above, the State PCB has filed report dated 04.08.2021 after inspection at Mant (Sureer, Sureer Kalaan, Sureer vizau, Bazna, Naujheel, seoopatti, morkee areas) and Chhata (Unjhaani bangar, shergarh, Rampur, baadha bangar, rajagarhi, Mehrauli, shernagar areas) clusters of brick kiln units in Mathura district during 18 to 25, June, 2021. The report has found that most of the brick kilns continued to work on old technology (induced draft – FCBTK) though CPCB has issued guidelines for shifting to zig zag (induced draft) which has been directed to be followed by this Tribunal. Siting guidelines requiring inter se

distance and distance from vulnerable locations – schools, hospitals and habitations etc. are not being followed by many. Prohibited polluting fuel is being used by some. Most of them are not registered with GST authorities. No safeguards against fugitive dust are followed, in violation of consent conditions. The air of the area does not have assimilative capacity to sustain the number of brick kilns operating even during the period the air quality is comparative better. There are no air quality monitoring stations at the relevant locations. Data is taken from other places. There are objections to which reference will be made in later part of this order about inaccurate depiction and if right norms are followed, situation may be much more grave. Extracts from the report, highlighting certain parts, are reproduced below:

> ***"…. Majority of brick kilns units located here are of two types:***
>
> *(1) Fixed Chimney Bull's Trench Kiln (FCBTK) based on natural draft.*
> *(2) Zig-zag Kiln (natural and forced draft).*
>
> - *As per the list provided by UPPCB, Mathura there are 227 Brick kiln units are located in Mathura district which have valid consent to operate (CTO). Detailed list is attached as Annexure-4.*
> - *Out of 227 Brick kiln units, 189 units are operational at present; rest 38 units are not functional due to various reasons like closure direction by UPPCB and environmental compensation imposition. Detailed list is attached as Annexure-5, 6.*
> - *30 no. of Brick kiln units are Zig-zag type and rest 159 no. of the Brick kiln units are old Fixed Chimney Bull's Trench Kiln (FCBTK) type.*
> - ***65 no. of Brick kiln units are registered in the State GST, Mathura as per list received from Assistant Commissioner, Sales Tax (SGST) Kosi Kalaan, Mathura**. (Annexure-7)*
>
> ***1. Compliance of Siting:***
>
> ***Mant Cluster:***
>
> - *Joint team inspected Mant cluster of brick kilns units located in Sureer, Sureer kalaan, Sureer vizau, Bazna,*

naujheel, seoopatti, morkee areas of Mant tehsil, Mathura.

- *As per information and documents produced by UPPCB, Mathura to the Joint inspection team, 168 no. units are operating presently in Mant area.* ***Majority of brick kilns here are old type based on FCBTK type with natural draft.***
- *As informed by RO UPPCB Mathura that consent to establishment (CTE) for new Brick Kiln is issued by UPPCB after getting siting report from concerned SDM, because revenue village and Khasra no. proposed siting location of Brick Kilns, as per Uttar Pradesh Brick kiln (Sitting Criteria for Establishment) Rules, 2012 can be verified by the concerned dept. under SDM of that area.*
- ***Siting locations of the brick kilns was not found as per the Uttar Pradesh Brick kiln (Sitting Criteria for Establishment) Rules, 2012*** *(UP Govt. notification no. 921/55, parya/12-94(parya)/2012 Dated: June 27, 2012 (Annexure-8). UPPCB Mathura informed to joint inspection team that* ***mostly Brick Kilns units at Mant location were established before said notification of UP Govt. 2012.***
- *All the units located at Mant were found using permissible fuel for brick kilns i.e. Coal/Toori (agriculture waste fuel) except* ***five brick kilns, those were found using plastic and rubber parts of old vehicles, shredded old automobile tyre and remnants of vehicle and other combustible machinery scraps (Annexure-09, Pg. no. 19) along with the toori. UPPCB issued closure directions to these units.***
- ***Greenery and plantation was observed in some units only.***
- ***No paved road and 3 meter boundary wall was observed.***
- ***Dust emission was noticed in moving areas of all brick kiln units as no water sprinkler facility was found.***
- ***There was no permanent provision for stack emission monitoring at most of the Brick Kiln units. Temporary arrangement was made by the monitoring teams for stack monitoring. (Annexure-10, Pg. no. 21-23)***
- *During the visit many units were found not operational and due to corona pandemic, few brick kilns units of this particular location were selected randomly for stack emission monitoring by the Joint inspection team. As per the monitoring report provided by the UPPCB, Mathura (Annexure-11) out of 12 brick kilns units, 10 units were found complying with the emission norms and 02 were failed.*
- ***UPPCB Mathura assured the joint inspection team that direction will be issued for making necessary arrangement/up-gradation of the unit, to achieving the standard emission norms/compliance.***

Chhata Cluster:

- *Joint team inspected the Chhata cluster of brick kilns units located in Unjhani bangar, shergarh, rampur, baadha bangar, rajagarhi, mehrauli, shernagar areas of Chhata tehsil of Mathura.*
- *As per information and documents produced by UPPCB, Mathura to the Joint inspection team, 59 no. of brick kilns units are operating presently in Chhata area.*
- *As informed by RO UPPCB Mathura that consent to establishment (CTE) for new Brick Kiln is issued by UPPCB after getting siting report from concerned SDM, because revenue village and khasra no. proposed siting location of Brick Kilns, as per Uttar Pradesh Brick kiln (Sitting Criteria for Establishment) Rules, 2012 can be verified by the concerned dept. under SDM of that area.*
- *Majority of brick kilns in this area are Zig-zag Kiln (natural and forced draft) type. Siting locations of the brick kilns was found as per the Uttar Pradesh Brick kiln (Sitting Criteria for Establishment) Rules, 2012 (UP Govt. notification no. 921/55-parya/12-94(parya) /2012 Dated: June 27, 2012. The UPPCB Mathura informed to joint team that mostly brick kiln units were established after said notification of UP Govt.*
- *Only permissible fuel was found in all brick kilns units.*
- ***Greenery and plantation was not observed in majority of units.***
- ***No paved road and 3 meter boundary wall was observed.***
- ***Dust emission was noticed in all moving areas of brick kiln units as no water sprinkler facility was found.***
- ***There was no permanent provision for stack emission monitoring at most of the units. Temporary arrangement was made by the monitoring teams for stack monitoring of the brick kiln units.***
- *During the visit many units were found not operational and due to corona pandemic, few brick kilns of this particular location were selected randomly for stack emission monitoring by the Joint inspection team. As per the monitoring report provided by the UPPCB, Mathura out of 09 brick kilns units, 08 units were found complying the emission norms and 01 failed.*
- ***UPPCB Mathura assured the joint inspection team that direction will be issued for making necessary arrangement/up-gradation of the unit, to achieving the standard emission norms/compliance.***

2. Compliance status of Environmental Norms:

- *All the operational units were found having valid Consent to Operate (CTO) issued by the UPPCB Mathura.*
- *As per the list provided by UPPCB Mathura, total 227 no. of brick kilns were granted permission for operation in Mathura district.*
- *Out of these, 33 no. brick kilns units are not in operational presently; in addition, closure directions have been issued by UPPCB to 05 units.*

- ***It was informed to joint inspection team by Regional officer, UPPCB Mathura that it is mandatory for every operating Brick Kiln to perform stack monitoring of the unit by any NABL accredited laboratory each year during the operating season to check the compliance of environmental norms and submit test report to UPPCB. If a unit fails to achieve the standard environmental norms, direction will be issued for the compliance by making necessary arrangement/up-gradation.***
- *To know the status of permission from mining department Mathura, a letter was issued by UPPCB Mathura to the District Mining department for providing list of permitted brick kiln units in Mathura.* ***However, Department of Sales Tax (SGST) has submitted list of 65 no. registered Brick Kilns units.***
- *During the field visit, many units were found not operational. Out of operational units 21 no. of brick kiln units could be selected randomly by Joint inspection team due to constraint of Corona pandemic time and their stack emission monitoring was carried out.*
- *As per the monitoring report of 21 brick kilns units provided by the UPPCB Mathura, 18 units were found complying the norms and 03 were failed to achieve the standard. UPPCB Mathura assured the joint inspection team that direction will be issued to 03 units for making necessary arrangement/up-gradation of the unit, to achieving the standard emission norms/compliance (Emission norms for Brick Kilns as per MoEF&CC notification no. 423 Dated: 22.07.2009).*
- *As informed by the RO UPPCB Mathura to the joint inspection team that no brick kiln unit is operational in TTZ area falling under Mathura district.*
- *As per the UPPCB Mathura, brick kilns are permitted to operate only in 04 months period i.e. March to June every year in Mathura district.*

3. Compliance status for calculating Assimilative capacity of the air to sustain particular number of brick kilns:

As per the direction of NGT court, committee has referred the report dated 06.07.2020 furnished by CPCB in O.A. No. 1016/2019. A formula was used by the CPCB to determining district-wise carrying capacity of ambient air in Report in compliance to Hon'ble NGT order dated 17.03.2020 (Uploading date 23.03.2020) in the matter of O.A. No. 1016 of 2019 titled as Utkarsh Panwar Vs. CPCB & Ors. before Hon'ble National Green Tribunal, Principle Bench, New Delhi. Same formula was used to calculate the assimilative capacity of the air to sustain particular number of brick kilns in Mathura.

Since, gravity settling Chambers are provided in the brick kilns as air pollution control Mechanism, wherein large particles get separated and settled down, therefore, it was assumed that the particle size of particulate emissions from the brick kiln stacks are broadly upto 10 pm. The following components were derived in

order to assess the carrying capacity of Mathura District w.r.t. PM10:

i. *Estimation of Existing Pollution Load w.r.t PM10,*
ii. *Estimation of Assimilative Carrying Capacity w.r.t PM10*
iii. *Estimation of Supportive Carrying Capacity w.r.t PM10*

The value of emission load derived with stack emission of 750 mg/Nm^3, is as follows:

Emission load from brick kilns having capacity of 20000 bricks/day, considering stack PM emission of 750 mg/Nm^3 at 17% 02: 3000 Kg/day

Estimation of total existing PM10 Load:

Total area of Mathura district in ***Km^2:*** ***a;*** *Average Atmospheric Mixing Height during a particular month in* ***Km: b***

Total Volume of Air in Mathura district during a particular month in Km^3: a x b = c Average PM10 Concentration of Ambient Air in Mathura district for a particular month in ***Kg/Km^3: d***

Therefore, Total estimated load of particulate matter (PM10) in ambient air of Mathura district during a particular month ***(x):*** *c x d=****x Ka***

There is no continuous/manual ambient air quality monitoring station operational in Mant and Chhata Tehsil, Mathura which are approximately 25-35 km. away from Mathura city.

So, the ambient air quality data has been taken from Mathura city, where 02 no. manual ambient air quality monitoring stations are being operated by RO UPPCB Mathura. *Average of both the manual monitoring stations has been taken for calculating total PM10 load in the different months of year 2020 at Mathura. Estimated total existing PM10 Load in Mathura during different months of year 2020 is given at Table-1*

Table: 1		
S. No.	***Month (Year-2020)***	***Estimated Load***
1	*Jan*	*248276 Kg*
2	*Feb*	*346420 Kg*
3	*Mar*	*295241 Kg*
4	*Apr*	*195207 Kg*
5	*May*	*195792 Kg*
6	*Jun*	*281795 Kg*
7	*Jul*	*208946 Kg*
8	*Aug*	*234257 Kg*
9	*Sep*	*237760 Kg*

10	*Oct*	*282598 Kg*
11	*Nov*	*220489 Kg*
12	*Dec*	*218582 Kg*

[Area of Mathura District adopted from District Mathura website https://mathura.nic.in, Average Mixing height monthly data (year-2020) adopted from Continuous air quality station East Arjun Nagar, Delhi-CPCB (Appx. 75 Km away from Brick kiln cluster), as there is no SODAR machine installed/operational in Mathura]

Estimation of Assimilative Carrying Capacity w.r.t. PM10:

Total Volume of Air in Mathura district during a particular month in Km^3:c
Particulate Matter (PM10) required to keep Ambient Air Quality at Satisfactory Level/Prescribed NAAQ Standard: ***100*** *pg/m^3 i.e.* ***100 Kg/Km³*** *(Ref: Air Quality Index/NAAQ Std)*

Therefore, Assimilative Capacity w.r.t PM10 in ambient air of Mathura district during a particular month ***(y):*** *C X 100=****y Kg***

Calculated assimilative carrying capacity in the different months of year 2020 at Mathura is given at Table-2:-

Table: 2		
S. No.	***Month (Year-2020)***	***Assimilative Carrying***
1	*Jan*	*149115 Kg*
2	*Feb*	*196830 Kg*
3	*Mar*	*196173 Kg*
4	*Apr*	*206568 Kg*
5	*May*	*199788 Kg*
6	*Jun*	*199854 Kg*
7	*Jul*	*136121 Kg*
8	*Aug*	*184454 Kg*
9	*Sep*	*176118 Kg*
10	*Oct*	*173906 Kg*
11	*Nov*	*143175 Kg*
12	*Dec*	*138782 Kg*

Estimation of supportive carrying capacity of Mathura w.r.t. PM10:

Month wise supportive carrying capacity of Mathura district, as determined by using the above is summarized in Table-3:-

Supportive Carrying Capacity (z)=Assimilative Carrying Capacity ***(y)*** *- Total Estimated Load (x)*

Table:3

S. No.	Month	Supportive Carrying Capacity
1	Jan	-99161Kg
2	Feb	-149591Kg
3	Mar	-99067Kg
4	Apr	11361Kg
5	May	3996Kg
6	Jun	-81940Kg
7	Jul	-72825Kg
8	Aug	-49803Kg
9	Sep	-61641Kg
10	Oct	-108691Kg
11	Nov	-77314Kg
12	Dec	-79800Kg

Total number of brick kilns which can be operated month wise in Mathura district:

Month wise Supportive Carrying Capacity of Mathura district / Emission load from one brick kiln.

Assuming that all the brick kilns units were in operation during monitoring, the number of brick kilns which are required to be shut was calculated by dividing the excess load by the emission load of one brick kiln. As per the report of UPPCB Mathura, appx. 3000 Kg/ day Fuel (Toori/Coke) used by Brick Kiln unit with the capacity of 20,000 bricks/day during operation. The number of brick kilns, which can be operated in such cased was determined as follows:

No. of brick kilns which can be operated = *Total number of brick kilns*

Operational in that particular month - (Negative Supportive Carrying Capacity/ Emission Load from one brick Kiln)

Table: 4		
S.No.	Month of Year	Maximum No. of Brick Kiln can be
1	Jan	156
2	Feb	139
3	Mar	156
4	Apr	193
5	May	190
6	Jun	162
7	Jul	165
8	Aug	172
9	Sep	168
10	Oct	153
11	Nov	163
12	Dec	162

Summary of observations during the inspection are as below:

- *Only brick kilns units with valid CTO issued by UPPCB were found operational in Mathura district. No brick kiln was found operating in TTZ area falling in Mathura district.*
- ***Some of the operational brick kilns located in the Mant area were found not complying the siting norms.*** *It was informed to Joint inspection team that these units were established before Uttar Pradesh Brick kiln (Sitting Criteria for Establishment) Rules, 2012 was issued.*
- *The Brick kiln units operational in the Chhata region, were found complying the UP Government siting criteria norms.*
- ***There is need to up-gradation of present old type FCBTK brick kiln units in to zig-zag type kiln technology for optimal combustion and emission reduction.***
- *Only permitted fuel burning should be allowed and strict action (closure of unit as well as environmental compensation) may be taken, if any violation is found.*
- *As per the UPPCB Mathura, brick kilns are permitted to operate only in 04 months period i.e. March to June only.*
- ***As per the AAQM data of Mathura district and calculation for Supportive Carrying Capacity of the air, maximum no. of brick kiln may permitted during different months in Mathura district is as per Table.4.***
- ***Display board containing the name of Brick Kiln unit & details, address, owner name and contact, last monitoring date and data was not displayed at the units in Mant as well as Chhata in Mathura.***
- ***As per Regional officer, UPPCB Mathura, it is mandatory for each operating Brick Kiln unit to perform stack monitoring of the unit each year during the operating season by NABL accredited laboratory, to check the compliance of standard emission norms and submit test report to UPPCB.***
- ***All the moving area around the main Brick Kiln is unpaved, which is huge source of fugitive dust emissions during brick kiln operations. It was observed that fine dust was accumulated all around the brick field.***
- ***Arrangement for water sprinkling on earthen surface inside the premises of Brick Kiln units was not available.***
- ***There was no sufficient greenery or boundary wall constructed around the Brick Kiln units to stop the fugitive emission of dust.***
- ***There was no permanent provision for stack emission monitoring at the stack of most of the Brick Kiln units like pot hole, ladder, platform etc.***
- ***Majority of Brick Kilns units are based on natural draft. Some units have zigzag setting with induced draft also known as Hydra brick kiln units in this region.***
- ***Heaps of Toori (permissible agriculture waste fuel) was found openly stored in premises of Brick Kilns, which need to be covered.***

- ***Non-availability of trained workers (firemen and brick setters) to optimizing combustion for operating Brick Kilns efficiently.***

Recommendations:

- ***There is need to convert all old FCBTK (natural draft) Brick Kiln units in to improved zig-zag Kilns with induced draft technology, as soon as possible.***
- ***Strict compliance of the siting criteria as per the Uttar Pradesh Brick kiln (Sitting Criteria for Establishment) Rules, 2012 (UP Govt. notification no. 921/55-parya/12-94(parya)/2012 Dated: June 27, 2012. The Brick kiln units, which are not as per the siting criteria norms, may be relocated.***
- ***The housekeeping at Brick Kiln units needs to improve. Approach road and moving areas around the Brick Kiln needs to be paved properly to minimize the fugitive dust emissions.***
- ***As per the AAQM data of Mathura district and calculation for Supportive Carrying Capacity of the air, maximum no. of brick kiln may permitted during different months in Mathura district is as per Table.4. However, competent authority may take the decision and may issue directions for the operation of Brick Kiln Units and compliance of norms.***
- ***The unit operators should develop a buffer zone of wide green cover along the periphery to arrest fugitive particulate matter from spreading out.***
- ***There should be arrangement for water sprinkling on earthen surface inside the premises of Brick Kiln units during operational hours.***
- ***Display board with all the details should be fixed at the entrance of the unit.***
- ***Appropriate provision for stack emission monitoring at the stack should be provided.***
- ***Only permissible fuel should be used for running Brick Kilns and need to store properly at the site.***
- ***A standard operating procedure (SOP) should be formulated and training should be given to workers (firemen and brick setters) for operating Brick Kilns efficiently."***

8. The applicant has filed objections to the report as follows:

"A Majority of Brick Kilns Operates with Old and Polluting FCBTK Technology in Violation of the CPCB direction as well as orders of This Hon'ble Tribunal.

4. The Joint Committee in its report has submitted that there are two brick kilns cluster namely Mant and Chhata clusters in District, Mathura. That as per the report (Refer Page No. 119) there are 168 numbers units are operating presently in Mant cluster out which only 22 are operating

with zig-zag technology and 146 are of old FCBTK technology. This itself is in violation of the CPCB Directions dated explained in more detail later. That in Chhata cluster there are 59 numbers brick kilns and about 52 out of 59 are operating with old FCBTK technology again in violation of the above mentioned directions. That in conclusion it is submitted that as per the list provided by the joint committee in Page No.165 of the report out of total 189 brick kilns in Mathura District only 30 are operating with zig-zag technology.

5. *It is pertinent mention that the* ***CPCB as early as on 27.06.2017 issued a statutory direction under Section 18(1) of Air Act, 1981 to all the States (including the State of Uttar Pradesh) for prevention of pollution from different types of brick kilns. The CPCB directed that all the brick kilns operating without consent, not meeting prescribed siting guidelines and standards should be closed down immediately. That further, the CPCB sought status of zig-zag conversion from the States and directed them to enforce siting criteria and further directed that the roads should be paved to suppress dust.*** *True copy of the CPCB direction dated 27.06.2017 is marked and appended as ANNEXURE A/1.*

6. ***That in the meantime this Hon'ble Tribunal in O.A. No. 718 of 2017, Anil Kumar vs Union of India & Ors vide order dated 22.01.2019 directed the CPCB to ensure compliance of the its direction dated 27.06.2017. True copy of the order dated 22.01.2019 in O.A. No. 718 of 2017*** *is marked and appended as ANNEXURE A/2.*

7. *That the CPCB in compliance with this Hon'ble Tribunal order dated 22.01.2019 in O.A. No. 718 of 2017 issued further direction dated 25.06.2019 under Section 18(1) of Air Act, 1981 to the Uttar Pradesh Pollution Control Board (UPPCB)directing them to provide a status report on the zig-zag conversion of brick kilns and the CPCB further directed that all the brick kilns operating without consent, not meeting prescribed siting guidelines and standards should be closed down immediately among other things. True copy of the CPCB direction dated 25.06.2019 is marked and appended as ANNEXURE A/3.*

8. *That what is shocking is that the UPPCB instead of complying with the direction of this Hon'ble Tribunal and the CPCB direction regarding conversion to zig-zag technology issued* ***new Consent to Establish to 54 numbers of brick kilns between the year 2020-June,2021****. That as per own report of the joint committee there are only 30 brick kilns operating with zig-zag technology and hence the* ***UPPCB must have issued CTE between January 2020 to July, 2021 to brick kiln having old FCBTK technology****. True copy of the list of brick kilns granted CTE between 12.09.2018 to*

09.07.2021 and January 2020-July, 2021 obtained from the UPPCB website is marked and appended as ANNEXURE A/4.

9. *That in light of above submission it is amply clear that out of 189 number of brick kilns only 30 brick kilns are operating with zig-zag technology in complete disregard of the direction of this Hon'ble tribunal and the statutory direction of CPCB and hence this Hon'ble tribunal may direct immediate closure of the brick kilns operating with the FCBTK technology in the District of Mathura.*

B. ***CARRYING CAPACITY STUDY/ ASSIMILATIVE STUDY BEING INADEQUATE***

10. *That to carry out the study, the Joint Committee has considered the entire area of Mathura district i.e. 3,340 km2 ignoring the fact that substantial area of Mathura district comes under the Taj Trapezium Zone and hence no polluting i.e. Orange and Red Category industry can be operational is these areas. That the CPCB ought to have considered that the industrial cluster i.e. Mant and Chhata or area outside TTZ area are considered for the study and not the entire district.*

11. ***That the Joint Committee in its report has observed that there are no continuous/ manual ambient air quality monitoring station operational in Mant and Chatta, Tehsil i.e. brick kilns cluster and there are 02 number of manual ambient air quality monitoring station at Mathura city which are approximately 25¬35 km away from the brick kiln cluster (Page No. 123 of the report). Further, the joint committee notes that the average mixing height monthly date (year-2020) is adopted from continuous air quality station East Arjun Nagar, Delhi- CPCB appx. 75 km away from brick kilns cluster. (page No. 124 of the report). That it is humbly submitted before this Hon'ble Tribunal that considering data from such huge distances for sampling would not give correct conclusions on assimilative study.***

12. *It is pertinent to mention that the* ***joint committee in its report permitted majority of the brick kilns to operate throughout the year*** *(See Table No. 4 at page No. 126 of the report). That in fact out of total 189 brick kilns 153 is allowed in October, 163 in November, 162 in December and 156 in January ignoring the fact these months pollution level are very high in entire Delhi & NCR and operation of brick kilns in Mathura being at distance of merely 60-70 kms is likely to have huge impact on air quality of Delhi & NCR as well the Mathura itself. It is important to submit that this Hon'ble Tribunal in O.A. No. 1016 of 2019 vide final order dated 17.02.2021 only allowed the Brick Kilns to be operated during the months of March to June as per the carrying capacity study. There is no justification given in the report as to why such brick*

kilns should operate throughout the year. This Hon'ble Tribunal may take a strict note of the same and order accordingly.

13. *It is further submitted that the* ***Joint Committee has not provided any details regarding data of Average Mixing Height used while carrying out the study****. Further, the report is completely silent on the average monthly AQI data used for preparation of the report.*

14. *It is also important to submit that this Hon'ble Tribunal vide order dated 13.04.2021 directed the joint committee to look into the report dated 06.07.2020 furnished in O.A. No. 1016/2019, Utkarsh Panwar as well as discussion in the said order for preparation of the study. It is humbly submitted that the Joint committee in O.A. No. 1016 of 2019 (Utkarsh Panwar case) as well as in O.A. No. 1088 of 2018, (Dinesh Chahal case)* ***used pollution load of 1000 kg/day for individual brick kiln but in this present case the Joint committee used pollution load of 3000 kg/day for individual brick kiln.*** *That if the joint committee applies the same formula in the present case the number of brick kilns which may be allowed as per Table No. 4 will reduce to alteas the lf in number.*

15. *Further, the Joint Committee has completely disregarded the fact that the UPPCB, Regional Office at Mathura vide public notice dated 15.04.2021 has only permitted the brick kilns of Mathura to be operated during the months of March – June. That the Joint committee recommendation of allowing huge number of brick kilns throughout the year is in complete derogation of the steps taken by the UPPCB. True copy of the public notice dated 15.04.2021 is marked and appended is marked and appended as ANNEXURE A/5.*

C. NO OBSERVATION ON FIRING PERIOD

16. *The joint committee in its report dated 08.02.2021 in the matter of Utkarsh Panwar case had recommended that even if there is enough supportive carrying capacity to operate all the zig-zag type brick kilns in any district,* ***the start-up firing may be allowed in three batches of 33% of the total Zig-Zag type brick kilns which can be operated, with a gap of 7 days within two batches.*** *This is to ensure that PM 10 emission load in the ambient air mostly remains within assimilative carrying capacity. The Joint committee in the present case made no such observation and recommendation regarding the firing period despite of the fact that majority of the brick kilns in Mathura district are located in close proximity to each other in violation of the sitting criteria.*

D. OLD/WRONG PRESCRIBED STANDARD ADOPTED FOR CARRYING OUT STUDY.

17. *The Joint Committee for carrying stack monitoring of the brick kilns adopted prescribed standard of 750 mg/Nm3 while the new norm adopted by the Zig-Zag technology is 250 mg/Nm3. (monitoring results are pages 200 to 220 of the of the report.*

18. *That the Government of India vide notification G.S.R 176 (E) notified prescribed standards for brick kilns which was subsequently amended vide notification no. G.S.R 543(E) dated 22.07.2009. The Particulate matter standards of the Brick Kilns of Small Unit was 1000 mg/Nm3, Medium Unit was 750 mg/Nm3 and large Unit was 750 mg/Nm3.*

19. *Thereafter, the MoEF on in the year 2015 issued Environment Protection draft Amendment Rules, 2015. The Particulate matter standards as per the draft rules for Natural Draft Kilns was 500 mg/Nm3 and Induced Draft Kilns was 250 mg/Nm3.*

20. *The MoEF& CC on 15.03.2018 published draft prescribed standards for brick kilns under the Environment Protection Rules, 1986. The proposed prescribed standard for particulate matter is 250 mg/Nm3 for all class of brick kilns.*

21. *That the CPCB has filed a report dated 28.01.2020 in O.A. No. 1016 of 2019, Utkarsh Panwar versus CPCB & Ors states that brick kilns of zig-zag technology are meeting the present particulate matter standard of 750 mg/Nm3 as well proposed draft standard of 250 mg/Nm3 under the Environment Protection Rules, 1986. Further, the CPCB in its report stated that a PNG based brick kiln operated by M/s Weinberger Building Material Solutions emission level is 125 mg/Nm3 emissions. That as the majority of brick kilns in Mathura is being of FCBTK technology they cannot reduce their emissions level with the present technology.*

E. Non Compliance of the Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012

22. *The Applicant has filed google images as annexure A/4 in the Original Application which shows that brick kilns are adjacent to each other in close proximity and some cases less than 250 meters from the Government Hospital habitation area, school, colleges and highway in violation of the Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012.*

23. *That the of the Applicant is confirmed by the joint committee in its report at Page No. 120. The committee in its report states that the brick kilns at Mant cluster was not found as per the siting criteria. This is a ground alone to prohibit the operation of the said brick kilns.*

24. *The Joint Committee without giving any detail regarding the date of establishment of the brick kilns states that some of brick kilns were established prior to notification of the UP Siting Criteria Rules, 2012 and therefore they are not conforming with the siting criteria.* ***It is surprising that even after nine years of notification of Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012, the UPPCB and CPCB has failed to implement the said rules.***

25. *It is also important to submit that this Hon'ble Tribunal in O.A. No. 1088 of 2018, Dinesh Chahal &Ors vs UOI &Ors vide order dated emphasized on the importance of siting criteria and safe distance of brick kilns from habitation. The relevant extract of the order is reproduced below:*

> *"Under the precautionary principle which is a part of Article 21 of the Constitution has laid down by the Hon'ble Supreme Court in the case of Indian Council for Environ Legal Action v. Union of India &Ors.,* ***every regulatory authority must follow the precautionary principle and not permit any action which may deteriorate the air quality beyond the limits****. The impact of brick kilns activities on air quality is acknowledged. The Hon'ble Supreme Court noted the recommendations of NEERI that distance of brick kilns needs to be considered from human habitations in the perspective of health effects on general population and effect on vegetation3. Studies on brick kilns also indicate that brick kilns are a leading cause of air pollution contributing upto 28% to the sources of air pollution. During operational phase of brick kilns, the air quality is severely polluted."*

26. *That the Joint Committee instead of giving exact numbers of brick kilns violating the siting criteria is using word such as 'some' and 'majority' for reasons best known to them.*

F. EMERGENCE OF MATHURA AS HUB OF BRICK KILNS AND ESTABLISHMENT OF NEW UNITS IN 'CRITICALLY POLLUTED AREA'

27. *That the data obtained from the website of the Uttar Pradesh Pollution Control website reveals that the UPPCB between the 2018 -19, eight (8) numbers of brick kilns were granted Consent to Establish and between 2020 – July, 2021 fifty four (54) new brick kilns were granted Consent to Establish. True copy of the data is already annexed as Annexure A/4. That this recent development seems to be a conspiracy to avoid the implication of order of this Hon'ble Tribunal in Utkarsh Panwar case for Delhi & NCR region.*

28. *It is also pertinent to mention that CPCB's* ***CEPI Scores for Industrial Areas/Clusters monitored during 2018,***

mention Mathura as '91.10 score' and hence Mathura is a 'Critically Polluted Area'*. Further, as per the CPCB uniform categorization of industries, the Brick Kilns unit falls under 'Orange' category and hence the UPPCB cannot be allowed to issue consent to establish to new units as per order dated 10.07.2019 of this Hon'ble Tribunal in Original Application No. 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels". But the UPPCB has issued CTE to 62 new units. The relevant extract of the order in para 28 is reproduced below:*

> *"Accordingly, we direct the CPCB in coordination with all State PCBs/PCCs to take steps in exercise of statutory powers under the Air (Prevention and Control of Pollution) Act, 1981, Water (Prevention and Control of Pollution) Act, 1974, Environment (Protection) Act, 1986 or any other law to prohibit operation of polluting activities in the said CPAs and SPAs within three months and furnish a compliance report to this Tribunal. The Central Pollution Control Board, in coordination with the State Boards/PCBs may make assessment of compensation to be recovered from the said polluting units for the period of last 5 years, taking into account the cost of restoration and cost of damage to the public health and environment and the deterrence element. The scale of deterrence may be related to the period and the frequency of defaults. Such other factors as may be found relevant may also be taken into account.* ***No further industrial activities or expansion be allowed with regard to 'red' and 'orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms.*** *Pending assessment of compensation, interim compensation be recovered at the scale adopted by this Tribunal in the case of Vapi Industrial area as mentioned in para 22 above".*

29. *That there are number of brick kilns which are located in very small area and these brick kilns continuously requires raw material i.e. Soil, the Joint Committee has made no observation regarding source of such minor mineral and whether necessary permissions have been obtained for the same or not.*

G. Violation of Consent Condition and CPCB Directions

30. *That almost all the brick kilns of the Mathura district are not following the consent conditions. The joint committee now in its report pointed out the infirmities but it is surprising that the UPPCB has failed to take action*

against any of the brick kilns. ***The following violations among others were observed by the joint committee:***

i. ***Greenery and Plantation was not observed in majority of the units.***
ii. ***No paved road and 3 meters boundary wall were observed.***
iii. ***No permanent arrangement of stack monitoring.***
iv. ***Absence of water sprinklers to suppress the dust.***
v. ***No display board consisting of name of the unit, address, monitoring data among other things.***
vi. ***Out of 189 brick kilns only 65 number of brick kilns are registered for GST.***

31. *It is also important that* ***banned fuel such as plastic, rubber parts of old vehicles, shredded old automobile tyres and remnants of vehicles and other combustible machinery scraps were also found being used by the brick kilns units.*** *The Joint committee in its report at Page No. 121 states that only permissible fuel was found in Chhata cluster but in the same report at Page No. 134 annexed photograph stating that Brick Kiln at Chhata was found using non permitted fuel.*

32. *It is humbly submitted before this Hon'ble Tribunal that Mathura and adjacent Vrindavan are place of great heritage importance with huge cultural and religious significance. That Mathura is birth place of "Lord Krishna" and also holy temple of "Bankey Bihari" is situation here. That this place is visited by several lakhs of devotees every year and some people make this place as their permanent home after retirement. That presence of these large numbers of polluting and non-conforming industries will have huge impact on the health of lakhs of people who visit Mathura temporarily or reside permanently.*

33. *In light of the above submissions it is humbly submitted that this Hon'ble Tribunal may consider the objections of the Applicant and pass appropriate directions. Further, this Hon 'ble Tribunal may direct the UPPCB to revoke and not renew the consent of the violating brick kilns till the consent conditions are fulfilled.***"**

9. We have heard learned Counsel for the appearing parties. Learned Counsel for the applicant submitted that Zig-Zag technology is mandatory under the CPCB direction as the said technology comparatively produces lesser pollution. All brick kilns using old polluting technology FCBTK be closed. Reliance has been placed on the order of this Tribunal on the subject dated 22.01.2019 in OA 718/2017,

Anil Kumar v. Union of India & Ors. In violation of the directions of the CPCB, fresh consents are being given by the State PCB for operation of brick kilns using old FCBTK technology. Infact time has come to close coal fired activities in area where air quality is poor or above. Out of 189 brick kilns, only 30 brick kilns are using Zig-Zag technology. The remaining are required to be closed. It is preferable to shift to gas based fuel.

Mathura District is part of Taj Trapezium Zone (TTZ) where 'orange' and 'red' category industries are not permitted. Even if Mant and Chhata or other areas all under outside TTZ, the level of air quality has to be considered before granting/renewing any consent having regard to mandate of Air (Prevention and Control of Pollution) Act, 1981. In the report, the data considered is of the entire year and not of the months during which air quality is beyond norms and pollution level is high. Data is not of the local area where the brick kilns are working. The report ignores the order of this Tribunal dated 17.02.2021 in OA 1016/2019, *Utkarsh Panwar v. Central Pollution Control Board & Ors.*, whereby the Tribunal allowed operation of brick kilns only from March to June, having regard to the air quality, limiting to the number which was sustainable as per carrying capacity. Carrying capacity needs to be worked out following correct norms and correct data. Brick kilns not complying with the consent conditions need to be closed till compliance as per precautionary principle. Siting criteria is to apply even to old brick kilns as every renewal is at par with new consent. No doubt the earlier order in Utkarsh Panwar is for Delhi and NCR, the principle underlying the said order has to be followed. Further reference has to be made to the notification issued by the Govt. of India prescribing standards for brick kilns. The prescribed standards are:

"18. .... Standards of the Brick Kilns of Small Unit was 1000 mg/Nm^{3,} Medium Unit was 750 mg/Nm^3 and large Unit was 750 mg/Nm$^{3.}$

19. Thereafter, the MoEF on in the year 2015 issued Environment Protection draft Amendment Rules, 2015. The Particulate matter standards as per the draft rules for Natural Draft Kilns was 500 mg/Nm^3 and Induced Draft Kilns was 250 mg/Nm3.

20. The MoEF& CC on 15.03.2018 published draft prescribed standards for brick kilns under the Environment Protection Rules, 1986. The proposed prescribed standard for particulate matter is 250 mg/Nm^3 for all class of brick kilns."

The Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012 requires a distance from 250 meters from the Government Hospital habitation area, school, colleges and highway. But in violation of the said criteria, there are brick kiln clusters in violation thereof. 54 brick kilns have been recently granted consent to establish without considering the air quality data. The CEPI score for Industrial Areas/Clusters monitored during 2018, mention Mathura as '91.10 score' and hence Mathura is a 'Critically Polluted Area'. Further, as per the CPCB uniform categorization of industries, the Brick Kilns unit falls under 'Orange' category and hence the UPPCB cannot be allowed to issue consent to establish to new units. Brick kilns which are located in very small area and these brick kilns continuously require raw material i.e. Soil, the Joint Committee has made no observation regarding source of such minor mineral and whether necessary permissions have been obtained for the same or not.

The brick kilns are also violate the consent conditions. The joint Committee has found:

"i. Greenery and Plantation was not observed in majority of the units.
ii. No paved road and 3 meters boundary wall were observed.
iii. No permanent arrangement of stack monitoring.
iv. Absence of water sprinklers to suppress the dust.

v. No display board consisting of name of the unit, address, monitoring data among other things.
vi. Out of 189 brick kilns only 65 number of brick kilns are registered for GST."

Banned fuel such as plastic, rubber parts of old vehicles, shredded old automobile tyres and remnants of vehicles and other combustible machinery scraps were also found being used by the brick kilns units. The Joint committee in its report at Page No. 121 states that only permissible fuel was found in Chhata cluster but in the same report at Page No. 134 annexed photograph stating that Brick Kiln at Chhata was found using non permitted fuel.

10. We have considered the issue and also heard learned Counsel for the State PCB/CPCB/Brick kiln owner. From the above resume, it is seen that there are acknowledged serious violations of environmental norms in permitting the operation of brick kilns but the statutory authorities have failed to enforce the law, to protect public health and citizens right to breathe clean air which has to prevail over right to business. Precautionary principle is completely ignored. Air quality norms are violated. Consents have been mechanically given and renewed without any regard to statutory obligation of assessing air quality. There is no effective monitoring mechanism against violations. Even after violations are found, closure is not being ordered till compliance, which has to be the norm under the law. Even air quality monitoring stations have not been set up at air pollution hot spots. Norms applied for calculating carrying capacity are not as required thereby permitting more pollution than permissible. Even those found using prohibited fuel have not been proceeded against. Those registered for GST are also not proceeded against. How will air standards be enforced? Public

trust doctrine is given a go by. Casualty is public health particularly of innocent citizens who look to the State for their protection. They are helpless when the State fails in its duty.

11. This Tribunal, vide order dated 17.02.2021 in OA 1016/2019, *Utkarsh Panwar v. Central Pollution Control Board & Ors.*, considered the issue of permissibility of brick kilns beyond the assimilative carrying capacity in the NCR and in the light of the Expert Committee report. This Tribunal directed that brick kilns be allowed to operate only from March to June using Zig-zag technology only to the extent of such number of brick kilns as were found to be viable in terms of the carrying capacity. The Tribunal directed that if the brick kilns shift to PNG, units may be allowed to function if pollution norms can be maintained. This Tribunal banned fire crackers where air quality is poor and above vide order dated 1.12.2020 in OA 249/2020. Vide order dated 15.7.2019 in OA 710/2017, the Tribunal directed District Environment Committees headed by District Magistrates to prepare District Environment Plans to control and regulate pollution as per Constitutional mandate. In OA 681/2018, vide order dated 8.10.2018, steps were directed to be taken for control of air pollution in cities identified as 'non-attainment' by Air Quality Monitoring Committees, to be headed by the Environment Secretaries, by preparing action plans.

12. Extract from order dated 1.12.2020 in OA 249/2020 is reproduced below:

> ***"18. .....If the air quality is 'poor' and above, it has been held by the Hon'ble Supreme Court in the table quoted in para 4 above that there is danger of heart diseases, respiratory illness and other serious health impact*** *even before Covid. Covid is going to further aggravate the situation and therefore atleast in areas where air quality is 'poor' and above, no*

bursting of fire crackers should be permitted in view of 'Precautionary' principle, to be statutorily enforced by this Tribunal under Section 20 read with section 15 of the National Green Tribunal Act, 2010.

32. .....In view of above discussion, following directions are issued:

i. There will be total ban on sale and use of all kinds of fire crackers during Covid-19 pandemic in the NCR and all cities/towns in the country ***where the ambient air quality falls under the 'poor' and above category****.*

v. We further direct that the Air Quality Monitoring Committees (AQMC) in terms of order of this Tribunal dated 08.10.2018 in OA No. 681/2018[10] to coordinate with the District Magistrates.[11] for compliance of the above directions."

13. Applying the same principles, we are of the view that the brick kilns ought to be permitted to the extent of carrying capacity, correctly calculated, strictly as per consent conditions, siting criteria and other environment norms. When air quality standards are exceeded, only non polluting technology has to be followed. Existing guidelines have to be strictly adhered to. Precautionary principle has to be applied and non compliant activity stopped.

14. The impact of air pollution on public health is noted in the order of the Hon'ble Supreme Court in *Arjun Gopal & Ors. v. UOI & Ors.*[12]:

Table 1

AQI	***Associated Health Impacts***

[10] The said order is as follows:

"15. xxx xxx xxx

i. xxx xxx xxx

ii. The Action Plans may be prepared by six-member committee comprising of **Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State**. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination."

[11] The District Environment Committee has been directed to be constituted by this Tribunal to prepare and execute District Environment Plan vide order dated 15.07.2019 in OA No. 710/2017, Shailesh Singh vs. Sheela Hospital & Trauma Centre, Shahjanhanpur & Ors.

[12] (2017) 1 SCC 412

Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

15. In the said order, the Tribunal held that coal fired brick kilns be not allowed in Delhi and NCR except to the extent of carrying capacity. The observations of the Tribunal are reproduced below:

> *"10. ..... Coal as a fuel adds to air pollution and when air quality is 'severe' brick kilns can be allowed on replacing coal by cleaner fuel like Piped Natural Gas (PNG). This is the reason behind GRAP not permitting other coal-fired brick kilns. The logic applies to zig zag technology kilns also, though compared to FCBTK, it is better. It does not result in zero pollution during 'severe' conditions when any addition to pollution load is hazardous to health. Since, as per independent study, there was no carrying capacity of the air quality of the NCR Region to sustain coal-fired brick kilns during 'severe' conditions, using zig-zag technology, which does not eliminate pollution could not justify such brick kilns. It will suffice to reproduce the operative orders passed on five last occasions which are as follows:*
>
> **A. <u>Order dated 18.12.2019:</u>**
>
> ***"****4. In view of the above, while CPCB may conduct further study for assessment of different types of brick kilns with reference to source emissions from different types of fuels, having regard to the conclusion that average fugitive SPM values are almost same in FCBTK and Zig-Zag brick kilns, the interim order directing closure of brick kilns in NCR will continue till the next date.* ***Thereafter, brick kilns in NCR may be allowed only consistent with the carrying capacity and siting criteria, subject to GRAP, consent conditions and background concentration of ambient air quality****."*
>
> **B. <u>Order dated 06.02.2020:</u>**
>
> ***"****3. Since brick kilns can be permitted only after ascertaining the carrying capacity as above, let a report about carrying capacity of the NCR region in above terms be furnished by CPCB before the next date by e-mail at <u>judicial-ngt@gov.in</u>."*

C. Order dated 05.03.2020:

"4. In view of the above, a report has been filed by the CPCB on 04.03.2020 as follows:

"As per information provided by SPCBs, there are total 3278, 2854 and 19003 brick kilns in Haryana, Punjab and Uttar Pradesh respectively, out of which 1918, 701 and 1343 brick kilns have been converted to Zig-Zag technology. With regard to NCR regions, out of 2187, 2216 and 251 brick kilns in Haryana, Uttar Pradesh and Rajasthan respectively, ***1504, 1032 and 127 brick kilns have been converted to Zig-Zag technology****.*

Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts.

Different types of activities with potential of air pollution, including operation of brick kilns in Delhi-NCR are regulated through a Graded Response Action Plan (GRAP) by Environmental Pollution Control Authority. ***As per GRAP, Brick kilns in NCR are required to be shut under severe conditions i.e. when $PM_{2.5}$ and/or PM_{10} concentration goes beyond 250 µg/m³ and/or 430 µg /m³ respectively.***

In view of the expected higher concentration of PM emissions during winter months, brick kilns in the NCR regions were kept closed during this period as per directions of EPCA. ***However, now, looking into the forecast of favourable meteorological conditions and expected improvement in the air quality, Environmental Pollution Control Authority (EPCA) has directed that operation of those brick kilns in NCR districts, which have converted to Zig-zag technology, be allowed, vide letter No. EPCA-R/2020/L-09 dated February 14, 2020*** *(Copy enclosed as Annexure-I).*

Further, air quality data of 2019 in NCR, was examined. Analysis indicated that ***$PM_{2.5}$*** *concentration in summer months (March-June) is lower (****Average 80 µg /m³)*** *in comparison to winter months (Average 173 µg /m³). Similarly,* ***PM_{10}*** *concentration in summer months (March-June) is lower (****Average 219 µg /m³)*** *in comparison to winter months (Average 283 µg /m3).*

The past data of 2019 w.r.t. PM_{10} & $PM_{2.5}$ concentration in Delhi, is summarized in ***Table 1:***

Table 1: *Monthly data of CAAQMs w.r.t. PM Concentration for 2019, in Delhi*

Month	$PM_{2.5}$, µg/m³	PM_{10}, µg/m³
January	203	322
February	122	215
March	83	184
April	83	236
May	89	247
June	63	209

July	*47*	*143*
August	*35*	*85*
September	*40*	*98*
October	*128*	*247*
November	*202*	*312*
December	*209*	*316*

Therefore, in view of submission that 65 Nos brick kilns are proposed to be monitored in both NCR and Non-NCR regions, involving total 585 stack emissions' samples, in compliance of the directions of Hon'ble NGT in the matter of 0.A. No. 1016/2019 and 0.A. No. 1088/2018, it is humbly prayed as under:

I. Brick Kilns based on Zig-Zag technology using agro-residues are located only in NCR districts and if these are to be monitored to assess the performance of brick kilns operating on agro-residues, under comparable situations, the Zig-Zag type brick kilns in NCR regions, which are presently dosed, may have to be made operational, to facilitate monitoring.

II. Atleast 04 months' time period may be granted to CPCB, for Monitoring of 65 brick kilns in NCR and Non-NCR regions and submission of report covering ***i) Impact of brick kilns operation on loss/degradation of top soil, ii) study involving Carrying Capacity Assessment of brick kilns with adequate samples in terms of number of brick kilns and days for which monitoring be conducted, iii) Evaluation of the performance of brick kilns against the background concentration and carrying capacity of the area and iv) Impact on Brick Kilns operation on ambient air, in the matters of O.A. No. 1016/2019 and O.A. No. 1088/2018, after commencement of operation of brick kilns in NCR regions."***

5. ***We have heard learned Counsel for the CPCB and for the brick kilns, including those who have filed applications for being implead as party in pursuance of order of Hon'ble Supreme Court dated 20.02.2020 in C.A. No. 1733-35/2020.***

6. Learned Counsel for the CPCB submitted that having regard to the data of air quality, even though as per GRAP brick kilns are to be mandatorily shut throughout NCR only under 'severe conditions', ***no polluting activity, including brick kilns, can be permitted beyond 'carrying capacity' and air quality norms under the Air (Prevention and Control of Pollution) Act, 1981.*** *On the other hand, the stand of the brick kilns is that unless the conditions are 'severe' to attract GRAP and unless prohibited by EPCA, 'Zig-Zag' technology brick kilns have right to operate irrespective of the air quality norms. Reliance has also been placed on norms for brick kilns under Schedule-I, Sr. No. 74 of Environment (Protection), Rules 1986. Alternatively, it is submitted that at such locations where air quality is within norms, brick kilns may be allowed. By way of example, it is stated that the ambient air quality data at Alwar, as on 18.02.2020, is within norms.*

7. ***We do not find any merit in the contention that only in 'severe' conditions brick kilns can be prohibited even if the air quality is beyond permissible norms and the area has no assimilative or supportive capacity. Emission norms of individual brick kilns is not a conclusive factor for dealing with the issue, if the carrying capacity of the area does not allow the brick kilns in question****. However, we do need to consider the submission that where air quality is within the norms and there is carrying capacity, brick kiln can be allowed.*

8. In view of the above, ***it is necessary to look at the relevant data at different locations '24 hourly' and 'monthly average' during the relevant months. Since such data is maintained by the CPCB/PCBs, the CPCB may collect such data for corresponding months of March, April, May and June in the year 2019 and furnish the same before the next date. The break-up of location of the brick kilns District-wise may also be furnished to consider as to which of the brick kilns can be allowed after verification that such brick kilns are actually working on 'Zig-Zag' technology, pending further assessment of the carrying capacity by the CPCB, as already directed earlier vide order dated 06.02.2020****."***

D. <u>Order dated 23.03.2020:</u>

"*6. We have considered the above data which shows that in the corresponding months when brick kilns were operating, standard of air quality was not as per prescribed norms. Thus, the air quality of the area is unable to take further pollution load. In this regard, it may be noted that while considering the issue of operation of brick kilns in non-NCR area, where GRAP was not applicable as such, in O.A. No. 1088/2018, Dinesh Chahal & Ors. vs. Union of India & Ors., the Tribunal vide order dated 30.04.2019 observed that standards of ambient air quality are required to be maintained under Section 17(g) of the Air Act, 1981:*

> *"3. … The matter was again considered on 21.02.2019 with reference to the* ***contention that the impugned order was only for Non-NCR to which order of CPCB or EPCA did not apply. The Tribunal held that even in Non-NCR, Standards of Ambient Air Quality laid down under Section 17 (g) of the Air Act are required to be followed. If the impugned order has been passed without undertaking any study on status of ambient air quality without any carrying capacity assessment to take the additional load at concerned areas and without any safeguards on 'Precautionary' principle, the same may not be justifiable having regard to the acknowledged adverse impact of operation of the brick kilns on the ambient air quality.*** *Reference was made to the Judgements of the Hon'ble Supreme Court in M.C. Mehta v. Union of India, (1998) 9 SCC 149, M.C. Mehta v. Union of India (2000) 7 SCC 422, M.C. Mehta v. Union of India, (2002) 4 SCC*

378, K. Guruprasad Rao v. State of Karnataka, (2012) 12 SCC 736 wherein the Hon'ble Supreme Court directed closure or shifting of brick kiln industries and M.C. Mehta v. Union of India, (2001) 9 SCC 235 laying down that brick kilns may be allowed to operate after studying the impact on human population and vegetation."

7. Learned Counsel for the brick kiln operators, however, submit that prohibition on operation of brick kilns be lifted as some individual brick kilns meet the air quality emission standards laid down under the Environment (Protection) Rules, 1986 and the brick kilns are not the only source of pollution. Contribution of all the brick kilns taken together, to the air pollution, was about 3%. It was also mentioned that as at present air quality norms are within limit in seven districts out of 15 districts of NCR.

8. As observed earlier, ***the question is not merely of an individual brick kiln not emitting pollution or the extent of contribution of the brick kilns taken separately, but of the capacity of the area being already air polluted and unable to take the load of pollution. When there is no carrying capacity in the area for further air pollution, we find it difficult to permit operation of the closed brick kilns to uphold the 'Sustainable Development' principle****. When even without operation of the brick kilns the air quality is not within the norms, the impact of operation of the brick kilns cannot be ignored. Thus, we find it difficult to accept the submission that the individual brick kilns maintaining the prescribed standards for discharge of emissions are entitled to operate or that they be allowed to operate on the ground that pollution caused by the brick kilns is less than other pollution from other sources irrespective of carrying capacity of the area. The fact remains that brick kilns add to the air pollution and thereby affect right of citizens to breathe fresh air.*

9. We may now consider another aspect of the matter i.e. impact of the brick kilns on the top soil. As noted in order dated 05.03.2020, CPCB has undertaken to look into this aspect and has not yet completed its study. As per available study, ***there is huge environmental cost in using top soil for making brick making.[13] Reference may also be made to a study on "The Impact of Brick Kiln operation to the degradation of topsoil quality of Agricultural Land****".[14] There is further issue of unutilized fly ash adversely affecting the environment which may require barring red clay brick kilns. This is proposed in a draft notification of the MoEF&CC 25.02.2019 within 300 kms of coal or lignite based thermal power plants. No doubt the said notification is only a draft but the same is evidence of such step being necessary for sustainable development.*

---

[13] www.journals.sagepub.com/doi/abs/10.1177/0974929214521892# (Environmental Cost of using top-soil for brick making – a case study form India (MoEF, GoI project) (Published in Review of Market Integration, 2013) Vinish Kathuria, Professor, IIT Bombay – March 11, 2015.

[14] www.researchgate.net/publication/282431176_The_impact_of_brick_kiln_operation_to_the_degradation_of_topsoil_quality_of _agricultural_land.

10. ***Main reason for air pollution by brick kilns is use of coal etc. as fuel. The pollution can be minimized if the fuel which is currently used is considered to be replaced by cleaner fuels like PNG by appropriate modification in design not adding to the PM load. Dealing with the air pollution caused in Morby Industrial Area in Gujarat on account of coal gasifiers in tile manufacturing, the Tribunal directed closing of coal gasifier industries without prejudice to such industries switching over to non-coal gasifiers, PNG or other such technology. It was directed[15]:***

> ***"25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage to the environment and public health."***

11. Issue of allowing operation of brick kilns may give rise to following questions:

> ***(i). The use of cleaner fuels or any other alternative measures to be used to prevent air pollution.***
> ***(ii). Siting and carrying capacity.***

12. In view of the fact that there is no carrying capacity of the air quality in NCR region to permit any further addition to PM load by permitting unconditional operation of brick kilns using fuel which adds to PM load and since it may be necessary to consider the issue of utilizing fly ash, we require an expert opinion on following issues:

> ***(a) how brick kilns can be allowed in NCR without damage to the air quality;***
> ***(b) conditions subject to which it may be done;***
> ***(c) number of brick kilns to be allowed and criteria for fixing such numbers.***

13. Let CPCB look into the above issues and furnish a further report within one month for further directions in the matter. The applicants are free to put forward their viewpoint before CPCB."

E. <u>Order dated 15.10.2020:</u>

7. Accordingly, in above backdrop, the CPCB has given its report dated 06.07.2020. The CPCB considered suggestions/objections

[15] Order dated 06.03.2019 in O.A. No. 20/2017 (WZ), Babubhai Ramubhai Saini vs. Gujarat Pollution Control Board & Ors.

of the Brick Kiln Owner Association in terms of order of this Tribunal which have been summed up in the report as follows:-

"(a) The brick kilns are complying with the directions of CPCB w.r.t. shifting from the Old Fixed Chimney Bull Trench Kiln Technology to Zig-Zag Technology.

(b) The brick Kilns have been established as per siting criteria.

(c) The Hon'ble Supreme Court of India in Civil Appeal No. 1742-43 of 2020 (Diary No. 5935/2020) vide order dated 20/02/2020 requested Hon'ble NGT to decide the O.A. No. 1016/2019, in the light of the provisions of the Graded Response Action Plan (GRAP) of MoEF&CC and EPCA order dated 14/02/2020.

(d) The brick kilns in NCR regions are required to be closed under Severe Category (PM_{10} > 430 ug/m^3 or $PM_{2.5}$ > 250 ug/m^3) under GRAP.

(e) Brick Kilns based on Zig-Zag technology are less polluting and are complying with the both existing and proposed standards for stack emissions.

(f) PNG, CNG and industrial LPG are not available in majority of places where brick kilns are situated.

(g) The blanket ban on operation of brick kiln industries has affected livelihood rights of approximately one million people in the national Capital region.

(h) The brick Kiln industries are seasonal and hence only operate from January to June and indefinite closure for the want of study would cause and has already caused irreparable damage to the brick kiln industry.

(i) Utilization of fly ash may not be treated as a true alternative unless the harmful impacts of fly ash bricks are not studied.

(j) A report on "Source Apportionment of $PM_{2.5}$ and PM_{10} of Delhi NCR for identification of major sources" prepared by ARAI and TERI for Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, New Delhi, in the year 2016, reveals that brick kiln industry contributed only about 8% to the air pollution of Delhi and NCR. It was further found that the brick kilns shifting to Zig-Zag technology would further lead to reduction of 3%, 4% and 6 % in total $PM_{2.5}$, PM_{10} and SO2 emissions. The contribution of the brick kilns is very less in Delhi and NCR after conversion to Zig-Zag technology.

(k) The utilization of fly ash in the manufacture of bricks is not only unfeasible because of several issues involved in the transportation of fly-as to brick- kilns. It poses several health hazards to the inhabitants residing in buildings made thereof, in addition to health hazards to laborers working at brick-kilns and on construction sites.

(l) ***Various kinds of industrial and other activities contribute together to saturate the carrying capacity of***

the region. It is submitted that saturation of the carrying capacity of Delhi-NCR cannot be the basis for denying permission to brick kilns to operate. This is particularly because brick kilns emissions are not amongst the main contributors to air pollution in Delhi-NCR.

(m) ***Any directions that prohibit brick kilns from operating in Delhi- NCR on account of saturation of the carrying capacity, without first prohibiting the other more polluting activities, would be arbitrary and violative of Article 14 and Article 19(1)(g) of the Constitution of India****.*

(n) ***The brick kilns may be allowed to operate at par with other activities that together contribute to the carrying capacity of Delhi-NCR, subject to the conditions of the Consent to Operate and guidelines issued by the regulatory bodies so as to avoid fugitive dust emissions.***

(o) The directions issued by the EPCA from time to time are sufficient to ensure that the brick kilns operate in Delhi-NCR without any damage to the air quality.

(p) The brick kilns that do not comply with the conditions of the Consent to Operate and other guidelines issued by the regulatory bodies from time to time may also be closed down with immediate effect.

*(q) The brick kilns, which have adopted the zig-zag technology, may be permitted to operate in Delhi-NCR.****"***

xxx……xxx……xxx

11. Considering the objections of the brick kilns owners, it was observed:-

"15. We are unable to find any substance in the objections. CPCB has duly explained that the Carrying Capacity is based on monthly average data on PM_{10} generated from CAAQMS and where no such data was available, Aerosol Optical Depths were extrapolated to PM. Further, carrying capacity has been assessed by taking mixing heights into consideration and comparing with identical air shed of districts geographical area and dispersion air volume conditions. ***With regard to emission load, the load is based on actually monitored values taking stack diameter, velocity, temperature and pressure of flue gases and standard of 250 mg/Nm 3 at 17% O 2. Overall fact is that entire NCR has no carrying capacity to take load of the pollution of the brick kilns as already levels of PM_{10} and $PM_{2.5}$ are exceeding daily/annual standards. As per Table 15 of the Report, no brick kiln has scope to operate except, some may, during March to June.***

16. Other issues raised are no longer res integra and are covered against the objectors by the law laid down by the

Hon'ble Supreme Court. Reference may be made to some of the judgements dealing with the issue.

Supreme Court judgments dealing with Air quality of NCR, Precautionery principle, control of pollution from one source hen there are multiple sources and enforcement of environment norms where right to trade is pleaded

17. In Arjun Gopal & Ors. v. UOI & Ors.[16], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was smoked into an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> ***"**4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world. **It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m³, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m³ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m³ and with an annual average $PM_{2.5}$ level of 122 µg/m³, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> ***5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the***

[16] (2017) 1 SCC 412

Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:

Tables 1 and 2 have already been reproduced in para 1 above and are not being repeated.

xxx.....xxx xxx
xxx.....xxx xxx

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The

New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

18. In the context of banning sale of crackers having adverse impact on the air quality, it was held that ***even if there were several sources of pollution, a particular polluting activity could be prohibited****. No equality could be*

pleaded in this regard. Right to trade was not absolute and could be restricted for protection of Environment which was a specific Directive Principle of State Policy enforcement of which was a reasonable restriction on fundamental right to trade. The 'Precautionary Principle' of environmental law allows prohibition of a polluting activity even in absence of scientific certainty. Relevant extracts are as follows:-

> ***"**37 **The aforesaid findings are sufficient to negate the arguments of the opposite side that there is absence of scientific study** about the adverse effect of firecrackers during Diwali. In environmental law, "precautionary principle" is one of the well-recognised principles which is followed to save the environment. It is rightly argued by the petitioners that this principle does not need exact studies/material. The very word "precautionary" indicates that such a measure is taken by way of precaution which can be resorted to even in the absence of definite studies. In Vellore Citizens' Welfare Forum [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647], this Court explained the principle in the following manner: (SCC pp. 658 & 660, paras 11 & 14-16)*
>
> *"11. Some of the salient principles of "Sustainable Development", as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection, the Precautionary Principle, Polluter Pays Principle, Obligation to Assist and Cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that "the precautionary principle" and "the polluter pays principle" are essential features of "Sustainable Development". The "precautionary principle" — in the context of the municipal law — means:*
>
> *(i) Environmental measures — by the State Government and the statutory authorities — must anticipate, prevent and attack the causes of environmental degradation.*
>
> *(ii)* ***Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.***
>
> ***(**iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.*
>
> ***
>
> *14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.*
>
> *15. Even otherwise once these principles are accepted as part of the Customary International Law there would be no difficulty in accepting them as part of the domestic law. It is almost an accepted proposition of law that the rules of*

Customary International Law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law. To support we may refer to H.R. Khanna, J.s' opinion in ADM, Jabalpur v. Shivakant Shukla [ADM, Jabalpur v. Shivakant Shukla, (1976) 2 SCC 521] , Jolly George Varghese case [Jolly George Varghese v. Bank of Cochin, (1980) 2 SCC 360] and Gramophone Co. case [Gramophone Co. of India Ltd. v. Birendra Bahadur Pandey, (1984) 2 SCC 534 : 1984 SCC (Cri) 313] .

16. The constitutional and statutory provisions protect a person's right to fresh air, clean water and pollution-free environment, but the source of the right is the inalienable common law right of clean environment. …"

38. The precautionary principle accepted in the aforesaid judgment was further elaborated in A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] as under: (SCC pp. 732-34, paras 31-35)

"31. The "uncertainty" of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum v. Union of India [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] a three-Judge Bench of this Court referred to these changes, to the "precautionary principle" and the new concept of "burden of proof" in environmental matters. Kuldip Singh, J. after referring to the principles evolved in various international conferences and to the concept of "sustainable development", stated that the precautionary principle, the polluter pays principle and the special concept of onus of proof have now emerged and govern the law in our country too, as is clear from Articles 47, 48-A and 51-A(g) of our Constitution and that, in fact, in the various environmental statutes, such as the Water Act, 1974 and other statutes, including the Environment (Protection) Act, 1986, these concepts are already implied. The learned Judge declared that these principles have now become part of our law. The relevant observations in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] in this behalf read as follows: (SCC p. 660, para 14)

'14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.'

The Court observed that even otherwise, the abovesaid principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law. In fact, on the facts of the case before this Court, it was directed that the authority to be appointed under Section 3(3) of the Environment (Protection) Act, 1986

'shall implement the "precautionary principle" and the "polluter pays principle"'.

The learned Judges also observed that the new concept which places the burden of proof on the developer or industrialist who is proposing to alter the status quo, has also become part of our environmental law.

32. The Vellore [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] judgment has referred to these principles briefly but, in our view, it is necessary to explain their meaning in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them.

33. ***A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the "assimilative capacity" rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers with the information and means necessary to avoid encroaching upon the capacity of the environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the "precautionary principle",*** *and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:*

'Principle 15.—In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.'

34. In regard to the cause for the emergence of this principle, Charmian Barton, in the article earlier referred to in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] says:

'There is nothing to prevent decision-makers from assessing the record and concluding that there is inadequate information on which to reach a determination. If it is not possible to make a decision with "some" confidence, ***then it makes sense to err on the side of caution and prevent activities that may cause serious or irreversible harm****. An informed decision can be made at a later stage when additional data is available or resources permit further research. To ensure that greater caution is taken in environmental management, implementation of the principle through judicial and legislative means is necessary.'*

In other words, the inadequacies of science is the real basis that has led to the precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible.

35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the international customary law, 'the consequences of its application in any potential situation will be influenced by the circumstances of each case'. (See First Report of Dr. Sreenivasa Rao Pemmaraju — Special Rapporteur, International Law Commission dated 3-4-1998, paras 61 to 72.)"

(emphasis in original)

39. In such cases which pertain to the protection of environment, thrusting of "onus of proof" on the developer/industrialist in Vellore Citizens' Welfare Forum [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] was also elaborated by the Court in the following manner: (A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] , SCC pp. 734-35, paras 36-38)

"36. We shall next elaborate the new concept of burden of proof referred to in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] at p. 658. In that case, Kuldip Singh, J. stated as follows: (SCC p. 658, para 11)

'(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.'

37. It is to be noticed that while the inadequacies of science have led to the "precautionary principle", the said "precautionary principle" in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, — is placed on those who want to change the status quo (Wynne, "Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm" [(1992) 2 Global Environmental Change 111 at p. 123]). This is often termed as a reversal of the burden of

proof, because otherwise in environmental cases, those opposing the change would be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the ***party attempting to preserve the status quo by maintaining a less polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden.*** *(See James M. Olson, "Shifting the Burden of Proof: How the Common Law can Safeguard Nature and Promote an Earth Ethic" [(1990) 20 Environmental Law 891 at p. 898] .) (Quoted in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] at pp. 519, 550.)*

38. The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. (See Report of Dr Sreenivasa Rao Pemmaraju, Special Rapporteur, International Law Commission, dated 3-4-1998, Para 61.)"

(emphasis in original)

41. It may be stressed that in Vellore Citizens' Welfare Forum case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] , this Court had banned the tanneries when it was found that they were causing immense damage to the environment. Thus, environment protection, which is a facet of Article 21, was given supremacy over the right to carry on business enshrined in Article 19(1)(g). We state at the cost of repetition that right to health, which is recognised as a facet of Article 21 of the Constitution and, therefore, is a fundamental right, assumes greater importance. It is not only the petitioners and other applicants who have intervened in support of the petitioners but the issue involves millions of persons living in Delhi and NCR, whose right to health is at stake. However, for the time being, without going into this debate in greater details, our endeavour is to strive at balancing of two rights, namely, right of the petitioners under Article 21 and right of the manufacturers and traders under Article 19(1)(g) of the Constitution.

44. Applying the aforesaid principle, in the first blush it may appear that the aforesaid argument has substantial force in it. However, that would be only one side of the picture as there are two contra-arguments which are sufficient to take the sheen out of the aforesaid plea. First aspect is that the argument of economic hardship is pitched against right to health and life. ***When the Court is called upon to protect the right to life, economic effect of a particular measure for the protection of such right to health will have to give way to this fundamental right. Second factor, which is equally important, is that the economic loss to the State is pitched against the economic loss in the form of cost of treatment for treating the ailments***

with which people suffer as a result of burning of these crackers. Health hazards in the form of various diseases that are the direct result of burning of crackers have already been noted above. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of $PM_{2.5}$ are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life*. Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial. It may be more than the revenue which is generated from the manufacturers of the crackers. However, we say no more for want of precise statistical data in this behalf."*

Carrying Capacity Concept

19. Carrying capacity is a facet of sustainable development. It is inherent in 'Precautionary Principle' as well as in 'Inter-generational Equity'. In MC Mehta v. UOI & Ors.[17]*,* ***construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity.*** *It was observed that:-*

"Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration."

20. In Vellore Citizens' Welfare Forum v. UOI & Ors.[18]*, it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-*

> ***"****10……* ***During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems****. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.****"***

[17] (1997) 3 SCC 715
[18] (1996) 5 SCC 647

21. These observations are reiterated in (2006) 6 SCC 371.[19]

Pollution from Brick kilns – shifting from coal to Natura gas as fuel

22. In M.C. Mehta (Taj Trapezium Pollution) v. UOI & Ors.[20]*, the Hon'ble Supreme Court held that pollution caused by brick kilns in Taj Trapezium area was harmful to the Taj. Brick kilns within radius of 20 km were directed to be closed/relocated and replacement of the fuel by natural gas was suggested.*[21]

CNG replaced for diesel as fuel, closing Thermal Plant and controlling carbon emitting activities to control pollution

23. In M.C. Mehta v. UOI & Ors.[22] *the issue for consideration was vehicular pollution on account of use of diesel considering the constitutional obligation, adverse impact of air pollution on health, the Hon'ble Supreme Court directed allocation of CNG and replacement of diesel vehicles of CNG.*[23] *In M.C. Mehta v. UOI & Ors.,*[24] *various directions were issued to deal with the adverse air quality in Delhi including phasing out of old vehicles,* ***closing Badarpur Thermal Power Station*** *increasing Metro frequency, stopping burning of waste, vacuum cleaning of roads.*

Tribunal's Approach to the subject

24. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the National Green Tribunal Act, 2010 and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[25] *and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.*[26] *Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).*[27]

25. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

---

[19] Para 66 to 76
[20] (2001) 9 SCC 235
[21] Para 1 & 2
[22] (2002) 4 SCC 356
[23] Para 1,3,11,21 to 24, 26 & 29
[24] (2016) 4 SCC 269
[25] 2019 SCC online SC 322, Para 43-47
[26] AIR 2020 (SC) 3471, Para 75
[27] (2019) 15 SCC 401

"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of ***vehicular pollution[28], industrial and construction sector pollution[29], power sector pollution[30] and agricultural sector pollution[31]*** *and orders of this Tribunal dealing with the said issues[32]. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017[33] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such* ***as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[34]***

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[35]

---

[28] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[29] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[30] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[31] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[32] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[33] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[34] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[35] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

5. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.

6. The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles."

7to13..xxx……xxxx……xxx

*14. According to the CPCB, draft framework has been prepared and SA study completed in four States (for 05 cities). Study was under progress in 14 States (for 54 cities), and at proposal stage in 10 States (for 37 cities). Methodology for carrying capacity has been shared with State PCBs/PCCs. Twelve (12) States/UTs have given the details of the carrying capacity and the remaining have yet to take necessary steps. CC/SA studies are pre requisite for meaningful planning to enforce environmental law. This pre-requisite should have been undertaken long ago. Air quality norms have been statutorily laid down under the Air (Prevention and Control of Pollution) Act, 1981 as well as the Environment (Protection) Act, 1986 and such norms are being flagrantly violated, which has been made by the Parliament a criminal offence. If the rule of law has to have meaning and guilty are to be punished, the policies of the State have to be based on scientific studies to contain polluting activities within the scope of Carrying Capacity.***"***

26. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. This was referred in the earlier order of this Tribunal in the present matter. It was further observed that while under the orders of the Hon'ble Supreme Court, GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation.

Conclusion

27. Thus, in view of report of the CPCB, at this stage ***it is not possible to vacate direction not to permit operation of brick kilns in NCR beyond the carrying capacity found by the CPCB. All applications of the brick kiln owners seeking rejection of CPCB report and vacation of interim order against operation of brick kilns, without air quality assimilative capacity permitting such activity will stand rejected subject to further exploring viable options, including change to clean fuel like natural gas****. We are conscious that brick kilns may be necessary. Object of this order is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to file. The source apportionment studies, placed on record, show that brick kilns contribute 5-7% PM. Air pollution Control devices to be installed by the polluting sources including the brick kilns need to comply not only the consent standards but are also the Ambient Air Quality norms and available assimilative capacity of the region.* ***If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of*** PM_{10} ***and*** $PM_{2.5}$ ***affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases****.*[36]

28. Accordingly, we direct CPCB to constitute a Committee of five experts to suggest ways and means, if any, by which sustenance of brick kilns activities may be viable. It will be open to CPCB to nominate in-house or other Experts. The CPCB may also explore viability of PNG as replacement of coal and other best practices in terms of fuel used, at other places or in other Countries. It will be open to the brick kilns owners/associations to give any other suggestions or alternatives for consideration by CPCB in spirit of collaboration with a view to find a solution within two weeks from today. Subject to the report of the expert Committee finding it viable, possibility of permitting operation of brick kilns, having regard to the extent of pollution load and its effect on the air pollution level in NCT of Delhi may be considered. The CPCB may constitute an expert Committee within three weeks which may give its report within six weeks thereafter. Further report may be furnished in the matter before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."

xxx ..... xxx xxx

[36] https://airqualitynews.com/2020/08/13/the-link-between-air-pollution-and-covid-19/http://www.babushahi.com/full-news.php?id=107487

14. The report also annexes a study of Tunnel kiln technology, using PNG as fuel, employed by M/s Wienerberger Building Solutions Private Limited, KIADB Industrial Area, Kunigal, Karnataka, ***(which has not been found viable by the Committee),*** *as follows:-*

"5.0 Plant Description:

M/s Wienerberger Building Materials Solutions Private Limited, a Brick Manufacturer founded in 1819 in Vienna, Austria, is having 204 plants spread across 30 countries, is engaged in using natural, eco-friendly building material of international quality standards. The unit located in Plot No. 1 & 2, Kunigal Industrial Area, Phase II, Gottikere Village, Kunigal, Karnataka has Tunnel kiln, a continuous moving ware kiln technology. Wienerberger at Kunigal is the production facility, 70 kms from Bangalore, is Austria-based Wienerberger's first Asian manufacturing unit. The fully automated, state-of-the-art facility manufactures bricks called porotherm perforated clay bricks. The environment friendly production unit runs 365 days a year, producing 450 tonnes of bricks per day. Quality is ensured by the latest European production equipments 24 hour factory production control with in-house laboratory for chemical and physical tests of raw materials and finished products. The unit makes different types of horizontal and vertical perforated light weight clay bricks. The porotherm horizontally perforated light weight clay bricks has following advantages:

- *Weighs 60 % less than conventional walling material*
- *Compressive strength ≥3.5 N/mm^2*
- *Density of approx. 700-800kg/m^3*
- *Conveniently large and light weight bricks*
- *Excellent thermal insulation*
- *Low water absorption ~ 15%*

Brick is a 100 % natural clay product with natural additives like coal ash, rice husk and granites slurry. No toxic or any chemical additives are used, thereby free from toxic gases."

15. The report also refers to direction issued by the CPCB on 27.11.2020 under Section 18 (1) (b) of the Air (Prevention & Control of Pollution) Act, 1981 for upcoming industrial units in NCR ***to use only gas*** *and also refers to an earlier order requiring even the existing industries in NCR Delhi,* ***to shift to PNG by 31.03.2019 where gas supply is available****. The relevant part of the order is quoted below:-*

"xx xx xx xx

Whereas, considering the Considering deteriorating air quality in NCR-Delhi and also the fact that ***already directions have been issued to all the existing industries in NCR-Delhi to switch over to cleaner fuels, it is decided that only those new industrial units shall be allowed to set-up in NCR-Delhi, which use cleaner fuels namely, natural gas***

(PNG/CNG), liquefied petroleum gas, bio gas, propane, butane etc. and

Now therefore, in view of the above and exercising the powers conferred under section 8(1)(b) of Air (Prevention and Control of Pollution) Act, 1981, you are hereby directed to allow only those new industrial units in NCR-Delhi, which are using cleaner fuels, namely, natural gas (PNG/CNG), liquefied petroleum gas, bio-gas, propane, butane etc."

16. We have heard Counsel for the brick kiln operators at great length and also perused the written submissions filed by them but their effort being to revisit the earlier order against which their appeal stands dismissed, we do not find any reason to pass any different order. As already observed in the beginning of this order, the data in Table 15 in the CPCB report shows that in severe air quality condition, coal fired brick kilns using zig zag technology are not sustainable in view of carrying capacity of the region. ***Only from March to June, limited number of brick kilns operated by zig zag technology can be permitted****. Thus, unless there is change to cleaner fuel (PNG), brick kilns beyond the capacity shown by Table 15 above cannot be allowed.*

17. There is variance of figures of brick kilns permissible during March to June within the carrying capacity. Nature of brick kiln activity being continuous, only such number can be allowed which can be sustained throughout the said period i.e. the minimum figure of a particular month out of the four months, which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Thus, only this number can be allowed for the time being during the period air quality is not severe. ***Shortlisting for the purpose may be done applying a suitable siting criteria taking into account inter-se distance, distance from sensitive locations and compliance of consent conditions. Further, location of brick kilns be scattered on pro-rata basis, in different directions of the area, having regard to background and carrying capacity parameters. On that broad basis, selection criteria be worked out by a joint Committee of CPCB and State PCBs. Those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond the number of brick kilns on Zig-Zag technology within the carrying capacity. This can be revisited if air quality improves or if carrying capacity increased as a result of measures adopted by the State authorities in future, by reducing pollution load from different sources.***

18. The Tunnel kiln technology with PNG can be followed, if viable, on which it may be permissible for the brick kilns to function even in severe conditions for existing or new brick kilns. The direction dated 27.11.2020 by CPCB also shows the need for reducing pollution load and not to allow activities by using coal.

19. As mentioned earlier, the recommendation that the brick kilns can be allowed with effective monitoring appears to be hypothetical in view of monitoring having been found to be hardly effective, on

performance audit of PCBs, as will be shown in later part of this para. While in absence of carrying capacity, brick kilns are not permissible in 'severe' air quality situation, need for improving monitoring and minimising pollution is undisputed. In this regard, matter has been considered by this Tribunal in OA 95/2018, Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.[37], and in the light of report of performance audit of State PCBs, it has been found that performance is inadequate in terms of staff, equipment and functioning. Similar situation has been found in OA 837/2018, Sandeep Mittal Ministry of Environment, Forests & Climate Change & Ors.[38], in relation to monitoring of EC conditions by the MoEF&CC. We have recently come across several cases of industrial accidents and one of the reasons for the same is inadequate monitoring. In OA 85/2020, Aryavart Foundation through its President v. Yashyashvi Rasayan Pvt. Ltd. & Anr.[39], directions have been issued to improve the same. We have already noted in other proceedings[40] that as per official statistics, 100 industrial clusters are polluted, 351 river stretches are polluted and 122 cities are non-attainment in terms of air quality, apart from huge gaps in waste generation and management. Inspite of monitoring of the said issues by this Tribunal, the situation is far from any improvement. Thus, it is undeniable that stringent steps for monitoring to achieve goal of sustainable development are required. While monitoring must certainly improve, such suggestion is not enough to presume that pollution load by coal-fired brick kilns will reach zero so as to sustain coal-fired brick kilns in NCR in severe air quality conditions. In such situation, potential damage to public health cannot be ignored, while dealing with the issue of activity having potential for pollution, in the area having no carrying capacity to sustain further pollution load.

20. Thus, we conclude that going by the order dated 15.10.2020, in 'severe' air quality conditions, coal-fired brick kilns cannot be allowed to operate in NCR even if zig zag technology is used and improved procedures are followed, as suggested by the Committee, unless there is switch over to the PNG. All other issues have

---

[37] vide order dated 05.02.2021

[38] Vide order dated 01.02.2021

[39] Vide order dated 03.02.2021

[40] (i) Vide order dated 21.09.2020, OA 673/2018, *In Re: News item published in "The Hindu" authored by Shri Jacob Koshy, titled "More river stretches are now critically polluted: CPCB*"

(ii) Vide order dated 21.08.2020, OA 681/2018, News item published in "The Times of India" Authored by Shri Vishwa Mohan titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15"

(iii) Vide order dated 14.11.2019 in OA 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels"

(iv) Vide order dated 28.02.2020 in OA No. 606/2018, Compliance of Municipal Solid Waste Management Rules, 2016.

(v) Vide order dated 18.01.2021 in OA 710/2017, *Shailesh Singh, v. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors*. with regard to **bio-medical waste**

(vi) Vide order dated 29.01.2021 in OA 804/2017, *Rajiv Narayan v. Union of India & Ors*. with regard to **hazardous waste.**

(vii) Vide order dated 15.01.2021in OA 512/2017, *Shailesh Singh v. State of UP* with regard to **e-waste.**

(viii) Vide order dated 08.01.2021 in EA 13/2019 in OA 247/2017, *Central Pollution Control Board v. State of Andaman & Nicobar & Ors*. with regard to **plastic waste.**

already been dealt with in the earlier order. In para 7 of order dated 05.03.2020 and para 8 of order dated 23.03.2020, we have already held that compliance by an individual brick kiln, otherwise contributing to pollution load beyond carrying capacity, does not confer a right to continue such activity, when such activity attracts GRAP in 'severe' air quality condition. As noted in par 11 of the order dated 15.10.2020, the CPCB has found that there is no assimilative capacity during the period air quality is 'severe' and only during months of March to June there is a limited capacity. Inter-se distance of atleast 500 meters is required to be maintained in location of brick kilns. When brick kilns start, they should not be allowed to start simultaneously but their firing should be staggered to avoid adverse impact on the environment. Other safeguards of fugitive dust emission management need to be adopted. In para 18 of order dated 15.10.2020, the issue of non-availability of plea of discrimination to GRAP, attracting some polluting categories and not attracting other polluting activities, has already been dealt with. Accordingly, we reiterate this mandate.

21. In view of the above discussion, unless there is change to cleaner fuel (PNG), brick kilns beyond the number mentioned in Table 15 above cannot be allowed, in the NCR. Since there is variance of figures given during March to June, only such number can be allowed which can be sustained throughout the period i.e. the minimum figure of a particular month out of the four months which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Such shortlisting may be done applying a suitable siting criteria taking into account inter-se distance and distance from sensitive locations and compliance of consent conditions for which the CPCB, State PCB may work out an appropriate mechanism. Further, location of brick kilns be scattered on pro-rata basis, in different directions of concerned area, having regard to background and carrying capacity parameters. Needless to say, those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond limited number mentioned, subject to compliance with law."

16. In view of earlier orders quoted above and discussion in paras 10 to 12, we are of the view that steps need to be forthwith taken to stop operation of brick kilns already found to be operating in violation of environmental norms till compliance by the State PCB in exercise of its statutory power, following due process of law, till compliance. This will include brick kilns not following consent conditions, operating in excess of carrying capacity, CPCB guidelines and orders of this Tribunal, and those violating siting guidelines. Necessary action be ensured within two months. At the same time, there is need for further study of carrying capacity, applying correct data and norms. Air quality monitoring

equipments be installed in the concerned area and if online monitoring stations cannot be set up, easily available equipments be used to continuously monitor air quality. Stringent monitoring mechanism be put in place. Process of mechanically giving consents be reviewed by the State PCB in view of binding 'precautionary' principle. Public health needs to be given due preference to the need for establishment of brick kilns. Violators be strictly proceeded against by way of prosecution, recovery of compensation and preventing pollution. While determining carrying capacity, other sources contributing pollution loads may be factored in while considering concentrations of PM_{10} in microgram per cubic metre in addition to loads given in kgs. Further, mixing heights data may be referred from the nearest location of IMD station. It is also necessary to clarify reasons of high CEPI score (91.1) particularly for Air and remedial action plan.

17. Our directions are summed up as follows:

(A). Brick kilns operating in violation of environmental norms - without consent, in violation of consent conditions, in violation of siting criteria, beyond carrying capacity be forthwith closed, following due process of law, exercising statutory powers by the State PCB.

(B) The State PCB in coordination with the District Magistrate and the Air Quality Monitoring Committee headed by Secretary Environment may ensure setting up of air quality monitoring stations at appropriate locations and also take other steps for effective monitoring of compliance of air quality norms in the area in question.

(C) Consent given to all the brick kilns be reviewed by the State PCB in the light of CPCB directions as well as the air quality

norms, siting criteria and carrying capacity. Shortlisting as per carrying capacity may be done on the basis of technology used, inter se distance, distance from sensitive locations and comparative level of compliance.

(D) Tunnel kiln technology with PNG may be appropriately encouraged in the interest of reduction of pollution load.

(E) Five-member Committee is constituted to undertake further study of carrying capacity of the area in terms of number of brick kilns which can be sustained applying right parameters and based on relevant data of air quality, overcoming deficiencies pointed out hereinabove. The Committee will comprise of the following:

i. Justice Anil Sharma, former Judge of Allahabad High Court now available at Mathura - Chairman.

ii. Representative of CPCB of the level not below Additional Director – Member.

iii. Professor Mukesh Khare, former Prof. IIT Delhi – Member.

iv. Member Secretary, SEIAA, UP - Member.

v. Chief Engineer Environment, UP State PCB – Member.

The CPCB and the State PCB will be the nodal agency for coordination and compliance. The Committee may visit the site and interact with the stakeholders. The Committee may meet within 15 days from today to take stock of the situation. Thereafter, it may visit the site and study the available data of air quality and location of the brick kilns. It will be free to conduct proceedings online except for visit to the site which may be undertaken by all or such members as may be decided by the

Chairman of the Committee. The Committee will be free to consult any other expert/institution. The Committee may give its report to this Tribunal within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may be uploaded on the website and it will be open to any aggrieved party to file their response, if any, before the next date. Justice Anil Sharma will be entitled for honorarium @ Rs. 2 lac per month and Prof. Mukesh Khare will be entitled for honorarium @ Rs. 1.5 lac per month. The said honorarium will be payable by the State PCB out of the 'consent funds' available with it. Logistic support may be provided by CPCB/State PCB/District Magistrate to enable the Committee to complete its task.

A copy of this order be forwarded to Justice Anil Sharma, former Judge of Allahabad High Court now available at Mathura, CPCB, Professor Mukesh Khare, Member Secretary, SEIAA, UP District Magistrate UP, Environment Secretary, UP and UP State PCB by e-mail for compliance.

A copy of the order be also sent to Chief Secretary UP for information and being forwarded to any other concerned department including the GST department for appropriate remedial action.

List for further consideration on 16.12.2021.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

August 12, 2021
Original Application No. 93/2021
DV

Item No. 02 (Court No.01)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 1088/2018
(I.A. Nos. 98/2019, 100/2019, 101/2019, 119/2019 & 266/2019)

(With report dated 28.02.2022)

Dinesh Chahal & Ors. Applicant(s)

Versus

Union of India & Ors. Respondent(s)

Date of hearing: 10.03.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER

Applicant: Mr. Hitesh Malik, Advocate for Applicant in I.A 98/2019

Respondent: Mr. Rahul Khurana, Advocate for HSPCB
Mr. Kumar Rajesh Singh, Advocate for MoEF & CC

ORDER

1. Though initially question raised in the application related to validity of the order issued by the Director, Food, Civil supplies and Consumers Affairs, Government of Haryana, Chandigarh – Respondent No. 3 extending time limit for adoption of Zig-zag Technology for running of the brick kilns beyond NCR area upto 31.07.2019, without any scientific study on carrying capacity for such activity and without any safeguards, which no longer survives after expiry of the said date. However, during proceedings, further issues emerged including permissibility of FCBTK technology kilns, using agro fuel and carrying

capacity of the air quality to sustain brick kiln activities in NCR and nearby areas.

2. The issue of carrying capacity of NCR Region to sustain Zig-zag Technology brick kilns has been dealt with separately in *O.A. No. 1016/2019, Utkarsh Panwar vs. Central Pollution Control Board & Ors.* by the order of this Tribunal dated 17.02.2021 in light of expert study on the subject of carrying capacity with following directions:-

> *"1to 19 ……xxx……xxx……xxx*
>
> *20. Thus, we conclude that going by the order dated 15.10.2020, in 'severe' air quality conditions, coal-fired brick kilns cannot be allowed to operate in NCR even if zig zag technology is used and improved procedures are followed, as suggested by the Committee, unless there is switch over to the PNG. All other issues have already been dealt with in the earlier order. In para 7 of order dated 05.03.2020 and para 8 of order dated 23.03.2020, we have already held that compliance by an individual brick kiln, otherwise contributing to pollution load beyond carrying capacity, does not confer a right to continue such activity, when such activity attracts GRAP in 'severe' air quality condition. As noted in par 11 of the order dated 15.10.2020, the CPCB has found that there is no assimilative capacity during the period air quality is 'severe' and only during months of March to June there is a limited capacity. Inter-se distance of atleast 500 meters is required to be maintained in location of brick kilns. When brick kilns start, they should not be allowed to start simultaneously but their firing should be staggered to avoid adverse impact on the environment. Other safeguards of fugitive dust emission management need to be adopted. In para 18 of order dated 15.10.2020, the issue of non-availability of plea of discrimination to GRAP, attracting some polluting categories and not attracting other polluting activities, has already been dealt with. Accordingly, we reiterate this mandate.*
>
> *21. In view of the above discussion, unless there is change to cleaner fuel (PNG), brick kilns beyond the number mentioned in Table 15 above cannot be allowed, in the NCR. Since there is variance of figures given during March to June, only such number can be allowed which can be sustained throughout the period i.e. the minimum figure of a particular month out of the four months which comes to 444 in Haryana (in the month of May) and 200 in UP (in the month of June). Such shortlisting may be done applying a suitable siting criteria taking into account inter-se distance and distance from sensitive locations and compliance of consent conditions for which the CPCB, State PCB may work out an appropriate mechanism. Further, location of brick kilns be scattered on pro-rata basis, in different directions of concerned area, having regard to background and carrying capacity parameters. Needless to*

say, those brick kilns which switch over to PNG will be entitled to operate even beyond months of March to June and even beyond limited number mentioned, subject to compliance with law."

3. With regard to permissibility of FCBTK Technology being allowed in non NCR Region by using agro residue and number of brick kilns which can be allowed in the light of assimilative capacity of the air in non NCR Region in Haryana a report was sought from the Member Secretary, CPCB vide order dated 06.02.2020.

4. The operative part of the order is reproduced below:-

"4. Accordingly, further report dated 22.01.2020 has been filed by the CPCB. The report does not mention the carrying capacity of the area in question i.e. non-NCR area in the State of Haryana. Though such capacity in respect of Suratgarh area, Distt. Sriganganagar has been assessed and found to be negative. The relevant portion of report is given below:

" ***Estimation of total existing PM10 Load in Suratgarh Area, Rajasthan during***
study period:
Total area of Suratgarh in ***Km²: 2827.56*** *(Ref.: District census Handbook, Ganganagar, 2011, Directorate of Census Operations, Rajasthan)* *Mixing Height of Air in Suaratgarh in* ***Km: 1.066154*** *(Ref: Since site specific mixing heights were not available, mixing heights based on* ***IMD*** *Publication "Atlas of Hourly Mixing heights and Assimilative Capacity of Atmosphere in India", was considered. No air modeling was done in this study to calculate the mixing height)* *Total Volume of Air in Suratgarh in Km³: 2827.56 x 1.066154 =* ***3014.614*** *Average measured PMio Concentration of Ambient Air in Suratgarh Area (Ref: Table 8: Ambient Air Quality Results; S.No, 5 & 6) dUring study period:* ***523*** *pg/m³ i.e. 523 Kg/Km³* *Therefore, Total estimated load of particulate matter (PM to) in ambient air of Suratgarh Area: (3014.614 x 523)/1000=* ***1576.64 MT***
Estimation of Assimilative Capacity w.r.t. PMT in Suratgarh Area,
Total area of Suratgarh in ***Km²: 2827.56*** *(Ref.:* ***District census Handbook, Ganganagar, 2011, Directorate of Census*** *Operations, Rajasthan)* *Mixing Height of Air in Suaratgarh in* ***Km: 1.066154*** *(Ref: Since site specific mixing heights were not available, mixing heights based on IMD Publication "Atlas of Hourly Mixing heights and Assimilative Capacity of Atmosphere in India", was considered. No air modeling was done in this study to calculate the mixing height)* *Total Volume of Air in Suratgarh in Km³: 2827.56 x 1.066154 =* ***3014.614*** *Particulate Matter (PMio) required to keep Ambient air quality at Satisfactory Level:* ***100 pg/M³*** *i.e* ***100 Kg/Km³*** *(Ref: Air Quality Index)* *Therefore, Assimilative Capacity w.r.t PMio in ambient air of Suratgarh Area: (3014.614 x 100)/1000=* ***301.46 MT***

Estimation of Supportive Capacity w.r.t. PMio in Suratgarh Area, Rajasthan
during study period:
Total estimated load of PMio in ambient air of Suratgarh Area during study period: ***1576.64 MT*** *Assimilative Capacity w.r.t PMio in ambient air of Suratgarh:* ***301.46 MT*** ***Supportive Capacity = Assimilative Capacity - Total Estimated Load*** *Therefore, Supportive Capacity w.r.t. PMio in ambient air of Suratgarh Area: 301.46-1576.64 =* ***1275.18 MT***

”

5. The other issue dealt with is whether brick kilns can be allowed by using crop residue as a substitute for Zig-zag technology. The observations and conclusions drawn in the report are non-conclusive and cannot be relied upon in terms of small data base of sample size and number of days for which the sampling has been carried out. Besides, more brick kilns in each category should have been covered to avoid statistical errors in decision making. The performance of brick kilns is required to be evaluated against the background concentration and carrying capacity of the area. Comparision in the report has been made with incomparable situations, as was explained during the course of hearing. From the data made available by the joint Committee it is evident that particulate emissions for Zig-zag kilns using coal as a fuel is much lower than brick kilns operating on FCBTK technology using agro-residue as a fuels both with regard to initial firing and mid firing situations. Further, emission levels also vary quite significantly amongst different fuel types under agro-residue category. Further justification of impact of higher PM concentration during initial firing has no scientific logic. The joint Committee has erred in concluding that the impact of higher PM concentration during initial firing may not be significant when overall operation of any brick kiln for a particular season is considered.

6. It is acknowledged in the report of joint Committee that stack emissions are less in case of kilns operating on Zig-zag technology, compared to the kilns operating on FCBTK technology on the same fuels. The report further mentions that introduction of FCBTK technology using agro-residue may be done only after carrying capacity assessment of specific area, coverying estimation of total existing PM load, assimilative capacity with regard to PM and supportive capacity with regard to PM. Further, in view of large number of brick kilns operating in the area, besides carrying capacity issue with regard to ambient air, there are issues with regard to environmental degradation on account of operation of such large number brick kilns having potential for loss of productive top soil which takes thousand of years to form and is a prime factor which determines agricultural productivity.

7. For the above reasons, while the life of impugned order dated 07.12.2018 passed by the Director, Food, Civil supplies and Consumers Affairs, Government of Haryana has expired, question whether FCBTK technology can be allowed in non-NCR region of Haryana by using agri-residue will be determined in the light of further report as to the carrying capacity of the area in the light of

potential for impact on the air quality of the area and on NCT Delhi specially during the witner months and degradation of top soil.

8. Accordingly, let the carrying capacity study which has adequate samples in terms of number of brick kilns and days for which the emissions monitored be conducted covering the impact on ambient air and the loss of top soil. Such study may particularly assess the permissible number of brick kilns and technology to be used for the same in the non-NCR region. Let further report in the matter be furnished by the Member Secretary, CPCB by 31.03.2020 by e-mail at judicial-ngt@gov.in."

5. In pursuance of above, the Member Secretary, CPCB has filed report dated 28.02.2022 as follows:-

"2. Study Findings

In compliance to the above mentioned directions of the Hon'ble NGT, previous reports filed by CPCB and observations of Hon'ble NGT were reviewed to identify the gaps and to design monitoring matrix for generating required data to arrive at conclusion on the issues, as per the direction, dated 30.01.2020. Monitoring matrix was designed to capture emission data covering 5 to 10 Brick Kilns for combination of technologies (FCBTK and Zig-zag) as well as fuel types (coal and varieties of agro-residues). Further, it was planned to monitor each Brick Kiln for three days with three samples on each day. Accordingly, collection of total 585 samples from 65 Brick Kilns were planned, as detailed in Table 1.

Table 1: Monitoring matrix proposed for the study

S. No.	***Type of Brick Kiln***	***Fuel Type***	***Total number of Brick Kilns and number of days for which monitoring to be conducted***		***Number of Samples per monitoring/Brick Kiln***	***Total Number of Samples***
			No. of Brick Kilns	***No. of days***		
1	*FCBTK**	*Agro-residues (Mustard Straw)*	*10*	*3*	*3*	*90*
2	*FCBTK*	*Agro-residues (Cotton Stalk)*	*10*	*3*	*3*	*90*
3	*FCBTK*	*Agro-residues (Guar Beans)*	*10*	*3*	*3*	*90*
4	*FCBTK*	*Coal*	*10*	*3*	*3*	*90*
5	*Zig-Zag*	*Agro-residues (Mustard Straw)*	*05*	*3*	*3*	*45*
6	*Zig-Zag*	*Agro-residues (Cotton Stalk)*	*05*	*3*	*3*	*45*
7	*Zig-Zag*	*Agro-residues (Guar Beans)*	*05*	*3*	*3*	*45*
8	*Zig-Zag*	*Coal*	*10*	*3*	*3*	*90*
		Total	***65***			***585***

The overall actual matrix followed by covering brick kilns operating on various technologies and different types of fuels has been summarized in ***Table 2.***

Table 2: Actual monitoring matrix followed for the study

S. No.	***Type of Brick Kiln***	***Fuel Type***	***Total number of Brick Kilns and number of days for which monitoring was conducted***		***Number of Samples per monitoring/Brick Kiln***	***Total Number of Samples***
			Brick Kilns	***Days***		
1	*FCBTK**	*Agro-residues (Mustard Straw, Cotton Stalks and Guar Beans and Mixtures of different agro-residues)*	*40*	*3 (30 brick Kilns)* *1 (10 brick Kilns)*	*3*	*300*
2.	*FCBTK*	*Agro-residues (Cotton Stalk)*	***10***	*3*	*3*	*90*
3	*FCBTK*	*Agro-residues (Guar Beans)*	***10***	*3*	*3*	*90*
4	*FCBTK*	*Coal*	***10***	*3*	*3*	*90*
5	*Zig-Zag+*	*Agro-residues (Mustard Straw)*	*0*	*0*	*0*	*0*
6	*Zig-Zag+*	*Agro-residues (Cotton Stalk)*	*0*	*0*	*0*	*0*
7	*Zig-Zag+*	*Agro-residues (Guar Beans)*	*0*	*0*	*0*	*0*
8	*Zig-Zag*	*Coal*	***21***	*3 (10 Brick Kilns)* *1 (9 Brick Kilns)* *2 (2 Brick kilns)*	*3*	*129*
		Total	***71***			***519***

****** FCBTK: Fixed Chimney Bull Trench Kiln*

+ Not Operational due to non-availability of Carrying Capacity in compliance of Hon'ble NGT Order in the matter of OA No. 1016/2019.

i. *15 Nos. Zig-zag type brick kilns based on agro-residues as fuel, as proposed in the monitoring matrix, could not be monitored as these were located in NCR districts of Bharatpur and Alwar in Rajasthan and were non-operational as per orders of Hon'ble NGT. However, it was possible to monitor and capture emissions from FCBTK type kilns using agro-residues vis-à-vis emissions from Zig-zag type brick kilns to understand if brick kilns using crop residue could substitute to Zig-zag type kilns, which is an important issue for consideration in the matter.*

ii. *The data generated from the monitoring conducted in 2019 in the same matter, covering initial firing and mid firing period, were also considered while analysing the findings.*

iii. *Total 71 Nos. of brick kilns operating on various technologies and different types of fuels, involving 519 number of samples, were monitored by CPCB officials for generating stack emission data.*

iv. The results of the source emission monitoring conducted during 2020 and 2021 (Particulate Matter [PM] as mg/Nm3 with correction) are presented in the Table 3.

v. The results of source emission monitoring conducted earlier in 2019 and 2020 (PM as mg/Nm3 with correction), covering initial and mid firing periods, are presented in the Table 4.

Table 3: Analysis results of stack monitoring conducted during 2020 and 2021 under stabilized conditions

	FCBTK Coal	***Ist Round of Monitoring (24/11/20 to 11/06/2021)***	***2nd Round of Monitoring (7/6/21 to 15/6/21)***	***3rd Round of Monitoring (12/6/21 to 17/6/21)***
S.No.	***Name and Address of the Brick Kiln***	***PM, mg/Nm3***	***PM, mg/Nm3***	***PM, mg/Nm3***
1	*M/s Bisambhar Dayal Garg Brick Works, Aligarh Village Kudiyaganj, District Aligarh, Aligarh*	*170*	*361*	*409*
2	*M/s New Baba Eint Udyog, Village Pilkhana, Sikandarpur, Tehsil Koil District Aligarh, Aligarh*	*187*	*414*	*244*
3	*M/s Vishal Ent Bhatta , Village Kasary, District Aligarh, Aligarh*	*53*	*450*	*540*
4	*M/s OSN Brick Works, Village Nagla Ausuf Ali, PO Pilkhana, Kauriyaganj, Tehsil Koil, District Aligarh, Aligarh*	*202*	*477*	*262*
5	*M/s Shivshakti Eint Udyog, Village Shahgarh Nagariya Tehsil Koil, District Aligarh, Aligarh*	*149*	*312*	*259*
6	*M/s Mahashakti Eint Udyog, Village Shahgarh Nagariya Tehsil Koil, District Aligarh, Aligarh*	*46*	*297*	*397*
7	*M/s Mahajan Brick Works, Village Pilakhana Chauraha, District Aligarh, Aligarh*	*129*	*703*	*576*
8	*M/s Radha Rani Eint Udyog, Village Kaseri, District Aligarh, Aligarh*	*80*	*235*	*519*
9	*M/s Jai Gange Eint Udyog, Kasimpur, Aligarh*	*744*	*499*	*542*
10	*M/s Jai Bhole Eint Udyog, Kasimpur, Aligarh*	*81*	*432*	*538*

Zig Zag Coal		***Ist Round of Monitoring (23/12/20 to***	***2nd Round of Monitoring (27/12/20 to 18/6/21)***	***3rd Round of Monitoring (8/6/21 to***
S.No.	***Name of the Unit***	***PM, mg/Nm3***	***PM, mg/Nm3***	***PM, mg/Nm3***
1	*M/s Jai Durge Bricks, Village Mouli,*	*662*	*140*	*246*
2	*M/s B.M brick kiln, Village Mouli, Panchkula*	*242*	*76*	*351*
3	*M/s Mahalaxmi bricks moulding and fabricating Ind.Pvt Ltd **	*298*	*144*	*56*

4	M/s Bharat bricks company,village mouli,Panchkula *	205	263	408
5	M/s Sagar Bricks,Village Golpura,Panchkula *	495	66	97
6	M/s Mahalaxmi Intt. Udhyog,Village mouli,Panchkula*	86	156	32
7	M/s Moti Ram Girdhari Lal Manakpur Road,Ambala city,Haryana *	95	17	58
8	M/s Brick Links Village Sakraon, Ambala city, Haryana *	78	72	117
9	M/s Asian bricks company, Village Kanjnoo, Near Radaur Yamuna nagar *	17	15	20
10	M/s Goel bricks industries, Village Kanjnoo, Near Radaur Yamuna nagar *	21	16	38
	* PM values in mg/m3			

	FCBTK Agro	Ist Round of Monitoring (24/2/2021 to 8/6/21)	2nd Round of Monitoring (4/6/21 to 17/6/21)	3rd Round of Monitoring (8/6/21 to 21/6/21)
S.No.	Name of the Unit	PM, mg/Nm3	PM, mg/Nm3	PM, mg/Nm3
1	M/s Balaji Eint Udyog, Village Makrol, Iglas, Beswan, Aligarh	149	767	223
2	M/s Madhav Brick Industries, Village Nayabas, Beswa, Iglas, Aligarh	480	158	110
3	M/s Radha Ent Udyog, Village Nayabas, Beswa, Iglas, Aligarh	234	99	122
4	M/ Shree Radha Rani Eint Udyog, Village Korah, Raghupura, Atrouli Aligarh	219	90	49
5	M/s Jaharveer Baba Eint Udyog, Village Bhavigarh, Atrouli, Aligarh	179	82	102
6	M/s Ayodhya Ent Udyog, Village Surajpur, Atrouli, Aligarh	60	178	89
7	M/s Ankit Eint Udyog, Satlauni Khurd, Iglas, Aligarh	252	77	87
8	Shri Krishna Eint Udyog, Gangagarhi Mursan Road, Iglas, Aligarh	156	299	180
9	M/s R.S. Eint Udyog, Nangla, Juhur, Iglas, Aligarh	162	136	233
10	M/s Komal Eint Udyog, Atrauli, Aligarh	125	159	302
11	M/s Chaudhary Eint Udyog, Village Nayabas, Beswa, Iglas, Aligarh	287	374	525
12	M/s Krishna Kanhaiya Eint Udyaog, Tarsara, Kondali, Iglas, Aligarh	543	433	381
13	M/s Balaji Eint Udyog, Dhana Gadhi, Gonda, Iglas, Aligarh	405	369	400
14	M/s Rakhi Eint Udyog, Satlauni Khurd, Kondli, Iglas, Aligarh	315	278	423
15	M/s Prem Eint Udyog, Gorai Road, Amarour Dhana, Aligarh	520	355	402
16	M/s Akash Eint Udyog, Jahroli, Beswan, Aligarh	434	480	438
17	M/s Gagandeep Eint Udyog, Digsari Gonda, Aligarh	495	365	376
18	M/s Bhavya Brick Works, Kandli, Iglas, Aligarh	331	249	390
19	M/s Shivay Eint Udyog, Kans Ka Gonda, Iglas, Aligarh	546	363	566
20	M/s Maa Bhagvati Eint Udyog, Nagla Jujhar, Iglas, Aligarh	460	344	337
21	M/s Om Sai Eint Udyaog, Mehtapur, road, Mohkampur, Beswan, Aligarh	61	59	427

22	M/s Shivam Bhole Eint Udyog, Hathras road, Iglas, Aligarh	209	188	989
23	M/s Shri Ram Eint Udyog, Mehtapur, Beswan, Aligarh	303	101	589
24	M/s Rewati Balram Eint Udyog, Tamotiya, Iglas, Aligarh	195	120	315
25	M/s Radha Eint Udyog, Chachau Garai, Iglas, Aligarh	173	95	73
26	M/s GD Eint Udyog, Rayatpur, Imliya Mursan road, Iglas, Aligarh	129	134	183
27	M/s Radhey Eint Udyog, Rayatpur, Imliya Mursan road, Iglas, Aligarh	67	77	113
28	M/s Shr Sai Ram Brick Works, Bas Vali, Garoi, Iglas, Aligarh	157	80	157
29	M/s Jai Bharang Eint Udyog, Hathras road, Iglas, Aligarh	66	75	521
30	M/s Shri Vimla Mahesh Eint Udyog, Ahmadpur, Aligarh	408	67	676

** Average of three samples.*

Table 4: Analysis results* of stack monitoring conducted in 2019-20 during initial firing and mid firing periods, under stabilized conditions

	FCBTK Agro	
S.No.	**Name of the Unit**	**PM, mg/Nm3**
1	M/s Baghla Int Udyog, Village Bhagwansar Chak 1, Tehsil Ganganagar. Rajasthan	703
2	M/s Bhagwansar Int Udyog, Village Bhagwansar Chak 1, Tehsil Suratgarh, Distt. Ganganagar, Rajasthan	642
3	M/s Punia Int Udyog, 28 LNP II, Tehsil Ganganagar, Rajasthan	387
4	M/s Paras Brick Company, Village Khooni Chak, Distt. Hanumangarh, Rajasthan	235
5	M/s Khichad Brick Company, 7 KRW, Dhani Khichadwali, Sardual Share, Ganganagar, Rajasthan	604
6	M/s Aggarwal Brick Company, 7 KRW, Dhani Khichadwali, Sardual Share, Ganganagar, Rajasthan	345
7	M/s Avtar Brick Industries Ltd, 10 GB, Tehsil Vijay Nagar, Dist Ganganagar, Rajasthan	206
8	M/s Raj Bhatta 7 GB (A), JaitsarTehsil Vijay Nagar, Dist Ganganagar, Rajasthan	397
9	M/s Saccha Soda Ind Udyog Vill 3G, Badli, Dist Ganganagar, Rajasthan	259
10	M/s Rakesh Ind Udyog , 2J Bada, Khatiabana Dist Ganganagar, Rajasthan	199
	Zig Zag Coal	
S.No.	**Name of the Unit**	**PM, mg/Nm3**
1	M/s Mor Bricks company, Kanoh road vill Nehla, Dist Fatehabad	179
2	M/s Nain Bricks company, Kanoh Road village Nehla, Dist Fatehabad	199
3	M/s Shiv Bhole Bricks company, Kanoh Road vill: Nehla, Dist Fatehabad	282
4	M/s Aggarwal Genuine Makers Brick Company, BKI Bado Patti-I	240
5	M/s Vishwakarma Bricks ,Vill-Mangali Jhara, Dist Hisar	107
6	M/s Haryana Bricks Company, Vill - Kanoh, Dist Hisar	212
7	M/s Vikas BKO Shyamsukh, Dist Hisar	541
8	M/s Shree Ganesh Bricks Co. Paploha, Panchkula, Haryana (2 rounds of monitoring)	139/278

9	*M/s Jay Maa Mansa Devi, Paploha, Panchkula, Haryana (2 rounds of Monitoring)*	*126/68*
10	*M/s Jay MaaVaishno Devi Bricks Co., Paploha, Panchkula, Haryana*	*308*
11	*M/s Sada Shiv Bricks Co., Village Charnia, Panchkula, Haryana*	*498*

* Average of three samples

vi. *Before making any conclusion with regard to stack emissions from various types of kilns using different types of fuel, it was important to ensure that the emission data collected in the study is truly representative, therefore, an assessment was also made w.r.t Specific Energy Consumption (SEC) of individual brick kilns monitored in this study, and also to see the variation in fuel feeding during monitoring either knowingly or unknowingly. Therefore, comparison was made only w.r.t. SEC i.e. energy consumed (MJ per Kg of fired brick), amongst the kilns from a particular area using similar type of clay. The reported gross calorific values (GCV) of various fuels used by brick kilns covered in the study, weight of the fuel used for a specified period, production rate and average weight of bricks, were used for estimating the SEC.*

The analysis of SEC data indicated that in some of the brick kilns the estimated SEC values were too low to manufacture bricks, which shows that the quality of fuels used during monitoring was not adequate and may not give representative stack emission values. Therefore, the emission data generated from the brick kilns with SEC values within the minimum required range of 1.11.5 MJ/kg of fired brick for FCBTK and 0.95-1.30 MJ/kg for Zig-zag kilns (Ref: BEE's Report on "Market Transformation towards Energy Efficiency in Brick Sector", December, 2019), was considered for arriving at conclusion. The data collected w.r.t. emission monitoring in the brick kilns, where the SEC values were less than the lower limit (+ 10%) as well as the data having missing values for some monitored parameters were not considered for assessing the performance of different types of the brick kilns.

The average (average of three samples per monitoring per day) PM source emissions from the stacks in the brick kilns based on Zig-zag method using various types of pulverized coal from various sources varied between 107mg/Nm3 to 240mg/Nm3.

The average (average of three samples per monitoring per day) PM source emissions from the stacks in the brick kilns based on FCBTK Technology using various types of agro-residues varied between 61mg/Nm3 to 703mg/Nm3.

The average (average of three samples per monitoring per day) PM source emissions from the stacks in the brick kilns based on FCBTK Technology using various types of coal varied between 297mg/Nm3 to 520mg/Nm3.

The performance of different types of brick kilns using various types of fuels, as assessed from the data generated in the present study is summarized in the Table 5.

Table 5: Performance of different types of brick kilns using various types of fuels

S. No.	Type of Brick Kiln	Type of Fuel Used	*Average PM, mg/Nm^3
1	Fixed Chimney Bull Trench (FCBTK)	Agro-residues	61-703
2	Fixed Chimney Bull Trench (FCBTK)	Pulverized Coal	297-520
3	Zig-Zag	Pulverized Coal	107-240

** Standards notified by MoEF&CC vide G.S.R. 143(E), dated 22.02.2022: 250 mg/Nm^3 (corrected to 4% CO2)*

It is evident from the available data that emissions from Zig-zag type brick kilns are significantly lower in comparison to both FCBTK operating on coal as well as agro-residues as fuel.

vii. *In order to find out the status of operation of brick kilns in Non-NCR districts in the State of Haryana, the data were obtained from the State Pollution Control Board and are provided in Table 6.*

Table 6: Status of Operation of Brick Kilns in Non-NCR Regions of Haryana

S. No.	District	Total No. of Brick Kilns	Zig-zag Type Brick Kilns
1	Ambala	107	106
2	Fatehabad	74	61
3	Hisar	292	192
4	Kaithal	119	90
5	Kurukshetra	59	59
6	Panchkula	62	51
7	Sirsa	204	102
8	Yamunanagar	90	82
Total		**1007**	**743**

Note: Only the brick kilns which have been converted to Zig-zag technology, are allowed to operate in the State of Haryana, irrespective of the fuel used.

As per data made available by SPCB (Annexure-2), there are total 1007 brick kilns in Non-NCR districts of Haryana, out of which 743 brick kilns have been converted to Zig-zag technology. As on date, only zig-zag type brick kilns are allowed to operate in the state of Haryana, irrespective of the type of fuel used.

viii. *To make an assessment of the carrying capacity of ambient air environment w.r.t. PM2.5 and PM10 concentration, the data from Continuous Ambient Air Quality Monitoring Station (CAAQMS) for the period January 2019 - August 2021, in 8 Non-NCR districts of Haryana were examined (Table 7). It was observed that PM10 concentration was exceeding National Ambient Air Quality Standards (NAAQS) in seven Non-NCR districts of Haryana during the critical period i.e. November to January. The data for PM10 were not available for Panchkula. The data indicated limitations in the carrying capacity in the ambient air environment with regard to any new additional*

source of emission, including conventional brick kilns using agro-residues.

Table 7: CAAQMS Data of Non-NCR Districts of Haryana

S. No.	Name of District	Ambala						Kurukshetra					
	Year	2019		2020		2021*		2019		2020		2021	
	Parameter /Months	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}
1	January	-	-	70	134	74	150	94	165	79	123	97	154
2	February	44	116	68	138	61	116	64	112	72	126	89	161
3	March	33	110	35	79	50	111	42	105	40	77	62	144
4	April	45	150	29	61	45	97	46	153	36	81	55	145
5	May	63	160	43	-	52	103	50	159	56	126	53	131
6	June	58	158	40	-	41	103	42	153	46	98	44	123
7	July	40	91	31	55	42	88	32	84	28	57	36	88
8	August	33	67	24	43	48	92	24	60	20	42	39	90
9	September	38	78	48	132	28	64	34	74	40	94	28	51
10	October	99	190	104	259	51	141	109	212	133	230	79	161
11	November	104	194	113	302	125	218	136	226	138	226	143	261
12	December	95	179	88	178	122	183	120	176	121	192	111	200

S. No.	Name of District	Fatehabad						Panchkula		
	Year	2019		2020		2021*		2019	2020	2021
	Parameter /Months	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$
1	January	117	187	46	101	93	146	58	50	72
2	February	62	140	50	114	58	145	37	38	54
3	March	54	135	40	67	56	175	37	19	51
4	April	61	226	39	95	49	178	41	20	38
5	May	64	265	55	153	53	193	42	26	38
6	June	55	263	-	-	56	184	46	31	39
7	July	-	176	30	94	33	96	35	32	38
8	August	14	58	22	39	31	100	28	22	33
9	September	14	75	43	83	16	38	39	48	30
10	October	30	169	131	214	51	127	59	56	52
11	November	54	261	245	303	140	289	52	81	62
12	December	-	155	119	206	93	166	62	95	73

S. No.	Name of District	Hisar						Sirsa					
	Year	2019		2020		2021*		2019		2020		2021	
	Parameter /Months	$PM_{2.5}$	PM_{100}	$PM_{2.5}$	PM_{100}	$PM_{2.5}$	PM_{100}	$PM_{2.5}$	PM_{100}	$PM_{2.5}$	PM_{100}	$PM_{2.5}$	PM_{100}
1	January	135	210	86	119	124	164	108	184	40	94	59	111
2	February	77	143	84	134	115	164	79	125	44	111	63	118
3	March	55	111	47	88	90	168	53	105	26	64	54	111
4	April	74	180	42	109	71	176	64	151	34	95	45	106
5	May	99	194	58	156	66	155	75	189	49	148	58	140
6	June	76	194	53	146	65	179	72	197	47	132	60	147
7	July	63	142	38	84	43	98	81	210	23	75	38	92
8	August	34	70	27	56	44	106	49	81	14	40	38	107

9	September	51	95	51	110	36	64	68	116	30	64	17	39
10	October	116	196	126	232	74	137	133	235	78	202	47	132
11	November	188	246	207	300	218	315	133	250	118	260	122	270
12	December (29 days)	129	175	150	215	162	220	64	148	68	136	80	176

S. No.	Name of District	Kaithal						Yamunanagar					
	Year	2019		2020		2021*		2019		2020		2021	
	Parameter /Months	PM2.5	PM100	PM2.5	PM100	PM2.5	PM100	PM2.5	PM100	PM2.5	PM100	PM2.5	PM100
1	January	-	-	53	110	75	135	109	191	97	152	116	185
2	February	-	-	50	122	54	132	67	134	82	148	91	176
3	March	55	99	29	76	33	143	58	133	48	96	82	168
4	April	64	157	30	80	33	145	79	191	37	87	78	172
5	May	69	166	43	133	37	135	87	177	51	120	60	131
6	June	57	158	40	117	45	144	77	180	47	109	46	129
7	July	48	107	27	70	35	96	59	112	38	79	37	110
8	August	31	61	19	47	34	101	45	88	34	74	48	106
9	September	27	76	33	82	23	55	50	100	61	126	46	134
10	October	62	229	101	222	62	152	126	226	128	262	92	186
11	November	89	233	143	258	156	283	118	221	146	229	130	251
12	December	76	169	83	179	110	212	116	185	146	217	122	250

As the NAAQS specify ambient air quality in terms of annual and 24-hourly average concentration values of particulate matter (PM10 and PM2.5), the monthly average data of PM10 may not be used for assessing the exceedance. In view of this, the compliance with reference to 24 hourly standards were also examined and it was found that the concentration of PM10 exceeds the standards during most of the days in the period November to January. The data w.r.t. the number of days exceeding the standards in a month, for the last three years, is summarized in Table 8.

Table 8: Compliance w.r.t. 24 Hourly National Ambient Air Quality Standards (PM10)

	Month	Number of days in a month when the air quality data was beyond prescribed limits																				
		Ambala			Hisar			Fatehabad			Kaithal			Kurukshetra			Sirsa			Yamunagar		
	Year	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
1	January	18	22	24	21	18	27	21	13	27	NA	17	24	21	18	28	22	11	18	24	23	27
2	February	14	27	19	23	25	25	25	21	23	11	20	20	15	24	25	20	23	19	18	27	24
3	March	19	7	13	18	10	30	24	3	23	12	8	25	16	10	26	15	1	19	25	11	27
4	April	27	0	9	27	13	27	28	10	23	25	8	25	27	8	23	23	9	14	28	7	27
5	May	30	NA	12	27	26	25	31	28	27	25	23	23	31	23	21	25	20	21	31	21	23
6	June	28	NA	14	25	19	21	28	9	17	24	18	17	26	12	14	28	18	19	29	19	19
7	July	13	30	10	12	8	11	19	8	10	10	3	9	8	3	9	24	8	10	18	5	11
8	August	1	30	11	4	0	16	0	0	15	3	0	14	2	0	13	7	0	15	9	0	15
9	September	6	19	0	9	13	4	5	7	0	5	7	0	4	13	0	17	4	0	13	21	22
10	October	31	31	22	25	31	21	25	31	21	23	31	22	27	31	21	29	31	22	29	31	27
11	November	27	29	30	26	27	30	26	28	30	22	26	30	26	27	30	23	26	30	28	26	30
12	December	29	30	28	26	27	29	24	28	27	25	26	28	28	29	29	24	19	29	28	29	29

ix. *The source/stack emissions are not the only source of emissions from the brick kilns, but fugitive emissions are also*

generated during pre and post firing activities in the brick kilns irrespective of the firing technology used, which may affect the ambient environment within the vicinity of brick kilns. In view of this, various directions have been issued by CPCB from time to time and SPCBs have also incorporated the measures to prevent fugitive dust emissions as conditions of the 'Consent to Operate' granted to brick kilns. However, it has been observed that adequate measures were not taken by brick kilns to control of fugitive dust emissions (Annexure-3).

x. *In order to assess the impact of brick kilns operations on the quality of top soil, a study was conducted with regard to impact on top soil, wherein, the top soil and excavated/desurfaced soil samples were collected from various locations in Seven Non-NCR Disctricts of Haryana, namely Ambala, Fatehabad, Hisar, Kaithal, Kurukhshetra, Panchkula and Yamunagar. Soil samples (from upper 15 cm layer) were collected from the land where top soil had been removed/desurfaced for brick manufacturing. Samples of top soil (from upper 15 cm layer) were also collected from the same land/site, where soil was not removed for brick manufacturing, as control samples, for comparison. The results of the analysis of soil samples along with location details, are summarized in Annexure-4 (i-iii). The evaluation of soil analysis data indicates that while in some of the samples/sites, soil fertility parameters like organic matter, available N, P, K, Fe and Zn were significantly low in concentration in the desurfaced soil layer, some samples/sites were found to be having higher concentration of soil fertility parameters in the excavated/desurfaced soil. This suggests that further studies are required to establish the impact of brick earth excavation on the fertility of top soil.*

xi. *The literature review and earlier findings w.r.t. top soil of the State of Haryana were also considered. Grewal and Kuhad (2002) have described the extent of desurfacing in Haryana and its impact on soil productivity and its management (Ref.: Grewal, M.S and M.S. Kuhad, M.S. (2002): Soil Desurfacing: Impact on productivity and its management, Department of Soil Science, Haryana Agriculture University, Hisar, 12th ISCO Conference, Beijing 2002). The findings of this study indicated negative impact of desurfacing of top soil by brick kilns in Haryana (Annexure-5). Priyanka Singh et.al. (2014), in another study, have described the top soil desurfaced by the brick kiln located in Rohtak and Jhajjar districts (Ref. Annexure-6; Priyanka Singh et.al. (2014): Map and identify desurfaced soil in Rohtak and Jhajjar districts in last five years using RS. International Journal of Emerging Science and Engineering (IJESE), 2(4): 2014). Therefore, it may be inferred that area specific measures are required, for preservation of the top soil particularly in the areas, where soil is sourced from agricultural land.*

Further, brick kilns monitored in Haryana were not found to be preserving the top soil. No condition of preserving the top soil is

prescribed in mining permit/license issued to brick kilns in the State of Haryana for excavation of brick earth (Annexure-7).

xii. *For assessing the carrying capacity of the non-NCR Districts of Haryana and determining the number of brick kilns which could be permitted within the available supportive capacity, data of monthly average CAAQMS PM10 concentration in the ambient air during the months of January 2021 - June, 2021 and October 2021 – December, 2021 were considered, for NCR districts of Haryana (Table 7). The CAAQMS data of the District Panchkula was available for PM2.5 concentrations, which was used to extrapolate PM10 concentration for this district based on PM10/PM2.5 ratio of the nearest district i.e. Ambala, in the absence of other data/information.*

The details w.r.t total Number of Zig-zag type brick kilns operational in the Non-NCR districts of Haryana were considered, based on information made available by the State Pollution Control Board. Data on geographical area of the Non-NCR districts of the State of Haryana available from the District Census Handbook, Census of India, 2011, and average atmospheric mixing heights for the months of Jan – June, 2021 and October – December 2021 obtained from Indian Meteorological Department (IMD) were used for estimating volume of air available for dispersion of pollutants. (Table 9).

Table 9: Number of Brick kilns, Area and Ambient Air Mixing Height in Non-NCR Districts of Haryana

S. No	Name of District	Total No. of Brick Kilns	*No of Zig Zag type Brick Kilns	Area (Sq. Km.)	Ambient Air Mixing Height, Km (2021)								
					Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	Ambala	107	106	1574	0.257	0.286	0.488	0.820	0.738	0.701	0.330	0.263	0.234
2	Fatehabad	74	61	2538	0.265	0.299	0.462	0.730	0.859	0.833	0.438	0.327	0.294
3	Hisar	292	192	3983	0.269	0.297	0.453	0.696	0.831	0.859	0.450	0.323	0.292
4	Kaithal	119	90	2317	0.248	0.258	0.423	0.752	0.764	0.742	0.323	0.262	0.237
5	Kurukshetra	59	59	1530	0.257	0.290	0.491	0.856	0.745	0.700	0.328	0.263	0.239
6	Panchkula	62	51	898	0.241	0.320	0.608	0.935	0.752	0.689	0.343	0.295	0.227
7	Sirsa	204	102	4277	0.271	0.381	0.567	0.779	0.909	0.795	0.460	0.340	0.299
8	Yamunanagar	90	82	1768	0.233	0.300	0.483	0.771	0.646	0.580	0.292	0.231	0.200
	Total	**1007**	**743**										

***** Only Zig-zag type brick kilns are permitted to operate in the State of Haryana

Emission load from Brick Kilns was calculated considering the data w.r.t average stack diameter and velocity, temperature & pressure of flue gas and standard of 250 mg/Nm^3 at 4% CO2.

The value of emission load derived with stack emission of 250 mg/Nm^3, is as follows:

Emission load from brick kilns having capacity of 30000 bricks/day, considering stack PM emission of

250 mg/Nm^3 at 4% CO2: 1000 Kg/day

The large particles may get separated and settled due to Zig-zag flow of the flue gas in the brick kilns, therefore, it was assumed that the particle size of particulate emissions from the brick kiln stacks were broadly upto 10 µm. The following components were derived in order to assess the carrying capacity of Non-NCR Districts of Haryana w.r.t. PM10:

(i) Estimation of Existing Pollution Load w.r.t PM10

(ii) Estimation of Assimilative Carrying Capacity w.r.t PM10

(iii) Estimation of Supportive Carrying Capacity w.r.t PM10

***Estimation of total existing PM10 load**:*
*Total area of the district in Km^2: **a**; Average Atmospheric Mixing Height during a particular month in Km: **b***   *Total volume of air in the district during a particular month in Km^3: a x b = **c***
*Average ambient $_{PM10}$ Concentration in the district for a particular month in Kg/Km^3**: d***   *Therefore, Total estimated load of particulate matter (PM10) in ambient air of a district during a particular month (**x**): c x d= **x Kg***
***Estimation of Assimilative Carrying Capacity w.r.t. PM10**:*
*Total volume of air in a district during a particular month in Km^3: **c***
*Particulate Matter (PM10) required to keep ambient air quality within prescribed NAAQS: **100 µg/m³** i.e. **100 Kg/Km³***
*Therefore, Assimilative Capacity w.r.t PM10 in ambient air of a district during a particular month (**y**): c x 100= **y Kg***
Estimation of Supportive Capacity w.r.t. PM10:
*Supportive Carrying Capacity (**z**) = Assimilative Carrying Capacity (**y**) - Total Estimated Load (**x**)*

*The district-wise $_{PM10}$ load, Assimilative Carrying Capacity and Supportive Carrying Capacity, as determined by using the above methodology are summarized in **Table 10 (i-iii)** for Non-NCR Districts of Haryana.*

Table 10: Total Existing PM10 Load, Assimilative Carrying Capacity and Supportive Carrying Capacity in Non-NCR Districts of Haryana

(i): Total PM10 Load

S. No.	Name of District	Total PM10 Load, Kg (x)								
		Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	Ambala	60683	52293	85260	125196	119646	113648	73238	90244	67402
2	Fatehabad	98195	110035	205197	329788	420767	389004	141179	239849	123865
3	Hisar	175714	194004	303122	487902	513030	612430	245552	405250	255868
4	Kaithal	77573	78908	140153	252646	238975	247567	113755	171796	200122
5	Kurukshetra	60554	71436	108177	189904	149320	131733	80796	105024	73134
6	Panchkula	31164	31035	55690	63812	51322	48260	32033	32849	29762
7	Sirsa	128656	192285	269182	353169	544291	499832	259699	392629	225073
8	Yamunanagar	76210	93350	143463	234458	149619	132282	96024	102510	88400

(ii): Assimilative Carrying Capacity

S. No.	Name of District	Assimilative Carrying Capacity, Kg (y)								
		Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	Ambala	40456	45080	76811	129068	116161	110337	51942	41396	36832

2	Fatehabad	67257	75886	117256	185274	218014	211415	111164	82993	74617
3	Hisar	107143	118295	180430	277217	330987	342140	179235	128651	116304
4	Kaithal	57462	59779	98009	174238	177019	171921	74839	60705	94397
5	Kurukshetra	39321	44370	75123	130968	113985	107100	50184	40239	36567
6	Panchkula	21642	28736	54598	83963	67530	61872	30801	26491	20385
7	Sirsa	115907	162954	242506	333178	388779	340022	196742	145418	127882
8	Yamunanagar	41194	53040	85394	136313	114213	102544	51626	40841	35360

(iii): Supportive Carrying Capacity

S. No.	Name of District	Supportive Capacity, Kg (y-x)								
		Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	Ambala	-20228	-7213	-8449	3872	-3485	-3310	-21296	-48848	-30570
2	Fatehabad	-30938	-34149	-87942	-144514	-202753	-177589	-30014	-156856	-49247
3	Hisar	-68571	-75709	-122692	-210685	-182043	-270290	-66317	-276599	-139564
4	Kaithal	-20112	-19129	-42144	-78407	-61957	-75645	-38916	-111091	-105725
5	Kurukshetra	-21233	-27066	-33054	-58936	-35335	-24633	-30612	-64785	-36567
6	Panchkula	-9522	-2299	-1092	20151	16207	13612	-1232	-6358	-9377
7	Sirsa	-12750	-29332	-26676	-19991	-155512	-159810	-62957	-247211	-97191
8	Yamunanagar	-35015	-40310	-58068	-98145	-35406	-29738	-44398	-61670	-53040

In the districts, where the supportive carrying capacity is available (Positive Supportive Carrying Capacity) in a particular month, number of Zig-Zag brick kilns that can be operated, is determined as follows:

Total ***number of brick kilns which can be operated in a district during a particular month****: Supportive Carrying Capacity of the district for a particular month/Emission load from one brick kiln.*

However, as all the zig-zag type brick kilns were in operation during Jan-June, 2021 and Oct-Dec, 2021, the number of brick kilns which can be operated within the available supportive carrying capacity was determined as follows:

No. of brick kilns which can be operated *= Total number of Zig-Zag brick kilns operational in that particular month – (Negative Supportive Carrying Capacity or Load in excess of Assimilative Capacity/ Emission Load from one brick Kiln)*

The load in excess of the assimilative capacity and month-wise number of brick kilns which can be operated within the assimilative capacity/available supportive carrying capacity during Jan-June and October-December are presented in ***Table 11 (i) and Table 11 (ii) respectively****, for Non-NCR districts of Haryana.*

Table 11 (i): PM10 in excess of Assimilative Carrying Capacity

S. No.	Name of District	PM10 Load in excess of the Assimilative Capacity, Kg								
		Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	Ambala	20228	7213	8449	-3872	3485	3310	21296	48848	30570

2	Fatehabad	30938	34149	87942	144514	202753	177589	30014	156856	49247
3	Hisar	68571	75709	122692	210685	182043	270290	66317	276599	139564
4	Kaithal	20112	19129	42144	78407	61957	75645	38916	111091	105725
5	Kurukshetra	21233	27066	33054	58936	35335	24633	30612	64785	36567
6	Panchkula	9522	2299	1092	-20151	-16207	-13612	1232	6358	9377
7	Sirsa	12750	29332	26676	19991	155512	159810	62957	247211	97191
8	Yamunanagar	35015	40310	58068	98145	35406	29738	44398	61670	53040

Table 11 (ii): Number of brick kilns which can be operated with the Assimilative Carrying Capacity/Available Supportive Capacity

S. No.	Name of District	No. of Zig Zag type brick kilns	*No. of brick kilns which can be operated								
			Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	Ambala	106	86	99	98	110	103	103	85	57	75
2	Fatehabad	61	30	27	-27	-84	-142	-117	31	-96	12
3	Hisar	192	123	116	69	-19	10	-78	126	-85	52
4	Kaithal	90	70	71	48	12	28	14	51	-21	-16
5	Kurukshetra	59	38	32	26	0	24	34	28	-6	22
6	Panchkula	51	41	49	50	71	67	65	50	45	42
7	Sirsa	102	89	73	75	82	-54	-58	39	-145	5
8	Yamunanagar	82	47	42	24	-16	47	52	38	20	29

**Negative values indicate that no brick kiln can be operated*

xiii. *The number of brick kilns which could be permitted to operate in a particular district within the assimilative carrying capacity/available supportive capacity of the ambient air environment was estimated as explained above. Based on the evaluation of the data and estimation of the carrying capacity as explained in the previous section, there is no assimilative capacity available in the ambient air environment in the Non-NCR districts of Haryana for simultaneous operation of all the existing brick kilns, during the period i.e. October to June, even after adopting Zig-zag technology. The outcome of the month-wise and district-wise estimation w.r.t. the number of brick kilns which can be operated within the assimilative capacity/available supportive capacity without any negative effect on the ambient air is summarized in* ***Table 12****.*

Table 12*: Month-wise and District-wise estimation of the number of Zig-zag type brick kilns, which can be operated in Non-NCR Districts of the State of Haryana*

S. No.	Name of District	No. of Zig Zag type brick kilns	*Month-wise number of Zig-zag type brick kilns, which can be operated without affecting the ambient air quality I.e. within the assimilative capacity/available supportive capacity								
			Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
1	**Ambala**	106	86	99	98	110	103	103	85	57	75
2	**Fatehabad**	61	30	27	-27	-84	-142	-117	31	-96	12
3	**Hisar**	192	123	116	69	-19	10	-78	126	-85	52
4	**Kaithal**	90	70	71	48	12	28	14	51	-21	-16
5	**Kurukshetra**	59	38	32	26	0	24	34	28	-6	22
6	**Panchkula**	51	41	49	50	71	67	65	50	45	42
7	**Sirsa**	102	89	73	75	82	-54	-58	39	-145	5

8	***Yamunanagar***	82	47	42	24	-16	47	52	38	20	29

** Negative values indicate that no brick kilns can be operated.*

xiv. With regard to the impact of brick kilns' operation in Non-NCR districts of Haryana on the air quality of NCT of Delhi, it is submitted that a joint study on "Source Apportionment of PM2.5 and PM10 of Delhi NCR for identification of major sources" was conducted by Automotive Research Association of India (ARAI) and The Energy and Resources Institute (TERI) for Department of Heavy Industry, Ministry of Heavy Industries and Public Enterprises, New Delhi. The study, based on data for 2016, assessed sectoral and sub-sectoral contribution using receptor and dispersion modelling techniques and indicated that brick kiln industry contributed about 5% and 7% w.r.t. PM10 emissions in summer and winter respectively, in ambient air of Delhi and NCR (relevant part of the report is attached as Annexure-8). It was also assessed that, with conversion to Zig-zag technology, the contribution of brick kiln may come down to further 2% (Summer) to 4% (Winter). The Zig-zag technology in brick kilns of NCR regions has been implemented w.e.f. 30.9.2017 and the brick kilns which have not adopted Zig-zag technology have been closed down by the respective SPCBs, thus reducing the number of operational brick kilns in NCR regions by around 50%. Therefore, the estimated contribution of brick kilns in the ambient air (PM10) of Delhi NCR for the base year 2019 is expected to be further reduced. It may please be submitted that the above estimates are for brick kilns operated in the entire area and not-just limited to Non-NCR districts of Haryana.

Dispersion modelling technique was again applied for assessing the impact of brick kilns located in Non-NCR districts of Haryana on the air quality of NCT of Delhi for the base year 2019. The results indicate the impact of operation of brick kilns in Non-NCR regions of Haryana, on air quality of Delhi NCR (PM2.5 and PM10) to be negligible in both summer and winter. Therefore, it may be inferred that the operation of brick kilns in Non-NCR regions of Haryana, with all dust control measures in place, is not expected to have significant impact on the ambient air quality of NCT of Delhi, though it might affect the nearby areas.

3. Submission

Following submissions including conclusion drawn from the monitoring results and the above analysis are made:

1. Analysis based on the available data indicate that emissions from Zig-zag type brick kilns are significantly lower in comparison to FCBTK operating with Coal or Agro-residues as fuel. Therefore, conventional brick kilns using agro-residues may not be substitute to Zig-zag based kilns.

2. Study conducted on Top soil and Excavated/desurfaced soil in Seven Non-NCR Districts of Haryana indicted that while at

some of the samples/sites, different soil fertility parameters like organic matter, available N, P, K, Fe and Zn were significantly low in concentration in the desurfaced soil layer, other samples/sites were found to be having higher concentration of soil fertility parameters in the excavated/desurfaced soil. Further studies may be required to establish the impact of brick earth excavation on the fertility of top soil. However, the literature/research studies suggest that the fertility of top soil is negatively affected by use of top soil in brick manufacturing. Therefore, area specific measures are required to preserve the top soil.

3. *The preservation of top soil should be incorporated in the mining plan/Mining License issued by the Mining Department to Brick manufacturers. The submission of the compliance report of the conditions of mining license, may be incorporated as one of the conditions of 'Consent to Operate' granted by State Pollution Control Boards (SPCBs).*

4. *The overall fugitive dust emissions from all type of brick kilns, irrespective of the firing technology (FCBTK or Zig-Zag) adopted, are similar and most of the brick kilns monitored in the present study were also observed to be lacking in the implementation of the fugitive dust emissions control measures specified by the respective State Pollution Control Boards. Therefore, the brick kilns and SPCBs must ensure adherence to the conditions prescribed in the 'Consent to Operate'.*

5. *The CAAQMS data w.r.t. PM10 concentration in the ambient air for the last three years were found to be exceeding the prescribed ambient air quality standards in Non-NCR districts of Haryana, indicating limitation in the carrying capacity of ambient air environment.*

6. *The outcome of dispersion modelling study for the data of the base year 2019 indicates that operation of brick kilns in Non-NCR districts of Haryana are expected to have negligible contribution on ambient particulate matter concentration (PM10 and PM2.5) in NCT of Delhi. However, it may impact ambient air quality in the nearby areas.*

7. *It may also be pertinent to submit that air quality within a district may have significant spatial variations. Therefore, SPCBs may take up detailed study in the brick kiln clusters with more number of monitoring stations, through satellite based Aerosol Optical Depth (AOD) data or use of appropriate models to further refine spatial air quality profile and carrying capacity.*

8. *It is submitted that carrying capacity of environment is usually referred as the maximum population that can be sustained by specific environment.*

9. *The carrying capacity of the air environment of an area will depend on the pollution load and capacity of dispersion of pollution. The carrying capacity can be enhanced through*

various means including technology interventions. The Hon'ble NGT order dated September 09, 2021 in the matter of OA No 19/2021 recognizes the concern that particulate matter concentration are higher in the central Indian /Indo Gangetic plains as compared to Southern, Eastern/North-eastern parts of the country and there was a need to maintain balance in developmental activities and environmental protection, air pollution problems of Indo-Gangetic Plain and requirement of a good scientific framework to deal with the issues related to carrying capacity, development, technologies, mitigation measures, etc. for environmentally sound development. Hon'ble NGT has directed for preparation of such a science based expert report on the issue.

10. *In the districts with restrictive carrying capacity (**Table 12**), the selection of brick kilns which can be operated may be made in such a manner that there is distance of 800 mtr between two operational brick kilns and all the brick kilns permitted to operate must be complying with the conditions of the consent to operate and various guidelines/directions issued for dust control measures, so as to ensure minimum localized impact on the ambient air.*

11. *MoEF&CC vide Notification G.S.R. 143(E), dated 22.02.2022 notified revised standards for brick kilns **(Annexure-9)**. Key features of revised standards are:*

    (i) Standard for PM emissions from stack of brick Kiln revised to 250 mg/ Nm3

    (ii) New brick kilns shall be based on zig-zag technology or vertical shaft or use of PNG as fuel

    (iii) Existing brick kilns shall be converted to zig-zag technology or vertical shaft or use of PNG as fuel in brick making within a period of one year in case of kilns located within a 10 km radius of non-attainment cities and two years for other areas

    (iv) Only approved fuels such as PNG, coal, fire wood and/or agricultural residues are permitted; Use of pet coke, tyres, plastic, hazardous waste shall not be permitted

    (v) Permanent facility for port hole and platform according to the norms laid down by the Central Pollution Control Board (CPCB) will be provided

    (vi) Brick kilns should follow Fugitive dust emission control guidelines as prescribed by concerned State Pollution Control Boards (SPCBs), and ensure that the roads for transporting raw material or bricks arc paved roads."

6. We find that the report is based on relevant data and needs to be adopted. Accordingly, we direct the State PCB to follow the same for any future consents under the Water (Prevention and Control of Pollution)

Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. Further, notification dated 22.02.2022 issued by MoEF&CC which has notified revised standards for brick kilns in respect of technology to be used, standards to be followed and converting the existing brick kilns to new technology needs to be followed. However, in view of changing air quality levels, studies may have to be undertaken periodically and present study followed till there is perceptible change in the air quality.

The application is disposed of.

A copy of this order be forwarded to the Chief Secretary, Haryana and State PCB by e-mail for compliance.

In view of the order passed above in the main application, all pending IAs will also stand disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

Dr. Vijay Kulkarni, EM

March 10, 2022
Original Application No. 1088/2018
(I.A. Nos. 98/2019, 100/2019,
101/2019, 119/2019 & 266/2019)
SN

Item No. 03 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 93/2021

Mukesh Kumar Aggarwal Applicant

Versus

Central Pollution Control Board & Anr. Respondent(s)

Date of hearing: 09.05.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Salik Shafique, Advocate

Respondent(s): Mr. Pradeep Misra & Mr. Daleep Dhyani, Advocates for UPPCB
Mr. Raunak Parekh, Advocate for R - 106

ORDER

The Issue

1. Grievance in this application is against the failure to take adequate remedial measures against air pollution caused by the operation of brick kilns in Mathura District in UP resulting in severe health impact on the lives of the citizens. It is stated that the applicant is permanent resident of Kosi Kalan (Rural), Tehsil Chhata, District Mathura and is living with his old age parents. They are severely affected by the air pollution in Mathura District where AQI crosses 400. One of the identified causes of air pollution is 350 brick kilns operated by coal using polluted fuel like spent organic, solvent, oily residue, pet coke, filter press cake, plastic rubber, leather waste etc. Operation of such brick kilns is against declared norms for siting

by maintaining prescribed distance of habitations, educational institutions and hospitals. The said kilns do not have the requisite consents and are non compliant with regard to the siting norms prescribed by CPCB as well as under the Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012. The applicant has filed satellite images of a kiln in village – Surir situated at the distance only 20 kms from Kosi Kalan and Mathura, Uttar Pradesh, where a cluster of around 65 brick kilns is being operated within the small area of 4 km. belt which is highly populated residential area. A Government Hospital is situated only at the distance of 265 mtrs. Rashtriya Inter College is situated at the distance of 400 mtrs. Air quality of Mathura is as bad as air quality of NCR and safeguards are needed at par with the Taj Trapezium Zone (TTZ). But while remedial measures have been taken for preventing polluting activities in NCR and TTZ, similar measures are required for Mathura District.

2. The applicant has referred to Comprehensive Environment Pollution Index (CEPI) compiled by the CPCB with regard to the Industrial areas in the country, based on the air, water and land pollution. CPCB has on that basis categorised industrial areas as critically polluted/severely polluted and polluted. Those above the score of 70 are critically polluted. The score of Mathura industrial area is 91.10. Brick kilns are mushrooming and are being allowed to be set up without requisite consents and safeguards. Adverse health impacts of polluted air quality have been noted *inter-alia* in judgement of Hon'ble Supreme Court in M.C. Mehta v. UOI[1], M.C. Mehta v. UOI[2], M.C. Mehta v. UOI[3] and K. Guruprasad Rao v. State of Karnataka[4] and order of this Tribunal dated 17.02.2021 in *O.A. No.*

[1] (1998) 9 SCC 149
[2] (2000) 7 SCC 422
[3] (2002) 4 SCC 378
[4] (2012) 12 SCC 736

1016/2019, Utkarsh Panwar v. CPCB & Ors. wherein the Tribunal directed stopping of all brick kilns in NCR beyond the assimilative carrying capacity in the air in NCR, till such brick kilns shift to PNG. Till shifting to PNG, it was directed that the brick kilns cannot operate except in limited number and only from March to June when assimilative air capacity permits such operations.

3. In Mathura brick kilns are operative throughout the year without any study of the assimilative air capacity of the area and without following the laid down siting criteria and without consents. The statutory regulatory authorities have not taken any meaningful action. The applicant has also pointed out letters of CPCB seeking information on the subject from the UP State PCB but it appears that no further action has been taken. Brick kilns in question do not even follow Zig Zag Technology which is being followed in other air polluted areas and even outside the air polluted areas, in pursuance of directions of State PCB dated 28.06.2017 as follows:-

> **"***1. All the Brick kilns operating without permission and valid consent from SPBs, not meeting prescribed norms and siting guidelines be closed down with immediate effect.*
>
> ***2. Provide status on conversion of natural draft to induced draft brick kilns (with rectangular kiln shape and zig zag brick setting).***
>
> *3. Enforce strictly the siting criteria guideline for brick kilns.*
>
> *4. All the moving area around the main Brick Kiln should be paved with the bricks to minimize the fugitive dust emission from the Brick Kilns operations. This condition should be incorporated in the consent conditions while grating the Consent by the UP Pollution Control Board.*
>
> *5. Ensure that fine dust not to accumulate all around the brick kiln.***"**

4. The applicant has filed a list of 189 Brick kilns which according to the applicant are violating the siting criteria or other environmental norms. It is also submitted that even there is compliance by any individual brick

kiln if the assimilative air capacity cannot sustain coal fire brick kilns, such brick kilns cannot operate adding further to the already polluted air. The applicant has stated that the brick kilns in question are contributing upto 28% air pollution.

Procedural History

5. The matter has been earlier dealt with mainly by orders dated 13.4.2021, 12.8.2021 and 21.11.2021 and after ascertaining facts directions for remedial action have been issued as shown below.

Order dated 13.4.2021

6. Vide order dated 13.04.2021, the Tribunal constituted a joint Committee of CPCB, State PCB and District Magistrate, Mathura to verify facts and file factual and actual taken report. The operative part of the order of the Tribunal is as follows:

> *"5. In view of the above, we consider it appropriate to require a joint Committee comprising CPCB, State PCB and District Magistrate, Mathura to verify the facts and furnish a factual and action taken report in terms of compliance of siting and environmental norms, including the assimilative capacity of the air to sustain particular number of brick kilns. The Committee may look into the report dated 06.07.2020 furnished in O.A. No. 1016/2019, supra as well as discussion in the said order. The report may be furnished within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The State PCB may also verify whether brick kilns in question are operating without consent, as alleged, in which case the State PCB may take remedial action, following due process of law. The report may be uploaded on the website of the CPCB so as to be accessed by any affected party. Objections to the report, if any, can be filed within 15 days of the uploading of the said report on the website. The CPCB and the State PCB will be the nodal agency for coordination and compliance."*

Order dated 12.8.2021

7. The matter was thereafter considered on 12.08.2021 in the light of report dated 04.08.2021 acknowledging serious violations in operation of

the Brick Kilns. The Tribunal issued directions including constitution of a five Member Committee. The relevant extracts from the order are:

> *"9. We have heard learned Counsel for the appearing parties. Learned Counsel for the applicant submitted that Zig-Zag technology is mandatory under the CPCB direction as the said technology comparatively produces lesser pollution. All brick kilns using old polluting technology FCBTK be closed. Reliance has been placed on the order of this Tribunal on the subject dated 22.01.2019 in OA 718/2017, Anil Kumar v. Union of India & Ors. In violation of the directions of the CPCB, fresh consents are being given by the State PCB for operation of brick kilns using old FCBTK technology. Infact time has come to close coal fired activities in area where air quality is poor or above. Out of 189 brick kilns, only 30 brick kilns are using Zig-Zag technology. The remaining are required to be closed. It is preferable to shift to gas based fuel.*
>
> *Mathura District is part of Taj Trapezium Zone (TTZ) where 'orange' and 'red' category industries are not permitted. Even if Mant and Chhata or other areas all under outside TTZ, the level of air quality has to be considered before granting/renewing any consent having regard to mandate of Air (Prevention and Control of Pollution) Act, 1981. In the report, the data considered is of the entire year and not of the months during which air quality is beyond norms and pollution level is high. Data is not of the local area where the brick kilns are working. The report ignores the order of this Tribunal dated 17.02.2021 in OA 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., whereby the Tribunal allowed operation of brick kilns only from March to June, having regard to the air quality, limiting to the number which was sustainable as per carrying capacity. Carrying capacity needs to be worked out following correct norms and correct data. Brick kilns not complying with the consent conditions need to be closed till compliance as per precautionary principle. Siting criteria is to apply even to old brick kilns as every renewal is at par with new consent. No doubt the earlier order in Utkarsh Panwar is for Delhi and NCR, the principle underlying the said order has to be followed. Further reference has to be made to the notification issued by the Govt. of India prescribing standards for brick kilns. The prescribed standards are:*
>
> > *"18. …. Standards of the Brick Kilns of Small Unit was 1000 mg/$Nm^{3,}$ Medium Unit was 750 mg/Nm^3 and large Unit was 750 mg/$Nm^{3.}$*
> >
> > *19. Thereafter, the MoEF on in the year 2015 issued Environment Protection draft Amendment Rules, 2015. The Particulate matter standards as per the draft rules for Natural Draft Kilns was 500 mg/Nm^3 and Induced Draft Kilns was 250 mg/Nm3.*
> >
> > *20. The MoEF& CC on 15.03.2018 published draft prescribed standards for brick kilns under the Environment Protection Rules, 1986. The proposed prescribed standard for particulate matter is 250 mg/Nm^3 for all class of brick kilns."*

The Uttar Pradesh Brick Kilns (Siting Criteria for Establishment) Rules, 2012 requires a distance from 250 meters from the Government Hospital habitation area, school, colleges and highway. But in violation of the said criteria, there are brick kiln clusters in violation thereof. 54 brick kilns have been recently granted consent to establish without considering the air quality data. The CEPI score for Industrial Areas/Clusters monitored during 2018, mention Mathura as '91.10 score' and hence Mathura is a 'Critically Polluted Area'. Further, as per the CPCB uniform categorization of industries, the Brick Kilns unit falls under 'Orange' category and hence the UPPCB cannot be allowed to issue consent to establish to new units. Brick kilns which are located in very small area and these brick kilns continuously require raw material i.e. Soil, the Joint Committee has made no observation regarding source of such minor mineral and whether necessary permissions have been obtained for the same or not.

The brick kilns are also violate the consent conditions. The joint Committee has found:

> *"i. Greenery and Plantation was not observed in majority of the units.*
> *ii. No paved road and 3 meters boundary wall were observed.*
> *iii. No permanent arrangement of stack monitoring.*
> *iv. Absence of water sprinklers to suppress the dust.*
> *v. No display board consisting of name of the unit, address, monitoring data among other things.*
> *vi. Out of 189 brick kilns only 65 number of brick kilns are registered for GST."*

Banned fuel such as plastic, rubber parts of old vehicles, shredded old automobile tyres and remnants of vehicles and other combustible machinery scraps were also found being used by the brick kilns units. The Joint committee in its report at Page No. 121 states that only permissible fuel was found in Chhata cluster but in the same report at Page No. 134 annexed photograph stating that Brick Kiln at Chhata was found using non permitted fuel.

10. We have considered the issue and also heard learned Counsel for the State PCB/CPCB/Brick kiln owner. From the above resume, it is seen that there are acknowledged serious violations of environmental norms in permitting the operation of brick kilns but the statutory authorities have failed to enforce the law, to protect public health and citizens right to breathe clean air which has to prevail over right to business. Precautionary principle is completely ignored. Air quality norms are violated. Consents have been mechanically given and renewed without any regard to statutory obligation of assessing air quality. There is no effective monitoring mechanism against violations. Even after violations are found, closure is not being ordered till compliance, which has to be the norm under the law. Even air quality monitoring stations have not been set up at air pollution hot spots. Norms

applied for calculating carrying capacity are not as required thereby permitting more pollution than permissible. Even those found using prohibited fuel have not been proceeded against. Those registered for GST are also not proceeded against. How will air standards be enforced? Public trust doctrine is given a go by. Casualty is public health particularly of innocent citizens who look to the State for their protection. They are helpless when the State fails in its duty.

xxx .....xxx.....xxx

12. Extract from order dated 1.12.2020 in OA 249/2020 is reproduced below:

> ***"18. .....If the air quality is 'poor' and above, it has been held by the Hon'ble Supreme Court in the table quoted in para 4 above that there is danger of heart diseases, respiratory illness and other serious health impact*** *even before Covid. Covid is going to further aggravate the situation and therefore atleast in areas where air quality is 'poor' and above, no bursting of fire crackers should be permitted in view of 'Precautionary' principle, to be statutorily enforced by this Tribunal under Section 20 read with section 15 of the National Green Tribunal Act, 2010.*
>
> *32. .....In view of above discussion, following directions are issued:*
>
> *i. There will be total ban on sale and use of all kinds of fire crackers during Covid-19 pandemic in the NCR and all cities/towns in the country* ***where the ambient air quality falls under the 'poor' and above category****.*
>
> *v. We further direct that the Air Quality Monitoring Committees (AQMC) in terms of order of this Tribunal dated 08.10.2018 in OA No. 681/2018[5] to coordinate with the District Magistrates.[6] for compliance of the above directions."*

xxx .....xxx.....xxx

---

[5] The said order is as follows:

"15. xxx xxx xxx

i. xxx xxx xxx

ii. The Action Plans may be prepared by six-member committee comprising of **Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State**. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination."

[6] The District Environment Committee has been directed to be constituted by this Tribunal to prepare and execute District Environment Plan vide order dated 15.07.2019 in OA No. 710/2017, Shailesh Singh vs. Sheela Hospital & Trauma Centre, Shahjanhanpur & Ors.

16. In view of earlier orders quoted above and discussion in paras 10 to 12, we are of the view that steps need to be forthwith taken to stop operation of brick kilns already found to be operating in violation of environmental norms till compliance by the State PCB in exercise of its statutory power, following due process of law, till compliance. This will include brick kilns not following consent conditions, operating in excess of carrying capacity, CPCB guidelines and orders of this Tribunal, and those violating siting guidelines. Necessary action be ensured within two months. At the same time, there is need for further study of carrying capacity, applying correct data and norms. Air quality monitoring equipments be installed in the concerned area and if online monitoring stations cannot be set up, easily available equipments be used to continuously monitor air quality. Stringent monitoring mechanism be put in place. Process of mechanically giving consents be reviewed by the State PCB in view of binding 'precautionary' principle. Public health needs to be given due preference to the need for establishment of brick kilns. Violators be strictly proceeded against by way of prosecution, recovery of compensation and preventing pollution. While determining carrying capacity, other sources contributing pollution loads may be factored in while considering concentrations of PM_{10} in microgram per cubic metre in addition to loads given in kgs. Further, mixing heights data may be referred from the nearest location of IMD station. It is also necessary to clarify reasons of high CEPI score (91.1) particularly for Air and remedial action plan.

17. Our directions are summed up as follows:

- *(A). Brick kilns operating in violation of environmental norms - without consent, in violation of consent conditions, in violation of siting criteria, beyond carrying capacity be forthwith closed, following due process of law, exercising statutory powers by the State PCB.*
- *(B) The State PCB in coordination with the District Magistrate and the Air Quality Monitoring Committee headed by Secretary Environment may ensure setting up of air quality monitoring stations at appropriate locations and also take other steps for effective monitoring of compliance of air quality norms in the area in question.*
- *(C) Consent given to all the brick kilns be reviewed by the State PCB in the light of CPCB directions as well as the air quality norms, siting criteria and carrying capacity. Shortlisting as per carrying capacity may be done on the basis of technology used, inter se distance, distance from sensitive locations and comparative level of compliance.*
- *(D) Tunnel kiln technology with PNG may be appropriately encouraged in the interest of reduction of pollution load.*
- *(E) Five-member Committee is constituted to undertake further study of carrying capacity of the area in terms of number of brick kilns which can be sustained applying right parameters and based on relevant data of air quality, overcoming deficiencies pointed out hereinabove. The Committee will comprise of the following:*
  - *i. Justice Anil Kumar Sharma, former Judge of Allahabad High Court now available at Mathura - Chairman.*

ii. *Representative of CPCB of the level not below Additional Director – Member.*
iii. *Professor Mukesh Khare, former Prof. IIT Delhi – Member.*
iv. *Member Secretary, SEIAA, UP - Member.*
v. *Chief Engineer Environment, UP State PCB – Member.*

The CPCB and the State PCB will be the nodal agency for coordination and compliance. The Committee may visit the site and interact with the stakeholders. The Committee may meet within 15 days from today to take stock of the situation. Thereafter, it may visit the site and study the available data of air quality and location of the brick kilns. It will be free to conduct proceedings online except for visit to the site which may be undertaken by all or such members as may be decided by the Chairman of the Committee. The Committee will be free to consult any other expert/institution. The Committee may give its report to this Tribunal within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may be uploaded on the website and it will be open to any aggrieved party to file their response, if any, before the next date. Justice Anil Kumar Sharma will be entitled for honorarium @ Rs. 2 lac per month and Prof. Mukesh Khare will be entitled for honorarium @ Rs. 1.5 lac per month. The said honorarium will be payable by the State PCB out of the 'consent funds' available with it. Logistic support may be provided by CPCB/State PCB/District Magistrate to enable the Committee to complete its task."

Order dated 21.11.2021

8. Vide order dated 21.11.2021, the matter was further considered in the light of interim reports of the Committee and a further report was required to be furnished in the light of observations particularly failure to monitor compliance of consent conditions and use of improved technology. Relevant observations are:

"12. We have heard learned Counsel for the State PCB. On being asked how the simple work which was expected to be done by the Committee is being outsourced at unnecessary huge cost and causing delay in much needed remedial action, he submitted that there appeared to be some communication gap about the role expected from the Committee. Further, there is no figure of illegally operating brick kilns which have now been closed. We are informed that those which did not have consent have been closed. What about those violating consent conditions, not following siting norms, continuing old technology against guidelines? There seems to be flagrant violation of orders of this Tribunal on these aspects. The Committee appointed by this Tribunal may look into these aspects and ensure remedial action which may be mentioned in its report.

13. Engagement of IIT for carrying capacity assessment appears to be as a result of some communication gap which is not as per mandate of the Tribunal. Instead of this course of action, what is required is the analysis of available data on the pattern of approach of the Expert Committee in its report dated 06.07.2020 filed by the CPCB, dealt with vide order dated 15.10.2020 in OA No. 1016/2019, Utkarsh Panwar supra.

14. Simple work in terms of order of this Tribunal does not warrant any fresh study or any intricate research by any other institution. ***Assessment of the ground situation needs to be made for a decision whether and how many brick kilns ought to be allowed in the light of air quality data in the area. We further note that contrary to orders of this Tribunal only brick kilns operating without consent are reported to have been closed. There is no mention about closure of brick kilns violating siting criteria and consent terms, using obsolete technology contrary to CPCB guidelines or operating in excess of the carrying capacity i.e. when data shows inability to take more pollution load in the area, except by use of technology which avoids pollution load and if the air quality is not harmful for public health. If air quality norms are already exceeding, all that the Committee needs to say is that no brick kiln can be allowed during the period air pollution is above threshold, till improvement of air quality. If the air quality can sustain lesser number or maintaining longer distance, it has to be ascertained. If improved technology can help, it may be so mentioned. The Committee is to operate within these parameters. Precautionary principle has to guide the issue.***

15. ***In Mant and Chatta area where 168 and 59 brick kilns are said to be operating in a cluster. The Committee was required to determine whether siting norms were reasonable and being followed and whether the air quality permitted could sustain the pollution load generated by the brick kilns. The Air Quality Monitoring Stations were required to be set up at appropriate locations based on which effective monitoring of the pollution load was possible.***

16. As already mentioned, the State PCB has miserably failed to monitor compliance of consent conditions, ambient air and stack monitoring, siting criteria as well as compliance of environmental norms. Such lapse on the part of the State PCB has resulted in serious damage to the environment and public health. The Chairman, State PCB needs to take action against such failure, including the erring officers of the State PCB posted in the area.

17. In view of above discussion, further steps in the matter be taken by the statutory regulators and monitored by the Committee constituted by this Tribunal. The Committee will stand reconstituted as follows:

i. *Justice Anil Kumar Sharma, former Judge of Allahabad High Court now available at Mathura - Chairman.*
ii. *Member Secretary, CPCB – Member.*
iii. *District Magistrate, Mathura– Member.*
iv. *Member Secretary, SEIAA, UP - Member.*
v. *Member Secretary, UP State PCB – Member.*

If any member finds it difficult to attend physically, with the permission of the Chairman of the Committee, he can be allowed to participate online.

18. ***The Committee may accordingly give further report in the light of above observations. In the report, number of brick kilns closed or required to be closed or could be allowed and the period during which the same could be allowed as a result of assessment and monitoring by the Committee may be specified.*** *Further report be furnished to this Tribunal within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may also be uploaded on the website of CPCB for any response by any stakeholder before the next date."*

Consideration today and further order

9. In pursuance of above, a report has been filed on 23.02.2022 by the Joint Committee. The report notes the failure of the administration in enforcing the law for compliance of consent conditions and siting norms. Necessary verification process has not been undertaken by the authorities as required. Minutes of meeting of 22.04.2022 have also been filed as follows:

"1- Review of the progress of inspections conducted by district level committee and action taken on its report:

The Member Secretary apprised the committee that;

a- In the first action taken report submitted to the Committee it was mentioned that earlier 227 brick kilns were operational in tehsil Mant and Chhata district Mathura. However, during latest survey additional 33 more brick kilns are found by the Committee formed by the DM, Mathura vide order dated 31.12.2021 in tehsil Mant and Chhata district Mathura. So at present total 260 brick kilns are identified in that area till date.

b- Earlier in year 2021 the SPCB has issued closure orders against 38 brick kilns found operating without valid CTO issued by SPCB under Air (Prevention and Control of Pollution) Act, 1981.

c - On the basis of inspection reports of joint committee, the following action has been taken by the State Pollution Control Board:

i- The State Pollution Control Board has issued closure orders u/s 31(A) of Air (Prevention and Control of Pollution) Act, 1981 against 125 brick kilns which have been identified as operating without valid consent or their sites were not as per the guidelines.

ii- The State Pollution Control Board has issued show cause notices u/s 31(A) of Air (Prevention and Control of Pollution) Act, 1981 against 15 brick kilns that why closure order should not be passed against them as they have been identified for not complying with the conditions imposed in the Consent to operate issued to them.

iii- The SPCB has issued show cause notice u/s 21(4) of Air (Prevention and Control of Pollution) Act, 1981 against 47 brick kilns that why their valid consent should not be revoked for not submitting the compliance report of the conditions imposed in their valid consent.

It was discussed that grounds/reasons for the action taken / action proposed in respect of brick kilns should be mentioned in the action taken report.

Action : Regional Officer, UPPCB, Mathura

2- <u>Compliance status of the closure orders issued by SPCB</u>:

The Chairman drew attention of the members/officers about the non-execution of closure orders issued by the SPCB. He informed that inspite of closure directions; most of the brick kilns are not following the closure order issued by the Board and are operating in violation thereof. The District Magistrate Mathura informed the Committee that he has constituted two teams consisting of concerned SDM of the tehsil to ensure compliance of the closure orders issued by the Board. The teams are using water canon to quench the fire in the brick kiln. He further apprised that SDMs have been instructed to strictly comply the closure directions. It has been reported by the SPCB that inspite of putting water in the brick kiln several brick kilns after some time have again started production in violation of closure order. It was emphasized that penal action should be initiated against defaulter brick kilns. The DM also stressed about the need to sensitize the local officials of the SPCB to take initiative in complying with the closure orders issued by the Board. The MS SPCB directed RO, Mathura to ensure strict compliance in coordination with the district administration.

The Member Secretary SPCB informed that in the given circumstances the Board would file complaints against the violators of the closure order before the designated Court u/s 37

of Air Act and also to impose the Environmental compensation against these defaulter brick kilns.

Member Secretary also submitted that earlier directions were issued by the Additional Chief Secretary, Department of Environment, Forest and Climate Change, Uttar Pradesh to all DM, SSP, SP and Police Commissioner of Uttar Pradesh vide letter no 582/81-7-2021-39 (Parya)/2014 TC-1 dated 08.07.2021 regarding effective actions against the defaulters brick kiln operating in the State. A reminder of the same had also been issued by the Member Secretary U.P. Pollution Control Board vide letter no. H72747/C-4/NGT/133/2022 dated 12.03.2022 to ensure the effective compliance of the closure orders issued by State Board against the defaulter brick kilns.

Member Secretary requested the District Magistrate, Mathura to sensitize the police administration of the district for ensuring effective compliance of the closure directions. He reiterated that SDM as well as SHO of concerned police station may be made accountable for compliance of closure order against the brick kilns.

MS SPCB directed R.O. U.P. Pollution Control Board, Mathura that the committee should identify those defaulting brick kilns and make recommendations for initiating prosecution and imposing the Environmental Compensation against each of them, on priority basis.

The Chairman of the committee stressed the need of wide publicity of the action taken against the defaulter brick kilns in the local news papers to deter the violators of the directions issued by U.P. Pollution Control Board.

The Chairman of the committee had suggested to hold a meeting of stake holders including the local administration, police, U.P. Pollution Control Board and the persons who are running the brick kilns to make aware of occupational hazards and environmental laws. The Hon'ble Supreme Court in Civil Appeal diary no.-18213/2021 NCR Brick Kiln Association Vs Central Pollution Control Board & Ors. vide order dated 8.4.2022 has directed to keep in mind the interest of the environment, and factoring both the interest of the persons who are running the brick kiln industry and the employees who would be working therein. The District Magistrate, Mathura has informed that the representatives of Brick Kilns Associations often meet him and the local administration and they are being directed/advised to follow the Environmental laws.

Action: SPCB, District administration, and R O, Mathura

3- Discussion on applicability of the notification issued by MoEF&CC vide G.S.R. 143(E) dated 22.02.2022 w.r.t. OA 93/2021:

It was apprised that in the notification issued by MoEF&CC vide G.S.R. 143(E) dated 22.02.2022 inter allia the emission norms,

siting criteria have been modified and it is applicable to the whole country. This notification has found the approval of the Hon'ble Supreme Court in aforenoted case. The Chairman impressed upon the CPCB to apprise the Committee about the impact of this notification on the case in hand preferably within a fortnight.

Action: MS CPCB

4- <u>Progress by CPCB in the assessment of the carrying capacity of district Mathura:</u>

Shri Nazimuddin, Scientist-F, CPCB Delhi apprised the committee that a draft report of carrying capacity of tehsil Mant and Chhata has been prepared by the CPCB. The issue of impact of sources of pollution in the area has to be finalised in the report. The report will be submitted in due course. It was impressed that the detailed report be submitted to the Committee at the earliest.

Action: MS CPCB"

10. CPCB has forwarded a copy of the report on carrying capacity which may be placed on its website which may be taken into account by the State PCB. Operation of the brick kilns has to be governed by the Hon'ble Supreme Court order and the Notification of MoEF&CC. Relevant extract from the report is reproduced below:

"In compliance of aforesaid directions of Hon'ble NGT, the carrying capacity of the ambient air environment has been assessed for Mant and Chhata areas of Distt. Mathura. Carrying Capacity of the ambient air environment may be defined as "the maximum emission load (PM10), which an area can sustain at maximum rate of operation of any air polluting activity/ activities". Further, estimation of the carrying capacity of any area involves estimation of three components -. i) Existing Pollution Load, ii) Total Assimilative Capacity and iii) Supportive Carrying Capacity.

The month-wise air volume of each area for dispersion of pollutants, was calculated by multiplying the area (Km^2) with average atmospheric mixing heights/depths as obtained from Indian Meteorological Department (IMD), for the months of January, 2021 – December, 2021

In order to estimate the existing pollution load, $PM_{2.5}$ concentration as derived from Aerosol Optical Depth (AOD) was obtained from IIT Delhi for the period from January, 2021 to December, 2021 for Mant and Chhata area.

The data of $PM_{2.5}$ derived from AOD, was extrapolated to PM_{10} concentration on the basis of ratio of PM_{10}/ $PM_{2.5}$ for summer and winter season. The month-wise Existing Pollution Load in terms of

PM_{10} was estimated by multiplying the volume of air in a particular area by PM^{10} concentration.

The Pollution load at which the maximum permissible concentration is reached is considered as the assimilative capacity. The maximum permissible concentration of PM_{10} as per National Ambient Air Quality Standard (NAAQS) of PM_{10} (24-hour average) is 100 µg/m^3 and this was used for estimating the Total Assimilative Capacity, by multiplying with the volume of air available for dispersion in each grid.

The difference between the maximum permissible concentration/load of PM_{10} i.e Total Assimilative Capacity and the existing average PM_{10} concentration/ load i.e Existing Pollution Load gives an indication of the Supportive Carrying Capacity of an area available for sustaining the operation of additional air polluting activities. The positive values shows the capacity to accommodate additional pollution load and the negative values indicate that the pollution load is in excess of the assimilative capacity of the area i.e no additional pollution load can be accommodated and measures are required to bring the pollution load within the assimilative capacity.

The following formulae/equations were used to arrive at the conclusion with regard to available supportive carrying capacity:

Estimation of total existing PM_{10} Load:

Total area in Km^2 : a; Average Atmospheric Mixing Height/Depth during a particular month in Km: b

Total Volume of Air in the district during a particular month in Km^3 : a x b = c

Average PM_{10} Concentration of Ambient Air in the area (Mant and Chhata) for a particular month in Kg/Km^3 : d

Therefore, Total estimated load of particulate matter (PM_{10}) in ambient air of the area (Mant and Chhata) during a particular month (x): c x d= x Kg

Estimation of Assimilative Carrying Capacity w.r.t. PM_{10}:

Total Volume of Air in the area (Mant and Chhata) during a particular month in Km^3 : c

NAAQS Standard for Particulate Matter (PM_{10}) : 100µg/m3 i. e. 100 Kg/Km^3

Therefore, Assimilative Capacity w.r.t PM10 in ambient air of the area (Mant and Chhata) in a particular month (y) : c x 100= yKg

Estimation of Supportive carrying Capacity w.r.t. PM_{10}:

Supportive Carrying Capacity (z) = Assimilative Carrying Capacity (y) - Total Estimated Load (x)

The final outcome of the assessment with regard to the range of Supportive Carrying Capacity of the ambient air environment in the Mant and Chhata areas of Distt. Mathura, is summarized in the Table 1 and Table 2 respectively. The negative values indicate that there is no supportive carrying capacity and the pollution load in terms of PM_{10}, is exceeding the Assimilative Carrying Capacity.

Table 1: Carrying Capacity Assessment of Mant Area of Distt. Mathura

Carrying Capacity Assessment of MANT Area, Distt. Mathura										
S. No.	**Month & Year**	**Area, Km2**	**Mixing height, Mtr**	**Mixing height, Km**	**Avg. $PM_{2.5}$ Conc,ug/m^3**	**Avg. PM_{10} Conc, ug/m^3**	**Volume of Ambient Air, Km^3**	**Assimilative Capacity, Kg**	**Existing PM_{10} Load, Kg**	**Supportive Capacity, Kg**
1	Jan, 2021	731	267	0.267	*115*	210	195	19530	40957	-21428
2	Feb, 2021	731	296	0.296	*92*	168	216	21636	36426	-14790
3	March, 2021	731	415	0.415	*51*	*93*	304	30369	28288	2081
4	April, 2021	731	641	0.641	*63*	*131*	469	46853	61396	-14543
5	May, 2021	731	653	0.653	*43*	89	477	47729	42291	5437
6	June, 2021	731	812	0.812	*41*	84	594	59354	50000	9354
7	July, 2021	731	641	0.641	*34*	*71*	469	46885	33449	13435
8	Aug, 2021	731	470	0.470	*36*	74	343	34335	25424	8911
9	Sept, 2021	731	490	0.490	*27*	*56*	358	35827	20046	15781
10	Oct, 2021	731	350	0.350	*62*	126	256	25579	32142	-6563
11	Nov, 2021	731	273	0.273	*152*	308	200	19992	61647	-41655
12	Dec, 2021	731	257	0.257	*114*	231	188	18803	43476	-24673

Table 2: Carrying Capacity Assessment of Chhata Area of Distt. Mathura

Carrying Capacity Assessment of Chhata Area of Distt. Mathura										
S. No.	**Month & Year**	**Area, Km2**	**Mixing height, Mtr**	**Mixing height, Km**	**Avg. $PM_{2.5}$ Conc, ug/m^3**	**Avg. PM_{10} Conc, ug/m^3**	**Volume of Ambient Air, Km^3**	**Assimilative Capacity, Kg**	**Existing PM_{10} Load, Kg**	**Supportive Capacity, Kg**
1	*Jan, 2021*	*1057*	*272*	*0.272*	*114*	*208*	*287*	*28706*	*59677*	*-30971*
2	*Feb, 2021*	*1057*	*312*	*0.312*	*97*	*178*	*330*	*32976*	*58596*	*-25620*
3	*March, 2021*	*1057*	*439*	*0.439*	*55*	*100*	*464*	*46393*	*46440*	*-47*
4	*April, 2021*	*1057*	*693*	*0.693*	*60*	*125*	*732*	*73202*	*91204*	*-18002*

5	*May, 2021*	*1057*	*692*	*0.692*	*45*	*93*	*731*	*73121*	*68137*	*4984*
6	*June, 2021*	*1057*	*849*	*0.849*	*43*	*89*	*897*	*89718*	*80057*	*9661*
7	*July, 2021*	*1057*	*651*	*0.651*	*34*	*71*	*688*	*68830*	*48963*	*19867*
8	*Aug, 2021*	*1057*	*466*	*0.466*	*37*	*76*	*493*	*49258*	*37602*	*11656*
9	*Sept, 2021*	*1057*	*480*	*0.480*	*28*	*59*	*508*	*50786*	*30000*	*20786*
10	*Oct, 2021*	*1057*	*358*	*0.358*	*65*	*119*	*379*	*37868*	*45113*	*-7245*
11	*Nov, 2021*	*1057*	*269*	*0.269*	*146*	*267*	*285*	*28476*	*76135*	*-47659*
12	*Dec, 2021*	*1057*	*252*	*0.252*	*112*	*205*	*267*	*26658*	*54590*	*-27932*

The existing pollution load (PM10) estimated for determining the supportive carrying capacity is the sum total of the PM10 emissions from the all known and unknown activities/sources having pollution potential. Therefore, the resultant supportive carrying capacity is dependent on various factors and may not be attributed to a single source. As a result, the criteria governing the setting up of industries is based on sitting norms and the emission standards.

MoEF&CC vide Notification GSR No. 143 (E) dated 22.02.2022 has notified particulate matter standards of 250 mg/Nm^3 with reference to the brick kilns (Annexure-1). The MoEF&CC notification has also mandated time bound adoption of zig-zag technology and also prescribed guidelines for siting of brick kilns, fugitive dust emission control, permitted fuels and porthole & platform for emission monitoring. These guidelines should be strictly adhered to by the brick kilns and monitored by State Pollution Control Board."

Order of Hon'ble Supreme Court dated 8.4.2022

11. We note that the matter now stands covered by the order of the Hon'ble Supreme Court dated 08.04.2022 in Civil Appeal Diary No.-18213/2021, *NCR Brick Kiln Association Vs Central Pollution Control Board & Ors.* and it will thus be appropriate to dispose of the matter in light thereof. The relevant part of the order is reproduced below:

"The permission to operate will be subject to the following conditions:

(1) The production will be permitted only subject to the units complying with notification dated 22.02.2022. For the sake of clarity, we quote the same:

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE NOTIFICATION New Delhi, the 22nd February, 2022

G.S.R.143(E).—In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection)Rules, 1986, namely:—

1. Short Title and commencement: -

(1) These rules may be called the Environment (Protection) Amendment Rules, 2022.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in the SCHEDULE-I, for entry at Sl. No. 74, the following entry shall be substituted, namely: -

"74	***Brick Kilns***	***Particulate matter in stack emission***	***250 mg/Nm³***
		Minimum stack height (Vertical Shaft Brick Kilns)	
		-Kiln capacity less than 30,000 bricks per day	***14 m (at least 7.5m from loading platform)***
		-Kiln capacity equal or more than 30,000 bricks per day	***16 m (at least 8.5m from loading platform)***
		Minimum stack height (Other than Vertical Shaft Brick Kilns)	
		-Kiln capacity less than 30,000 bricks per day	*24 m*
		-Kiln capacity equal or more than 30,000 bricks per day	*27 m*

Notes:

1. All new brick kilns shall be allowed only with zig-zag technology or vertical shaft or use of Piped Natural Gas as fuel in brick making and shall comply to these standards as stipulated in this notification.

2. The existing brick kilns which are not following zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making shall be converted to zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick

making within a period of (a) one year in case of kilns located within ten kilometre radius of nonattainment cities as defined by Central Pollution Control Board (b) two years for other areas. Further, in cases where Central Pollution Control Board/State Pollution Control Boards/Pollution Control Committees has separately laid down timelines for conversion, such orders shall prevail.

3. All brick kilns shall use only approved fuel such as Piped Natural Gas, coal, fire wood and/or agricultural residues. Use of pet coke, tyres, plastic, hazardous waste shall not be allowed in brick kilns.

4. Brick kilns shall construct permanent facility (port hole and platform) as per the norms or design laid down by the Central Pollution Control Board for monitoring of emissions.

5. Particulate Matter (PM) results shall be normalized at 4% CO2as below:PM (normalized) = (PM (measured)x 4%)/ (%of CO^2measured in stack), no normalization in case CO2measured ≥ 4%. Stack height (in metre) shall also be calculated by formula H=14Q0.3(where Q is SO2emission rate in kg/hr), and the maximum of two shall apply.

6. Brick kilns should be established at a minimum distance of 0.8 kilometre from habitation and fruit orchards. State Pollution Control Boards/Pollution Control Committees may make siting criteria stringent considering proximity to habitation, population density, water bodies, sensitive receptors, etc.

7. Brick kilns should be established at a minimum distance of one kilometre from an existing brick kiln to avoid clustering of kilns in an area.

8. Brick kilns shall follow process emission/fugitive dust emission control guidelines as prescribed by concerned State Pollution Control Boards/Pollution Control Committees.

9. The ash generated in the brick kilns shall be fully utilized in-house in brick making.

10. All necessary approvals from the concerned authorities including mining department of the concerned State or Union Territory shall be obtained for extracting the soil to be used for brick making in the brick kiln.

11.The brick kiln owners shall ensure that the road utilized for transporting raw materials or bricks are paved roads.

12.Vehicles shall be covered during transportation of raw material/bricks".

[F. No. Q-15017/35/2007-CPW] NARESH PAL GANGAWAR, Addl. Secy.

Note : The principle rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) vide number S.O. 844(E), dated the 19th November, 1986 and lastly amended vide number G.S.R. 724(E), dated the 04th October, 2021"

(2) The Officers of both Central Pollution Control Board and the State Pollution Control Boards shall conduct surprise inspections without any notice and warning to the persons running the units from time to time to ensure that the production is being carried out in terms of the aforsaid notification.

(3) Production will be further subject to the condition that it will be limited to the production capacity as per the consent granted by the respective State Pollution Control Boards as has been in fact documented in the compliance affidavit dated 06.04.2022 (Annexure R2) filed by respondent No. 2.

As an example, we would take the case of M/s. Shiv Brick Field, Pura Mahadev, Bagpat. Production will be limited to six lakhs for this unit. In similar vein other units will be entitled to undertake production, as per the consent granted by State Pollution Control Board in the affidavit which is filed by the Pollution Control Board.

(4) The persons running the units shall report at the end of every cycle, the actual total production which has been carried out in their units (arising out of each cycle) to the respective State Pollution Control Boards. The State Pollution Control Boards shall promptly intimate the Central Pollution Control Board, the said figures and on the date of the next hearing, the Central Pollution Control Board will produce a chart showing the production so that the Court may analyse as to whether there is a violation of this Court's order.

(5) The Central Pollution Control Board and the State Pollution Control Board will monitor the impact of the pollution which is generated as a result of the units being permitted to operate, and actually carrying out the production in such form as is measurable."

12. In view of above, further action be taken strictly as per the directions of the Hon'ble Supreme Court and Notification of the MoEF&CC dated 22.02.2022. The compliance may be monitored by a joint Committee of CPCB, State PCB and District Magistrate for a period of three months from today and thereafter by the concerned statutory regulators. The report of compliance status as on 31.07.2022 may be filed by 15.08.2022 with the Registrar General of this Tribunal by e-mail at judicial-ngt@gov.in

preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. If found necessary, the same may be placed before the Bench for any further direction.

Subject to above, the application is disposed of.

A copy of this order be forwarded to CPCB, State PCB and District Magistrate by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

May 09, 2022
Original Application No. 93/2021
DV

Item No. 04 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 262/2020
(Earlier O. A. No. 37/2019 (CZ)
(I.A. No. 36/2022, I.A. No. 62/2022,
I.A. No. 63/2022 & I.A. No. 64/2022)

Hakam Singh & Anr. Applicant(s)

Versus

State of Rajasthan & Ors. Respondent(s)

Date of hearing: 11.07.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Pushpinder Singh & Mr. Prabjit Singh, Advocates

Mr. Ashwani Chobisa, Advocate for Applicants in IA's 62-64/2022

Respondents: Mr. Sudhansh Pant, Chairperson, RSPCB,
Mr. R.K. Bora, SEE, RSPCB along with Mr. B.B. Gupta, Senior Advocate,
Mr. Nishant Awana & Mr. Lokendra Singh Kachhwa, Advocates for RSPCB
Mr. Raj Kumar, Advocates for CPCB
Mr. Rahul Pratap, Advocates for MoEF

ORDER

1. Question for consideration is compliance of environmental norms by the brick kilns in Sri Ganganagar District in Rajasthan. Particular grievance is absence of requisite consents under the Air and the Water Acts and siting criteria, resulting in violation of law and air pollution to the detriment of public health and the environment.

2. The matter was considered earlier by the Central Zonal Bench, Bhopal vide order dated 15.10.2020. In view of pendency of O.A. No.

1016/2019, *Utkarsh Panwar v. Central Pollution Control Board & Ors.* before the Principal Bench, this matter was referred to the Principal Bench for consideration alongwith the pending matter.

3. The matter was then considered by this Tribunal on 11.02.2021. Since O.A. No. 1016/2019 is related to brick kilns in NCR, present matter was dealt with separately. It was found that as per stand of the State PCB, 225 brick kilns were operating without consent. The Tribunal held that in respect of such brick kilns which were operating without consent, there was no need of any show cause notice as their operation was *per se* illegal. The said brick kilns were to be closed till compliance of law and be made accountable for past illegal operation also by way of compensation on polluter pays principle. The Tribunal constituted a joint Committee of CPCB, State PCB and District Magistrate, Ganga Nagar for remedial action and filing a factual and action taken report. It was observed that notice by the Tribunal to individual brick kiln was not necessary as the State PCB could exercise its statutory powers under the Air (Prevention and Control of Pollution) Act, 1981 and other statutes.

4. The matter was last considered on 10.11.2021 in the light of report dated 30.10.2021. The Tribunal held that the State PCB had failed to close illegally operating brick kilns and to enforce the siting criteria as well as environmental norms in permitting the brick kilns to operate causing adverse impact on environment. Even brick kilns operating without consent were allowed to continue. The Tribunal accordingly directed further action to be taken for enforcement of environmental norms and also for giving misleading report to the Tribunal. The Tribunal also constituted a fresh eight-member joint Committee to be headed by nominee of Chairman, CPCB with another nominee of CPCB as member and representatives from MoEF&CC, State PCB, SEIAA, Rajasthan,

Malaviya Engineering College, Jaipur, District Magistrate and SSP, Ganga Nagar to give a report about the viability of brick kilns having regard to the air quality, status and desirable siting criteria.

5. Accordingly, the State PCB has filed three reports. Report dated 11.03.2022 is that the siting criteria was finalized on 17.02.2022 but having regard to MoEF&CC Notification dated 22.02.2022, the 17.02.2022 criteria has been put on hold and it was decided that the MoEF&CC Notification will be enforced. Out of 579 units, 106 have been closed and 413 are operating. Notices have been issued to 167 units for levy of environmental compensation for the past violations. 134 units have filed response. Hearing has been granted. Total compensation of Rs. 32 crores approximately has been levied. Additional compliance report filed on 02.05.2022 pertains to action against the erring officers.

6. CPCB report dated 18.04.2022 mentions the details of meetings, site visit and monitoring of ambient air quality status, source emission monitoring, discussion with the stakeholders, estimated carrying capacity, assimilative capacity, supporting capacity and impact of the brick kilns on the air quality, apart from compensation payable for the individual brick kilns operating in violation of norms. Relevant extracts from the report are:

> ***"6.0 Status of compliance of consented brick kilns***
>
> *The consented 286 brick kilns situated in the entire 10 Tehsils of Sriganganagar district were scheduled to monitor for consented emission standard of 750mg/NM^3 by CPCB & RSPCB during 29th March to 8th April 2022. Out of 286 brick kilns, following 04 were not monitored as the kilns were non-operational due to issue related to raw material and labour.*
>
> 1. *M/s Guru Kripa Int Udhyog, Srivijaynagar*
> 2. *M/s A and A Bricks Udhyog, Sriganganagar*
> 3. *M/s Amar Int Udhyog, Anupgarh*
> 4. *M/s Kalptaru Bricks, Padampur*

All the 282 kilns were found complying as per the consented emission standard i.e. 750mg/NM³. Copy of the analysis report is enclosed as Annexure-XVII.

The emission ranges and number of brick kilns observed emitting in those ranges are as tabulated below:

S. No.	***Emission ranges in mg/NM³***	***No. of brick kilns emission observed in range***
1	*<250*	*198*
2	*250-500*	*61*
3	*500-750*	*23*
4	*>750*	*0*

Note: *These monitoring data are not normalized with 4% CO2 as the consent issued by RSPCB (issued before the MoEF notification dated 22.02.2022) prescribed the emission standard of 750mg/NM³. RSPCB may revise the consent order w.r.t. revised emission standard and may verify the compliance accordingly.*

Specific field observations:

i. *All the 286 brick kilns have provided monitoring facility.*

ii. *The clustering of brick kilns majorly found in Suratgarh, Jaitsar, Srivijaynagar, Raisinghnagar and Anupgarh tehsils.*

iii. *The internal road of the entire brick kiln premise is kaccha.*

iv. *The crop residue stored openly, however in few kilns of Padampur Tehsil, the crop residue is compacted and stored in conical shape, this minimize the fire incidence, spread of residue on wind blow. The conical shape called 'KOOP'.*

v. *At few kilns, the un-fired bricks (Kacchi) are kept above the surface and covered with tarpaulin to avoid loss of molded bricks during rain.*

vi. *The fuel feeding rate is not uniform and during shift change (4 times in 6 hours shift) excess amount of fuel feeding is practiced, that creates poor combustion and results in blackish emission. The automated funnel feeding system may optimize the combustion process and result in fuel saving.*

vii. *Majorly the brick kilns operate for 5 to 8 months. To restrict the production as per the consented quantity, the operation period need to be restricted for maximum 6 months. The operation may be allowed from January to June*

7.0 Summary

There are total 573 brick kilns spread in all the 10 Tehsils of the Sriganganagar district. The district has sandy soil and presence of sand dunes. The FCBTK technology based kiln on natural draft runs majorly on crop residue (mustard) that is available in plenty in this area. The average stack height is 30mtrs. On an average 6T daily crop residue is consumed by individual kiln of 20000- 30000 bricks/day capacity. Other than the source emission, vehicle transportation, fuel handling, leakages, kaccha road and nearby agricultural activities along with the natural condition (sandy soil & sand dunes) are also contributing in increased level of particulate matters in Ambient Air even when none of the kiln was operational.

The ambient air quality monitored during operational days of bricks revealed that the change in PM2.5 is negligible in downwind. The particle size distribution of few source emission sample shown a wide variation in fraction of PM2.5 & PM10 and their ratio doesn't provide much insight on the contribution of kilns in PM2.5/PM10 to conclude on emission factor w.r.t. PM2.5 or PM10.

Further, in the months (March to June) when dispersion found significantly well, in those months also the physical supportive capacity is not available; this may be due to lifting of fine particles of crustal sand (being non-cohesive), vehicle movement, agricultural activities and other domestic activities. Further, the assessment of the carrying capacity without considering the other source of pollution and environmental condition is not rationalized and advisable. As the present carrying capacity assessment is based on the physical boundary with steady state (Box-model), it needs to be further assessed in detail by considering brick kiln operation in totality viz. fuel use, fugitive emission, local conditions, agricultural activities etc.

The crop residue used in loose form, that contribute in ambient pollution and also the thermal heat is not utilized properly. Briquetting/pelleting of such residue will help in increasing the thermal heat and reduce particulate pollution too. Funnel feeding system for continuous feeding of fuel at constant rate may result in effective combustion.

The operation of brick kilns in major clusters viz. Suratgarh, Jaitsar, Srivijaynagar, Raisinghnagar and Anupgarh tehsils needs to be regulated by restricting consented production or duration of operation. Majorly the brick kilns operate for 5 to 8 months. To restrict the production as per the consented quantity, the operation period need to be restricted for maximum 6 months. The operation may be allowed from January to June.

8.0 Recommendations:

1. *Rajasthan State Pollution Control Board may impose & recover the environmental compensation with due*

process of law from 165 brick kilns operated without CTO or valid CTO.

2. *Rajasthan State Pollution Control Board may implement the provisions of the notification 22.2.2022 w.r.t. emission standard, technology conversion and siting criteria. The operation of brick kilns in major clusters viz. Suratgarh, Jaitsar, Srivijaynagar, Raisinghnagar and Anupgarh tehsils needs to be regulated by restricting consented production or duration of operation.*

3. *The operation of brick kilns may be allowed from January to June (extended to next 15 days) to restrict the production as per the consented quantity.*

4. *An in-depth study on brick kiln process optimization, assessment of region specific assimilative/supportive and carrying capacity is required to suggest and prepare environmentally sustainable functioning of brick kilns in each tehsil of Sriganganagar district. Such kind of detailed study may be conducted by a consortium of the reputed institutes (like NEERI/ CBRI/NIT, Jaipur etc.) with financial support from brick kiln association and RSPCB.*

5. *Brick Manufacturer's Association may conduct a study on use of crop residue briquette/pelleting for higher thermal input and reduction of pollution.*

6. *Brick Manufacturer's Association should ensure that the fuel is stored properly and provide pucca road in operation area to control fugitive emission. The best practices to tap the flue gas leakages need to be adopted by all the brick manufacturers.***"**

7. In view of part of the action taken by the State PCB, further action needs to be finalised, following due process. The application has surviving grievance but since part of the cause of action stands addressed, we permit the applicant to place its grievances before the State PCB within two weeks which may be considered and addressed within next two weeks. If any further grievance survives, the aggrieved party may take remedies as per law, impleading the affected parties against whom cause of action survives.

The application is disposed of.

IA Nos. 36/2022, 62/2022, 63/2022 and 64/2022

IA Nos. 36/2022, 62/2022, 63/2022 and 64/2022 have been filed by 50 brick kiln owners – M/s. Arshit Industries, M/s. Ashish Bricks Co., Kooldiya Int Udyog, M/s. Choudhary Brick Ind., M/s. Bhadu Klin Udhyog, M/s. Balaji Supplies, M/s. Shri Ganesh Int Udhyog, M/s. Shree Shyam Kilan Company, Kamra Kiln Company, M/s. Sonu Kiln Company, M/s. Gurmeet Kiln Company, M/s. Bimla Kiln Company, M/s. Kamal Int Udhyog, M/s. Choudhary Industries, M/s. JD Bricks Industry, M/s. Satguru Int Udhyog, Namdhari Bricks Industries (44927), M/s. Sri Balaji Bricks Udhyog, M/s. Brar Int Udhyog, Prince Bricks Co., M/s. Bika Int Udhyog, M/s. Bika Bricks, M/s. Waheguru Int Udhyog, M/s. Godara Int Udhyog, Siddhi Vinayak Bricks Industries, Baba Int. Udhyog, M/s. Mohan Lal Jakhar, Kuber Int Udhyog (old Name MM Bricks Industries), Shyoran Bricks Industries, Khan Int Udhyog, M/s. Jai Vashno Int Udhyog (Old Name Poonia Int Udhyog), Jai Balaji Bricks Udhyog, SP Int. Udhyog (Old Name Ms. Angri Devi), Bhullar Int Udhyog, M/s. Ganpati Bricks, M/s. Murliwala Int Udhyog, Saharan Int Udhyog, M/s. Chaoudhar Int. Udhyog, M/s. Jayanti Int Udhyog, M/s. Laxmi Bricks Udhyog, M/s. Choudhary Bricks Udhyog, M/s. Jyani Bricks Industries, M/s. Shri Shyam Bricks, Sriveer Tejaji Int. Udhyog (Old Name Shri Int. Udhyog), Ganesh Brick Kiln, M/s. Anmol Bricks Udhyog, Laxmi Int. Udhyog, Ganesh Bricks Kiln, Brar Int Udhyog (Old Name Karni Mata Int Udhyog), KRC (Old Name Salasar Int. Udhyog) for modification of order of this Tribunal directing levy of compensation on the ground that the order was passed without hearing the affected parties and also seeking quashing of orders for levy of compensation passed by the State PCB.

Though strictly speaking, remedy of the said applicants may be by way of appeal, since orders appear to have been passed without

considering objections of the said parties, without recording specific finding of violations, we consider it appropriate and learned Counsel for the State PCB has fairly agreed that the impugned orders be treated as notice to the applicants who may file response, if any, within four weeks. On consideration thereof, fresh orders will be passed within three months. All IAs will stand disposed of accordingly.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

July 07, 2022
Original Application No. 262/2020
(Earlier O. A. No. 37/2019 (CZ)
(I.A. No. 36/2022, I.A. No. 62/2022,
I.A. No. 63/2022 & I.A. No. 64/2022)
DV

Item No. 01

BEFORE THE NATIONAL GREEN TRIBUNAL
CENTRAL ZONE BENCH, BHOPAL
(Through Video Conferencing)

Original Application No. 67/2022(CZ)

Ram Dass — Applicant(s)

Versus

State of Rajasthan & Ors. — Respondent(s)

Date of completion of hearing and reserving of order : 24.01.2024
Date of uploading of order on website : 20.02.2024

CORAM: HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

For Applicant (s): Mr. Harendar Neel, Adv.

For Respondent(s): Mr. Rohit Sharma, Adv.
Mr. Dharamvir Sharma, Adv.
Mr. Yadvendra Yadav, Adv.
Ms. Pallavi Singh, Adv.
Mr. Shoeb Hasan Khan, Adv.
Mr. Kamlesh Sharma, Adv.

ORDER

1. The main question involved in this application is extending applicability of Graded Response Action Plan (GRAP), applicable to Fixed Chimney Bull Trench Kilns (FCBTK) to other coal fired brick kilns, including those using zig-zag technology in the State of Rajasthan to maintain the air quality with regard to carrying capacity for improving effectiveness of safeguards and the regulatory measures to minimize the impact of air pollution by operation of brick kilns and to enforce the prescribed norms in absence of carrying capacity of the environment to sustain such activity.

2. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10- 2014 by the Ministry of Environment and Forests. According to the press release of

the Press information Bureau of the same date, it 2 consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM10, PM2.5, NO2, SO2, CO, O3, NH3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from “Good” to “Severe” have been prescribed. The index also suggests the health effects of the pollution category wise.

3. The adverse effects of these extreme levels of air pollution spare no one the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organization reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution. The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (Landmark Study Lies Buried, 02.04.2015, The Indian Express). We note with apprehension that there are nascent studies suggesting that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (Holding Your Breath in India, 29.05.2015, The New York Times).

4. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Tribunal is constitutionally bound to address their grave

concerns. (M.C. Mehta v. Union of India ***[M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”***

5. The contention of the applicant is that in severe air quality condition, coal fired brick kilns cannot be allowed to operate. There is a need of the time to switch over to the PNG. There must be inter-se distance of atleast 500 meters to maintain the air quality in the location of brick kilns, further when brick kilns start they should not be allowed to start simultaneously, but their firing should be staggered to avoid adverse impact on the environment.

6. Categories of air quality and its adverse health effect can be noticed from following tables extracted from the judgment of the Hon’ble Supreme Court in Arjun Gopal & Ors. v. UOI & Ors.2017 (1) SCC, 412.

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51- 100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401- 500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

Table 2

AQI Category, Pollutants and Health Breakpoints								
AQI category (Range)	***PM10 24hr***	***PM2.5 24-hr***	***NO2 24-hr***	***O3 8-hr***	***CO 8-hr (mg/m^3)***	***SO2 24-hr***	***NH3 24-hr***	***Pb 24-hr***
Good (0-50)	***0-50***	***0-30***	***0-40***	***0-50***	***0-1.0***	***0-40***	***0-200***	***0-0.5***
Satisfactory (51-100)	***51-100***	***31-60***	***41-80***	***51-100***	***1.1-2.0***	***41-80***	***201-400***	***0.5-1.0***
Moderately polluted (101-200)	***101-250***	***61-90***	***81-180***	***101-168***	***2.1-10***	***81-380***	***401-800***	***1.1-2.0***
Poor (201-300)	***251-350***	***91-120***	***181-280***	***169-208***	***10-17***	***381-800***	***801-1200***	***2.1-3.0***
Very poor (301-400)	***351-430***	***121-250***	***281-400***	***209-748****	***17-34***	***801-1600***	***1200-1800***	***3.1-3.5***
Severe (401-500)	***430+***	***250+***	***400+***	***748+****	***34+***	***1600+***	***1800+***	***3.5+***

7. While considering the matter this Tribunal found that certain assessment was required to be filed by the appropriate authorities for proper consideration and these parameters are –

   i. Adoption of standard operating practices for Zig-Zag kilns operations.

   ii. Preventing/reducing air pollution generation at source by change of brick kilns technology and/or shift to cleaner gaseous fuels Tunnel Kiln Technology.

   iii. Use of PNG/CNG.

   iv. Air Pollution Control Devices (End-of-the Pipe Technologies).

   v. Applied research/pilot testing for improvement in brick manufacturing process.

8. The matter was taken up by this Tribunal on 17.03.2023 and this Tribunal observed as follows :-

   i. We are conscious that brick kilns may be necessary. Our object is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to life. The source apportionment studies, show that brick kilns contribute 5-7% or upto 8% PM. Air pollution Control devices to be installed by the polluting sources including the brick kilns need to comply not only the consent standards but are also the Ambient Air

Quality norms and available assimilative capacity of the region. If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of PM10 and $PM_{2.5}$ affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases.

ii. *Accordingly, we direct CPCB to constitute a Committee of five experts to suggest ways and means, if any, by which sustenance of brick kilns activities may be viable. It will be open to CPCB to nominate in-house or other Experts. The CPCB may also explore viability of PNG as replacement of coal and other best practices in terms of fuel used, at other places. It will be open to the brick kilns owners/associations to give any other suggestions or alternatives for consideration by CPCB in spirit of collaboration with a view to find a solution. The CPCB may constitute an expert Committee within three weeks which may give its report within six weeks thereafter. Further report may be furnished in the matter before the next date by e-mail at ngtczbbho-mp@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.*

iii. *The Committee referred above must include in the report the month wise data of SAAQMS with respect to PM concentration for the year 2021-2022, district wise with regard to PM 2.5 and PM 10 in addition to the report on i) Impact of brick kilns operation on loss/degradation of top soil, ii) study involving Carrying Capacity Assessment of brick kilns with adequate samples in terms of number of brick kilns and days for which monitoring be conducted, iii) Evaluation of the performance of brick kilns against the background concentration and carrying capacity of the area and iv) Impact on Brick Kilns operation on ambient air in categorized different districts of State of Rajasthan.*

iv. *The question is not merely of an individual brick kiln not emitting pollution or the extent of contribution of the brick kilns taken separately, but of the capacity of the area being already air*

polluted and unable to take the load of pollution. When there is no carrying capacity in the area for further air pollution, we find it difficult to permit operation of the closed brick kilns to uphold the 'Sustainable Development' principle. When even without operation of the brick kilns the air quality is not within the norms, the impact of operation of the brick kilns cannot be ignored. Thus, we find it difficult to accept the submission that the individual brick kilns maintaining the prescribed standards for discharge of emissions are entitled to operate or that they be allowed to operate on the ground that pollution caused by the brick kilns is less than other pollution from other sources irrespective of carrying capacity of the area. The fact remains that brick kilns add to the air pollution and thereby affect right of citizens to breathe fresh air.

v. The main reason for air pollution by brick kilns is use of coal etc. as fuel. The pollution can be minimized if the fuel which is currently used is considered to be replaced by cleaner fuels like PNG by appropriate modification in design not adding to the PM load."

9. Notice were also sent to the respondents including the CPCB and the CPCB in its reply has submitted that the MoEF&CC has already notified the regulations for operation of brick kilns, the relevant portions are quoted below :-

"In the Environment (Protection) Rules, 1986, in the Schedule-1, for entry at Sl. No. 74, the following entry shall be substituted, namely: -

"74	*Brick Kilns*	*Particulate matter in stack emission*	*250 mg/Nm^3*
		Minimum stack height (Vertical Shaft Brick Kilns) *– Kiln capacity less than 30,000 bricks per day* *– Kiln capacity equal or more than 30,000 bricks per day*	*14 m (at least 7.5m from loading platform)* *16 m (at least 8.5m from loading platform)*
		Minimum stack height (Other than Vertical Shaft Brick Kilns) *– Kiln capacity less than 30,000 bricks per day* *– Kiln capacity equal or more than 30,000 bricks per day*	*24m* *27m*

Notes:

1. *All new brick kilns shall be allowed only with zig-zag technology or vertical shaft or use of Piped Natural Gas as fuel in brick making and shall comply to these standards as stipulated in this notification.*

2. *The existing brick kilns which are not following zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making shall be converted to zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making within a period of (a) one year in case of kilns located within ten kilometre radius of non-attainment cities as defined by Central Pollution Control Board (b) two years for other areas. Further, in cases where Central Pollution Control Board/State Pollution Control Boards/Pollution Control Committees has separately laid down timelines for conversion, such orders shall prevail.*

3. *All brick kilns shall use only approved fuel such as Piped Natural Gas, coal, fire wood and-/or agricultural residues. Use of pet coke, tyres, plastic, hazardous waste shall not be allowed in brick kilns.*

4. *Brick kilns shall construct permanent facility (port hole and platform) as per the norms or design laid down by the Central Pollution Control Board for monitoring of emissions.*

5. *Particulate Matter (PM) results shall be normalizcd at 40% CO_2 as below:*

   PM (normalized) : (PM (measured) x 4%,)/ (o/" of CO2 measured in stack), no normalization in case CO2 measured 24%. Stack height (in metre) shall also be calculated by formula H=l4Q0r (where Q is SO2 emission rate in kg/hr), and the maximum of two shall apply.

6. *Brick kilns should be established at a minimum distance of 0.8 kilometre from habitation and fruit orchards. State Pollution Control Boards/Pollution Control Committees may make sitting criteria stringent considering proximity to habitation, population density, water bodies, sensitive receptors, etc.*

7. *Brick kilns should be established at a minimum distance of one kilometre from an existing brick kiln to avoid clustering of kilns in an area.*

8. *Brick kilns shall follow process emission/fugitive dust emission control guidelines as prescribed by concerned State Pollution Control Boards/Pollution Control Committees.*

9. *The ash generated in the brick kilns shall be fully utilized in-house in brick making.*

10. *All necessary approvals from the concerned authorities including mining department of the concerned State or Union Territory shall be obtained for extracting the soil to be used for brick making in the brick kiln.*

11. *The brick kiln owners shall ensure that the road utilized for transporting raw materials or bricks are paved roads.*

12. *Vehicles shall be covered during transportation of raw material/bricks".*

10. It is further contented by the CPCB that the use of clean fuel for industrial operations has already been deliberated by the commission for Air Quality Management in National Capital Region and adjoining areas and vide letter No. (F. No. A-110018/01/2021-CAQM/8218-40) dated 23.06.2022 it is published as follows :-

"F. No. A-110018/01/2021–CAQM/8218-40 dated 23.06.2022

Subject: Standard list of approved fuels for various applications across NCR.

WHEREAS, emissions due to use of polluting fuels for various industrial, vehicular, domestic and miscellaneous purposes contribute significantly to the degradation of air quality in the NCR and adjoining areas and accordingly a consistent need has been felt to switch over to lesser polluting and cleaner fuel in the NCR;

2. WHEREAS, the Central Govt., State Govts. in the NCR and the Govt. of the NCT of Delhi have been continually making efforts to move towards use of cleaner fuels across various sectors contributing to the overall air quality in the region,

3. WHEREAS, the Govt. of NCT of Delhi and the State Govts. of Haryana and Rajasthan have an approved fuel list for various

applications in their respective states, Including the districts in the NCR, the State of Uttar Pradesh presently does not have an approved fuel list of its own;

4. WHEREAS, a perusal of such approved fuel lists as above indicates that there are still some heavily polluting fuels featuring in the approved fuel lists like coal, HSD, Naptha, LDO etc., the lists are not comprehensive, non-uniform and vary significantly from state to state,

5. WHEREAS, the matter related to use of clean fuels for industrial applications has already been deliberated extensively in the Commission from time to time and shifting of industries to PNG / cleaner fuels has been a priority area for the Commission and to this effect, statutory directions for permissible fuels for industrial applications in the NCR have already been issued in terms of Direction Nos. 53, 62, 63 and 64 dated 04.02.2022, 17.03.2022, 18.05.2022 and 02.06.2022 respectively;

6. WHEREAS, the concerns of air pollution are uniform across NCR and particularly from the standpoint of a common airshed approach for the entire NCR and adjoining areas, it is desirable to have a unified list of approved fuels for various applications across all sectors in the entire territorial jurisdiction of the NCR towards aiming for uniform and better emission standards and an overall improved air quality in the region;

7. WHEREAS, in pursuance of the Order of Hon'ble Supreme Court of India dated 16.12.2021 (Civil) No 1135 in the matter of Aditya Dubey (minor) and Ant v/s UOI & Ors, directed the Commission to with a view to "find permanent solution to the air pollution menace occurring every year in Delhi and NCR, suggestions may be invited from the general public as well as the experts in the field, an Expert Group was constituted by the Commission to examine and deliberate upon all such suggestions and proposals;

8. WHEREAS, the Expert Group in their report in the subject matter have also strongly recommended phasing out usage of heavily polluting fossil fuels like coal, diesel oil light diesel oil (LDO), Pyrolysis oil, Naptha etc. across NCR and to this end, have recommended a "Common" approved fuel list for NCR, incorporating cleaner fuels, to the extent possible;

9. WHEREAS, the proposed standard/common fuel list for NCR was also deliberated upon as an agenda item in the recently held meeting of the full Commission on 25.03.2022 and considering the need to optimally balance the imperatives of sustainability of operations as also the emissions from use of various types/categories of fuels that have a direct bearing on the air quality, the Commission approved the standard fuel list for uniform adoption of clean fuels across the entire NCR, barring some exceptions;

10. NOW, THEREFORE, in exercise of its powers under Section 12 of the Act, the Commission hereby directs for adoption of a standard list of fuels in NCR as annexed;

11. The aforesaid standard list of approved fucks shall come in force w.e.f. 01.10.2022 (for areas where PNG infrastructure and supply is already available) and 01.01 2023 (for other areas where the PNG supply is still not available). In effect, the approved fael list shall be completely in force in the entire NCR w.e.f. 01.01.2023.

12. Strict compliance of the above noted directions of the Commission be ensured by all concerned."

11. Learned counsel for the State PCB, Rajasthan has argued that the MoEF&CC, New Delhi has issued notification for sitting criteria, location, distance and clustering and pollution control measures required for the brick kilns. In furtherance of the compliance of the above directions the State PCB and the State Government had also issued a notifications and directions for establishment and operation of brick kilns vide office order dated 01.04.2022 which is quoted below :-

"Guidelines for Abatement and Control of Pollution in Brick Kiln Industry

In compliance of NGT order passed on dated 10/11/2021 in the matter of O.A.No.262/2020. Hakam Singh & Anr. Vs. State of Rajasthan & Others, the Rajasthan State Pollution Control Board, hereby issues guidelines for establishment of new brick kiln units

and mandatory pollution control measures with new as well as exiting brick kiln units.

1-General

i. *Brick kiln units may be established on a piece of land duly converted, for the purpose of establishment of brick kiln units, under relevant provisions of Rajasthan Land Revenue (Conversion of agricultural land for non-agricultural purposes in rural areas) Rules, 2007 and subsequent amendment rules, 2016 or on piece of land allotted by competent authority of State Government for establishment of brick kiln units.*

ii. *Brick Kiln units may also be established on Khatedari land for which conversion is not required under Rule 6 of the Rajasthan Land Revenue (Conversion of agricultural land for non-agricultural purposes in rural areas) Rules, 2007 and subsequent amendment.*

iii. *In cases where capacity of existing brick kiln is proposed to be enhanced by installing additional plant and machinery or otherwise (except replacement), it will be treated as the case for establishment of new units.*

iv. *The brick kiln units shall be required to comply with provisions laid down in all other related laws in force. The Consent to Establish/Consent to operate issued under the Air Act and/or Water Act is limited to control of pollution and statutory provisions contained in these Acts and does not absolve project proponent from other statutory obligations prescribed under any other law or instrument.*

v. *If competent authority for land conversion, on the basis of distance or any other issue, cancels land conversion and intimates to the Board about cancellation of land conversion. then consent to establish or operate, as the case may be, shall be revoked and/or refused by the State Board and the competent authority for land conversion shall be solely responsible to take necessary action for removal of the brick kiln unit from the site.*

vi. *Similarly, in case of cancellation of Short Term Permit issued to the Brice Kiln units Consent to Establish or Consent to Operate, as the case may be, issued under provisions of Air Act, 1981 and/or Water Act, 1974 for adequacy of pollution control measures shell be revoked/refused by the State Board after receipt of information from Mining Department.*

2. Standards To Be Achieved

Back height to be provided with different type of brick kilns and emission standards have been ratified by Ministry of Environment and Forest (MoEF), Govt. of India as per Environment (Protection) Rules, 1986 (as amended time to time) vide G.S.R. 543 (E) 22/1/2009 (Annexure II). There are other activities in brick manufacturing process like mining/quarrying of clay, handling & transportation of raw material/bricks which contribute to ambient air pollution. MoEF has also Notified National Ambient Air Quality Standards dated 16th November 2009 (Annexure III). These standards are mandatory to be achieved by the Brick Kilns units.

3. A Pollution Control Measures Required

Following measures must be provided by brick kiln owners for abetment of pollution:-

i. *Scientifically designed gravitational settling chamber for proper retention/ collection of Particulate matter/unburnt fuel part.*

ii. *Approach road within the premises of brick kiln area should be pucca / stabilized with brick bats etc.*

iii. *Bricks should be laid in a staggered manner for baking to entrap maximum particulate matter at the source itself.*

iv. *Safe and adequate infrastructure facility for stack monitoring as per CPCB guideline(Annexure)*

v. *Active haul roads inside the premises should be adequately wetted with water.*

vi. *Wheel cleaning facilities should be provided, for delivery trucks leaving the works for the removal of mud.*

4. *Plantation and Other Issues*

- *The piece of land shall be utilized for establishment of brick kiln unit in such a manner that plantation up to norms of 33% of total area of land can be carried out leaving sufficient spaces for utilities, office building and keeping peripheral plantation to the extent possible. The plantation must be carried out as per guidelines issued by the Board vide circular dated 15.7.04.*

  Similar practice shall be adopted for plantation in case of brick kiln units established or proposed to be established on STP's, after demarcation of areas within STP's. However if area/land is not suitable for plantation purposes, the project proponent may carry out plantation on an adjacent areas or any other suitable areas after duly informing he concerned Regional Officer.

- *Ground water shall not be abstracted without prior N.O.C. from Central Ground Water Authority.*
- *A Sign Board showing the name, address and capacity of the brick kiln unit should be displayed at the entrance of the site.*
- *The brick kiln area (converted/allotted/demarked at STP) shall be clearly demarcated by providing boundary walls/fencing at all sides.*

5. *Restrictions vide Taj Trapezium and various matters from Hon'ble NGT*

(A) Taj Trapezium Notification

As per Hon'ble Supreme Court directions issued on 10/05/1996 in the case of M.C. Mehta vs. Union of India & ors, no brick kiln shall be allowed to be established or operated within 20 km radial distance of the Taj Mahal and other significant monuments in the Taj Trapezium Zone and Bharatpur Bird Sanctuary.

(B) Brick kiln units located in the NCR Region of the State shall comply with the order passed by Hon'ble NGT in the following matters-

i. O.A.No.1016/2019, Utkasrsh Panwar V/s CPCB & Others regarding conversion of brick kiln to zigzag structure.

ii. O.A.No.21/2014, Vardhman Kaushik V/s Union of India regarding use of cleaner fuel such as natural gas (PNG/CNG), LPG, Bio Gas etc in compliance of CPCB letter dated 27/11/2020.

(C) All Brick kiln units shall comply with the orders passed by Hon'ble NGT in the various matters from time to time.

6. PROCEDURE TO SUBMIT APPLICATION FOR CONSENT TO ESTABLISH AND CONSENT TO OPERATE

i. Applications for consent in establish and consent to operate shall be submitted on line through RPCBMIS Portal along with prescribed documents and consent fees as per foe notification 2016.

ii. All the applications shall be examined first by pre screening cell in terms of documents submitted and deficiencies, if any, shall be communicated online. In case of complete application the Project Proponent shall be asked to deposit the same fee as per foe notification, 2016.

iii. As per categorization of Board, Brick kiln units are categorized in Orange Category and the power to dispose off such applications is delegated to Regional Offices of the State Board.

iv. Checklist of documents for the applications of Consent to Establish & Consent to Operate is attached.

All concerned are directed to ensure strict compliance of the Guidelines while dealing with the issues related with brick kiln industry."

12. It is further submitted that the State of Rajasthan has issued office order dated 02.06.2020 mentioning that the brick kilns units fall under category

orange and Department of Environment, Govt. of Rajasthan has framed rules named Rajasthan (Prevention and Control of Pollution) (Amendment Rules, 2016) whereby the fee and the period of consent has been prescribed for different categories of industries.

13. It is further submitted that State PCB is having Continuous Ambient Air Quality Monitoring Stations (CAAQMS) operational at various locations in the Jaipur, Alwar, Bhiwadi, Ajmer, Udaipur, Kota, Pali, Jodhpur (Total 10 Nos). The statement of annual average of parameters being monitored at the CAAQMS from January, 2022 to December, 2022 is annexed herewith and marked as Annexure-R/2 (Collectively).

14. The AQI as reported are as follows :-

Yearly Average: Jan. 2022 to Dec. 2022

Station Name	NO_2	NH_3	SO_2	CO	O_3	PM_{10}	$PM_{2.5}$	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Police Comm.	60.55	64.98	14.68	1.47	31,52	142.7	70.27	151
Psy. Center	40.87	37.40	12.0	0.84	44,29	107.45	52.28	111
Sci. Park	47.04	45.9	15.66	0.87	48.97	131.69	55.96	-
Alwar	21.81	23.23	13.0	0.74	20,26	92.19	41.54	92
Bhiwadi	64.40	81.62	19.80	1.02	20.28	203.75	94.74	216
Ajmer	25.96	61.65	17.73	0.74	29.18	116.43	56.58	111
Udaipur	32.99	29.26	8.47	0.68	34,40	119.09	54.65	115
Kota	22.38	19.68	10.22	0.73	33.59	115.26	57.98	123
Pali	20.78	16.14	9.25	0.75	34.52	104.91	58.11	105
Jodhpur	37.68	27.20	8.76	0.79	31.67	155.48	71.56	153
Standards	**40.00**	**100.00**	**50.00**	**2** (8 hrs)	**100** (8 hrs)	**60.00**	**40.00**	

AQI Colour Codes	Related Heath Concerns
Good (0.50)	Minimal Impact
Satisfactory (51-100)	Minor breathing discomfort to sensitive people
Moderate (101-200)	Breathing discomfort to the people with lung, heart disease, children and older adults
Poor (201-300)	Breathing discomfort to people on prolonged exposure

Very poor (301-400)	Respiratory illness to the people on prolonged exposure
Severe (>400)	Respiratory effects even on healthy people

Monitoring Location : CAAQMS AJMER, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	21.96	102.46	11.42	0.91	32.14	102.71	56.92	**102**
Feb-22	22.72	134.18	13.64	0.72	28.00	109.03	58.80	**106**
Mar-22	25.66	96.52	15.32	0,77	31.77	114.59	54.61	**110**
Apr-22	29.34	39.97	19.56	0.83	35.40	194,30	75.88	**124**
May-22	18.94	26.91	16.46	0.63	40.07	155.97	77.33	**160**
Jun-22	20.58	29.28	22,24	0.66	37.52	111.48	63.90	**121**
Jul-22	31.74	51.90	28.63	0.70	26.40	89.27	39.52	**87**
Aug-22	34.06	46.66	15.65	0.71	20.64	93.69	40.08	**94**
Sep-22	15.95	20.16	24,09	0.67	29.88	80,65	40.80	**83**
Oct-22	25.21	36.26	14.07	0.68	26.07	109.81	51.19	**110**
Nov-22	33.62	60.78	12.74	0.82	23.38	115.44	57.89	**117**
Dec-22	31.77	94.67	18.88	0.84	18.90	120.24	62.07	**113**
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100**	**(8Hrs) 60.00**	**40.00**	

Monitoring Location : CAAQMS ALWAR, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	29.19	34.86	12.63	0.91	13.55	92.85	48.18	**93**
Feb-22	31.31	37.54	13.32	. 0.79	17.72	89.48	38.22	**89**
Mar-22	36.51	34.30	11.94	_ 0.73	19.06	98.58	37.90	**99**
Apr-22	29.18	32.02	15.06	0.67	22.74	106.13	3835	**103**
May-22	18.91	21.26	13.50	0.62	25.99	121.38	52.04	**115**
Jun-22	14.78	15.27	15.16	0.65	24.50	98.23	41.54	**95**
Jul-22	7.96	11.20	14.03	0.66	14.50	63.97	30.07	**64**
Aug-22	4.84	7.61	14.46	0.51	17.66	62.29	29.20	**63**
Sep-22	6.40	11.80	11.47	0.63	19.97	81.67	31.23	**81**
Oct-22	14.32	16.88	13.31	0.81	22.17	83.56	38.22	**87**
Nov-22	31.31	27.05	11.38	0.89	24.49	107.13	56.16	**116**
Dec-22	37.02	29.03	13.32	1.01	20.78	101.04	57.19	**101**
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**40.00**	

Monitoring Location : CAAQMS BHIWADI, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	54.69	82.02'	18.99	1.01	9.44	205.29	112.1	**274**
Feb-22	54.38	84.21	24.43	0.87	13.31	198.73	103.9	**246**
Mar-22	55.00	90.68	34.48	0.96	23.19	251.74	119.0	**297**
Apr-22	81.10	128.25	45.21	0.87	29.98	294.38	154.1	**323**
May-22	58.06	63.40	23.49	0.87	30.28	250.20	124.1	**274**
Jun-22	63.72	73.34	19.26	0.81	27.36	205.47	101.5	**218**
Jul-22	25.52	19.53	10.62	0.83	15.70	85.95	41.95	**84**
Aug-22	43.97	42.39	13.64	0.79	14.88	86.99	36.97	**85**
Sep-22	123.61	88.51	10.43	1.08	15.36	130.24	60.66	**131**
Oct-22	87.84	107.86	11.19	1.48		192.89	83.14	**191**
Nov-22	54.47	90.21	12.14	1.38	23.50	290.89	'	**261**
Dec-22	70.47	109.08	13.71	1.24	16.03	252.19	87.55	**202**
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**40.00**	

Monitoring Location : POLICE COMMISSIONERATE OFFICE JAIPUR, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	62.60	54.42	17.46	1.52	29.94	166.81	87.70	192
Feb-22	62.23	59.47	12.17	1.65	33.44	152.89	68.76	135
Mar-22	73,23	65.73	17.64	1.52	38.63	155.95	73.76	146
Apr-22	84.82	68.15	16.35	1.95	33.15	192.96	100.23	225
May-22	55.47	72.58	11.43	1.32	42.26	192.22	94.11	209
Jun-22	50.05	_ 82.35	14.32	1.02	29.77	134.94	70.01	149
Jul-22	33.78	94.99	13.80	1.02	28.03	58.04	25.36	58
Aug-22	33.40	56.12	12.96	0.86	18.90	82.06	37.12	80
Sep-22	35.00	48.79	13.21	2.33	22.55	94.75	45.47	91
Oct-22	85.29	50.99	15.30	1.17	31.65	153.79	71.28	147
Nov-22	78.30	84.77	12.48	1.74	34.87	174.02	81.22	187
Dec-22	72.39	41.44	19.06	1.50	35.02	154.40	88.19	194
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**40.00**	

Monitoring Location: SCIENCE PARK, JAIPUR, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	24.83	32.67	15.81	1.00	42.72	166.96	67.74	145
Feb-22	31.44	43.46	15.62	0.84	54.71	155.84	63.14	137
Mar-22	52.73	68.19	17.01	0.87	53.77	138.91	62.87	126
Apr-22	90.69	96.40	16.88	0.92	56.70	165.30	71.12	151
May-22	69.95	97.24	14.41	0.64	59.60	225.13	85.98	205

Jun-22	61.49	15.60	15.01	0.82	57.87	155.38	55.99	138
Jul-22	35.25	27.81	15.65	0.82	37.97	57.77	29.85	64
Aug-22	24.02	23.69	15.33	0.75	38.70	67.28	32.93	62
Sep-22	27.21	26.46	14.89	0.76	45.58	60.67	34.52	67
Oct-22	35.65	28.74	15.08	0.95	57.22	68.54	46.83	89
Nov-22	61.82	53.04	17.56	1.15	52.98	167.41	66.05	159
Dec-22	49.36	38.22	14.67	0.96	29.81	151.05	54.54	134
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**40.00**	

Monitoring Location : PSYCHIATRIC CENTRE, JAIPUR, RAJASTHAN

Monthly Average

Month/ Parameters	**NO_2**	**NH_3**	**SO_2**	**CO**	**O_3**	**PM10**	**PM2.5**	**AQI**
	µg/m³	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	
Jan-22	41.27	38.44	11.46	0.95	40.25	105.94	64.24	114
Feb-22	36.75	39.08	11.70	0.67	47.99	112.98	50.97	109
Mar-22	43.55	37.82	13.15	0.85	51.45	126.73	61.25	118
Apr-22	49,65	42,10	14.14	0.94	41.07	14g.3s	62.85	138
May-22	32.66	26.93	11.09	0.74	52.66	179.27	83.20	199
Jun-22	25.48	19.09	11.25	0.77	54.82	122.19	47.08	113
Jul-22	26.26	31.80	9.67	0.74	38.34	39.90	19.72	52
Aug-22	24.41	29.20	8.90	0.66	31.50	51.99	22.29	59
Sep-22	32.43	32.68	12.64	0.79	36.92	68.04	34.46	71
Oct-22	48.09	40.53	14.64	0.88	50.71	103.51	57.13	118
Nov-22	67.22	59.72	10.55	1.14	45.15	115.86	67.23	131
Dec-22	62.67	51.39	15.04	0.97	40.59	114.63	56.96	110
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**40.00**	

Monitoring Location: CAAQMS JODHPUR, RAJASTHAN

Monthly Average

Month/ Parameters	**NO_2**	**NH_3**	**SO_2**	**CO**	**O_3**	**PM10**	**PM2.5**	**AQI**
	µg/m³	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	
Jan-22	45.86	34.69	9.80	0.99	30.73	172.86	80.52	168
Feb-22	42.32	25.85	9.43	D.91	31.90	175.78	8S.22	184
Mar-22	32.05	19.39	9.40	0.88	33.96	172.90	83.90	180
Apr-22	31.77	18.97	8.00	0.78	33.49	191.6B	86.2	189
May-22	34.3S	24.19	7.58	0.83	34.51	226.46	102.60	239
Jun-22	34.32	23.36	7.09	0.84	37.00	168.44	74.13	161
Jul-22	29.28	20.29	7.12	0.68	22.93	71.11	33.78	71
Aug-22	26.51	21.53	7.21	0.49	22.22	94.57	38.74	91
Sep-22	30.98	21.96	8.07	0.54	24.43	95.50	44.Z9	91
Oct-22	41.09	80.78	9.79	0.81	32.53	159.01	75.83	146
Nov-22	55.00	46.55	13.22	0.99	38.96	182.03	80.12	172
Dec-22	48.65	38.93	8.41	0.77	37.37	155.44	72.62	142
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**56.96**	

Monitoring Location: CAAQMS KOTA, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	26.86	32.54	9.74	0.74	32.28	113.26	79.41	165
Feb-22	38.32	23.00	10.06	0.65	46.56	137.86	69.34	131
Mar-22	36.03	24.50	10.88	0.63	44.06	133.74	65.88	122
Apr-22	17.69	12.93	7.78	0.13	18.03	71.17	37.58	135
May-22	22.45	ZS.82	9.66	0.50	50.71	189.06	84.37	186
Jun-22	21.97	20.25	10.18	0.67	44.61	105.69	53.91	106
Jul-22	14.45	17.30	9.57	0.66	23.05	55.93	28.87	57
Aug-22	19.41	22.23	9.72	0.69	19.10	59.26	30.79	60
Sep-22	12.93	9.39	11.30	0.75	17.28	59.61	35.43	70
Oct-22	18.14	18.75	11.46	0.93	31.13	118.97	57.99	115
Nov-22	16.42	13.82	11.85	1.21	37.45	162.69	81.38	189
Dec-22	23.88	15.61	10.43	1.19	38.82	165.93	70.80	144
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**56.96**	

Monitoring Location Monitoring Conducted By:

CAAQMS PALI, RAJASTHAN ENVIRONNEMENT S.A INOIA PVT. LTD.

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	33.62	26.33	9.50	0.75	27.17	104.49	59.48	168
Feb-22	25.97	21.97	13.34	0.65	33.81	113.88	62.05	184
Mar-22	15.01	16.45	10.64	0.68	30.92	118.36	64.32	180
Apr-22	17.60	15.41	13.91	1.11	47.75	133.61	69.80	189
May-22	18.46	20.22	13.49	0.79	41.33	169.53	76.22	239
Jun-22	18.50	18.40	6.35	0.56	34.63	116.47	66.43	161
Jul-22	17.89	20.32	6.65	0.50	16.11	58,68	33.84	71
Aug-22	18.32	12.69	6.07	0.S7	22.68	67.14	39.46	91
Sep-22	18.49	11.45	5.68	0.54	21.35	78.95	30.79	91
Oct-22	20.62	11.03	6.79	0.71	38.66	85.21	45.56	146
Nov-22	22.41	8.50	8.93	1.04	48.72	107.25	62.26	172
Dec-22	22.47	10.97	9:60	L05	51.16	105.35	59.73	142
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**56.96**	

Monitoring Location : CAAQMS UDAIPUR, RAJASTHAN

Monthly Average

Month/ Parameters	NO_2	NH_3	SO_2	CO	O_3	PM10	PM2.5	AQI
	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	
Jan-22	23.12	30.54	10.48	0.97	36.11	149.86	74.66	149
Feb-22	35.50	36.35	10.45	0.86	42.92	140.54	58.09	127
Mar-22	42.85	35.87	11.26	0.86	47.44	137.64	63.70	125
Apr-22	51.22	28.27	8.05	0.77	54.75	139.00	59.44	126
May-22	43.38	32.32	6.03	0.62	46.94	164.97	67.33	148
Jun-22	28.25	46.60	6.53	0.57	S7.85	85.00	40.52	81

Jul-22	16.55	27.03	8.96	0.41	16.29	51.06	23.53	51
Aug-22	14.42	27.40	5.86	0.36	14.43	65.98	29.68	64
Sep-22	25.52	30.90	7.46	0.43	18.81	76.26	35.14	71
Oct-22	39.03	25.25	7.18	0.80	24.51	111.10	48.27	105
Nov-22	38.21	9.14	9.03	0.74	32.54	145.75	73.07	150
Dec-22	37.78	21.49	10.30	0.77	40.21	161.91	82.41	175
Standards	**40.00**	**100.00**	**50.00**	**2 (8Hrs)**	**100 (8Hrs)**	**60.00**	**56.96**	

15. The Rajasthan State Pollution Control Board has entered into an memorandum of understanding (MoU) with Malviya National Institute of Technology (MNIT) Jaipur for estimating carrying capacity of ambient air in Alwar and Bharatpur districts of Rajasthan on the following terms:-

"1. Introduction:-

Brick Kiln, manufacturing is, a smap : scale and unorganized : sector in India. The emissions produced from the Brick ,Kiln are primarily Particulate Matter (PM10), Carbon Monoxide (CO) and Sulphur, Dioxide (SO2) during brick firing operation. CO is mainly emitted due to incomplete combustion of fuel whereas the SO_2) emissions are dependent on the amount of sulphur present in the fuel. All these three pollutants are criteria pollutants included in the National Ambient Airy Quality Standards (NAAQS) and pose significant harm to human health and the environment.

The Hon'ble NGT has recently issued a blanket order to shut down all the brick kilns within the administrative limits of Alwar and Bharatpur districts of Rajasthan to control/ avoid the pollution load emitted by the brick kilns after accounting, for the Assimilative supporting capacity of the area to comply with the NAAQS based on PM10 parameter.

The report submitted by CPCB in compliance to directions of NGT has calculated pollution load, assimilative capacity and environment supportive capacity based on PM10 parameter. Subsequently, it was concluded that there is not enough carrying capacity in the air environment of Bharatpur & Alwar Districts to operate any brick kiln.

2. Need of Study :

The blanket ban on operation of brick kiln industries has affected livelihood construction activities in the region due to shortage of quality bricks and rise in the prices of bricks. A need is there to revisit the district wise carrying capacity, as calculated by the CPCB on following accounts:-

- *The arid conditions of Rajasthan are responsible for high background PM10 concentrations in the region due to re-suspension of natural dust. A large proportion of the PM10 concentration in the air may be of crustal origin. Evaluating the carrying capacity of the environment based solely on concentration may lead to erroneous conclusions.*

- *Absolutely same monthly average values of PM10 have been used for calculating the carrying capacity of ambient air of Alwar and Bharatpur districts of Rajasthan.*

- *The carrying capacity of Alwar and Bharatpur districts was assessed by CPCB considering satellite based data in the absence of ground based monitoring stations.*

- *If multiple point observations are available then pollution contour may be developed and weighted area between two contours may be used to get a better indication of carrying capacity.*

Hence, it is recommended that the pollutions from the brick kiln needs to be reexamined. This may be carried out by using both PM2.5 as well as PM10 as parameters and their compliance with NAAQS. Using PM2.5 in addition to PM10 will indicate that the pollution load considered is only from anthropogenic activities and 'not natural.

3. Project Objective:

The proposed key objective for the study is to examine the additional load (based on PM10 PM2.5 parameter) on the ambient air environment from the brick kilns in and, around Alwar and Bharatpur cities through atmospheric dispersion modeling.

4. Applicable Standards:

The Environmental Protection Rules, 1986 and its amendments specify the limits on an emissions from brick kiln stack: Apart from this, the brick kiln emission shall be such that the average pollution load is within the limits prescribed under the NAAQS.

5. Methodology:

1. *An emissions inventory of the existing brick kilns will be populated (the data shall be provided by the Rajasthan State Pollution Control Board, RSPCB). Any data available with Central Pollution Control Board(CPCB) may also be used. The inventory will comprise stack geo-location, diameter, height, exit temperature, flue gas exit velocity, flue gas composition, and type and amount of fuel consumption. In the absence of emission inventory, USEPA AP42 emission factors and/or emission factors generated by Grreentech in their report "A Roadmap for cleaner Brick Production in India, 2012" shall be used.*

2. *The 5-year surface and upper air meteorological data will be obtained from the nearby Airports/CAAQMS stations/IMD/any other reliable source. The mixing height is a critical parameter in the dispersion of pollutants, which is normally accessed from "Atlas of hourly mixing height and associative capacity of atmosphere in India published in 2008 by India Meteorological Department, New Delhi. If point meteorological data is not available then the corresponding gridded data (accessible online) shall be used.*

3. *AERMOD, an USEPA regulatory model will be used to study the cumulative dispersion of pollutants (PM10/PM2.5) from the brick kilns in and around both Alwar and Bharatpur cities.*

4. *The atmospheric dispersion modeling,-will provide additional load on the ambient air environment from*

the cumulative operation of the brick kilns. Pollution maps (isopleths) will be generated for PM10/ PM2.5, Parameters individually for Alwar and Bharatpur, cities.

5. *Based on isopleths the pollution hotspots in I each study area will be identified where the ground level' concentration (GLC) is exceeding (more than the background levels) by fixed percentage/concentration. The contribution from clusters of brick kilns will be simulated at each hotspot for various meteorological conditions. Subsequently, iterations will be performed to geographically reposition or complete shutdown of these clusters to maintain regional air quality in compliance with NAAQS."*

16. Since, there are many Brick Kiln owners who put their appearance in this proceedings, thus, the applicant was directed to move an application to implead all those persons who are being affected by this order and in compliance thereof, the applicant move an application I.A. No.49/2023, which was disposed vide order dated 22.09.2023 in following manner :-

1. *"Original application was filed to regulate the brick klins industries and to implement the order dated 17.02.2021 passed by Principal Bench of this Tribunal in Original Application No. 1016/2019, wherein it was held that as per terms of GRAP, FCBTK brick kilns stand prohibited under 'severe' condition of air quality by the order of the Environment Pollution (Prevention and Control) Authority (EPCA) dated 01.11.2019. The applicant herein seeks extending such prohibition to brick kilns operated by zig-zag technology, which also involve coal as fuel and cause pollution load which in 'severe' air quality conditions becomes hazardous to health. According to the Applicant, even brick kilns run by zigzag technology add to $PM_{2.5}$ and also contribute to the air pollution in the NCR and should not be allowed till GRAP is applicable i.e. when air quality is severe and above.*
2. *By moving the I.A. No. 49/2023, the applicant wants to say that though this application has not been moved against any brick klins owner and intended to improve the air quality of the cities,*

where the Ambient Air quality is not as per parameter laid down by the CPCB and pollution load is severe and becoming hazardous to health, thus, it is necessary to implead the respondents as mentioned in para 4 so that they should be given an opportunity of hearing and to find certain remedial and suggestive measures.

3. *The application deserves to be allowed. Accordingly, the application is allowed. The respondent as mentioned in para 4 from Sr. No. 1 to 10 be impleaded as a respondent nos. 06 to 15. Applicant is directed to take necessary action and send the copy of the application and relevant documents to the all newly added respondents. Respondents are directed to submit their suggestive measures to maintain the air quality in the area. Since, it is not a personal case and it is intended to maintain the air quality thus the respondents newly added are required to submit their own view with regard to the maintenance to the air quality parameter before the next date of listing.* ***I.A. No.49/2023 stands disposed of*** *accordingly."*

17. In light of the above facts the CPCB was directed to submit the report after giving due opportunity of hearing to the brick kilns owners association. In compliance thereof, the CPCB constituted a committee and submitted the report which is as follows :

"In compliance of the order, Central Pollution Control Board has constituted a committee of 05 members vide order dated 18.4.2023 & 24.4.2023 (revised office order). Following were the 05 committee members with 01 special invitee from CPCB, Delhi:

1. *Dr K V George, Chief Scientist & Head, APC Division, NEERI, Nagpur*
2. *Prof Sudhir Kumar, HAG, Environmental Engg, MNIT, Jaipur*
3. *Dr. Neeraj Jain, Principal Scientist, CBRI, Roorkee*
4. *Sh Sunil Kumar Meena, Sc-D, CPCB, Regional Directorate, Bhopal*
5. *Sh Vikram Singh Parihar, Chief Scientific Officer, RSPCB, Jaipur Sh Vinay Prabhakar, Sc-C, IPC-IV, CPCB, New Delhi – Special invite.*

The committee held its 02 meetings on 26.4.2023 & 17.5.2023 and had detailed discussion on various points related to brick

kilns viable operation, carrying capacity, impact on air quality and soil fertility & others plan to execute the work.

In compliance of the order following work has been executed so far:

1. *Suggestions from brick kiln associations on the viable operation of brick kilns*

   CPCB vide its letter dated 9th June 2023 seek the suggestions from the representatives of different brick kiln associations of Sikar, Alwar, Bikaner, Sriganganagar, Bharatpur, Jaipur of Rajasthan state. Suggestions were sought on the use of PNG or any alternative fuel, difficulties in conversion of kilns from FCBTK to Zig-zag technology, use of ash in brick manufacturing and operation of kilns for fixed durations. The representation received from 5 associations representatives of Bharatpur, Jaipur, Sriganganagar districts.

S. No.	*Issues on which suggestions were sought*	*Brief on the representations of brick kiln associations*
1.	*Use of PNG in brick manufacturing*	*Following are the few major issues raised due to which use of PNG is not viable in the Rajasthan state:* ➢ *Non-availability of PNG in Bikaner division* ➢ *Costly equipments in range of 3 to 15 Cr* ➢ *Establishment of brick kilns in far-far places of the villages/districts* ➢ *PNG based brick manufacturing plants operation is different then the conventional FCBTK where fire is moved whereas in PNG brick moves and fire stays at one point.*

2.	*Alternative fuel of coal & its feasibility (environmental & financial)*	*Currently the brick kilns run on the agro fuel viz. residue of Mustard, cotton, mehndi, Gwar crops. And the fuel is easily available in nearby areas. This gives financial support to farmers too. If the kilns start operating on coal or other fuel then this near-by available agro residue will be burnt in fields and will cause air pollution.*
3.	*Difficulties in conversion of kilns from FCBTK to Zig-Zag*	*The difficulties arising in conversion of kilns to zig-zag:* ➢ *The cost of conversion will be high from 30-55 lakhs.* ➢ *No or less number of skilled labors available for zig-zag type operation* ➢ *No bank loan & govt. subsidy provided on the conversion* ➢ *No training provided on zig-zag operation* ➢ *Imposition of GST on brick from 1% to 6% and* ➢ *Imposition of GST on the royalty since 2017-18.* *Suggested solutions:* ➢ *Provide training on the zig-zag operation* ➢ *Bank financial support & 35% subsidy on the conversion* ➢ *Increase timeline of conversion by up to 7 years.*
4.	*Use of ash in brick manufacturing*	➢ *6% to 16% crop residue can be used with soil as internal fuel that will save the soil quantity as well as improve*

		the quality. ➢ *As submitted, in Bikaner division, it is practices that 40% Balu sand is mixed for making bricks. That's why no further requirement of mixing ash is required.*
5.	*Viability of business if operation of bricks made for fixed period*	➢ *The business may be made viable by fixing the operational period of brick production during January to June or February to June; this will improve the air quality during winter season, conserve the soil, by this availability of bricks can be ensured for whole year & others.*

The recommendations for effective & viable operations of brick kilns stated by the expert committee constituted in NGT matter OA 31 of 2021 (CZ) vide order dated 3.6.2021 in the matter of Vijay Singh Vs State of Rajasthan & Ors related to Rajakhera area of Dholpur districts of Rajasthan are as below:

"General Recommendations

The particulate matter emissions from brick kiln stacks are primarily due to incomplete combustion of coal or biomass fuels, leading to formation of black colored soot particles, which form majority of the particulate matter in the stack emissions. Coal contains about 15-35% volatile matter, which is lower chain of hydrocarbons. This volatile matter gets released within seconds of firing the coal in the kiln. For combustion of this volatile matter, both primary air (from below the coal) and secondary air (above the coal) are required in appropriate proportion and quantity. If the air is not provided for combustion, part of this released volatile matter does not get burned

or gets only partially burnt, which gives release to unburnt hydrocarbons (HC) and Carbon monoxide (CO). The unburnt hydrocarbons, once cooled to about below 600oC, get condensed and form soot particles. This is an irreversible reaction and soot once formed, cannot be combusted. If the soot formation could be prevented or substantially reduced, the particulate matter emissions from brick kilns can be substantially reduced. Reduction in soot formation also means reduction in coal consumption.

The conversion from FCBTK to zig-zag technology helps in improving the combustion by providing better mixing of fuel and air and longer high temperature zone to burn off the volatile matter resulting in the reduction of particulate matter emissions. The results from various previous monitoring studies show significant reduction in particulate matter emissions in stack gases in zig-zag kilns as compared to FCBTK.

In this regard, specific opinion/suggestion with a road map regarding sustenance operation of brick kilns to make viable in Rajakhera block are as under:

(A) IMMEDIATE MEASURES (0-1 years for implementation)

1. *As an immediate measure to reduce emission of particulate matter from stack, path length of flue gases may be increased so that most of SPM may settle due to action of gravity. As it will also bring down the temperature of the flue gases, an induced fan will need to be installed before stack. Path length may be increased by zig-zag setting of the bricks in FCBTK or by diverting the flue gases to a long nala (channel/path) before entering into the stack. This nala will be connected to stack at the other end.*
2. *It is observed that pollution level during rainy season is almost negligible and keeping this in mind, brick kilns may be allowed to operate during rainy season (July to September) also if they have proper shed arrangements and*

willing to do so. Shed will also be helpful in reducing the fugitive dust emissions and fuel requirement. Shed will also reduce heat losses which will increase the thermal efficiency of the kiln.

3. *Rajasthan State Pollution Control Board must fix the length and width of the kiln. It will restrict the enormously high production of bricks (more than 50,000 bricks per day) as in practice by most of the Brick kiln operators. This will results in lower emission load and improvement in carrying capacity.*

4. *Brick kilns manufacturers association may be asked to conduct innovative studies to meet the emission norms for the present FCBTK type brick kilns by adopting fueling firing mechanism, modifying the path length of flue gas flow, installing appropriate pollution control system (like wet scrubber system) before the flue gas exit the chimney. This may be tried for different types of fuels being used in the kilns.*

(B) SHORT TERM MEASURES (within 3 years)

The above immediate measures can effectively control the SPM level up to 20%, however, these are not the adequate/permanent methods to control the emission of finer particulate matter (PM10 and PM2.5) which are escaped from stack due to high temperature of flue gas. Therefore, following short term measures are recommended and must be implemented (within 3 years) for further reduction in the stack emissions.

1. *Conversion of FCBTK kilns to zig-zag kilns.*

2. *Installation of a proper air pollution control device like wet scrubber for control of PM10, PM2.5 and greenhouse gases emission due to burning of coal is suggested. Wet scrubber is the most trusted, proven, efficient and sustainable technology for control of particulate matter and scrubbing of greenhouse gases. This device can be helpful to reduce SPM below 50 mg/Nm3.*

Suitability of Wet Scrubber Technology

During firing of green bricks in zig-zag fired induced draft brick kilns a significant concentration of moisture is carried away by the flue gas. Since the temperature of flue gases in the stack of kilns is generally between 50-100oC, which result in condensation of moisture in flue gases and at times it is required to be drained from the bottom of the ID fan which otherwise affects performance of the fan efficiency besides corrosion of fan. The flue gas also contains SO2 due to sulphur in coal. In view of this, the wet scrubber would be the suitable option as air pollution control device which can simultaneously remove particulate matter and gaseous pollutant like SO2.

It is also brought out that the chimney in induced draft brick kiln is either installed in the central island or along the outer trench wall of the kiln i.e. outside the kiln. Whereas the installation of air pollution control device would be easy with the chimney outside the kiln, installation of APCD in the central island is expected to pose several problems and would require an innovative design solution. The water used for scrubbing of gases would be required to be neutralized using alkaline material, which can further be re-circulated or can be used in preparing clay mix for brick moulding. However, before its adoption at wider scale, the basic design parameters are required to be confirmed/checked and suitability of the system be assessed by demonstrating at two or three locations.

(C) MID-TERM MEASURES (3-10 years)

Following mid-term measures are recommended for further improvement in the brick industry using high draught technology for implementation in next 3-10 years depending on the need, infrastructure availability and expenditure involved:

1. *The use of internal fuel is recommended which is a well proven technology to control particulate matter and gaseous emissions from brick kiln. It can reduce or exempt the use of external fuel demand for firing of bricks. Materials like agricultural residues, fly ash, rice husk, mustard husk, cow dung, reject coal, coconut fiber or any other non-hazardous material can be used as internal fuel. Use of Agro-residue as internal fuel can also*

reduce clay consumption by 30-40% and reduce gaseous emission. Agriculture residue as an internal fuel can be recommended after a proper scientific and technical study. Although use of coal as an internal fuel is a well-established technology in other countries. However, in India, it is in a very primitive stage and requires detailed study. Use of internal fuel in zig-zag kilns especially when APCDs are in place, should be promoted. Further, use of internal fuel is not possible in all regions because the characteristics of brick earth is different in all over the country and having mixing problems due to low bonding capacity of the brick earth. The other main constraints in implementation of this technology are mechanized and electricity powered extruders, pug mills, power connection, huge investment etc.

2. *Agriculture residue can be used in zig-zag brick kilns as external fuel only after converting to briquettes for the reduction in particulate matter and gaseous emissions from flue gas. Although its use depends on the availability of materials and briquettes making plant nearby.*
3. *Manufacturing of Resource Efficient Bricks (REBs) products such as perforated bricks, hollow bricks and blocks. These products save fuel up to 30 % resulting reduction in pollutants emission up to 30 %. REBs also reduce clay up to 50 % for their manufacturing apart from saving of other resources during use as walling unit in buildings. Although this is possible only after mechanization of brick kiln. Bureau of Energy Efficiency (BEE) is supporting REBs technology and launching a special "E3" mark to promote the manufacturing and marketing of the REBs.*
4. *Use of auto coal/fuel feeding system to standardize the firing practice at optimum level.*
5. *The introduction of mechanization process for the molding of clay bricks is suggested. This proves largely beneficial especially in the case of mixing internal fuel with clay as the manual mixing of internal fuel is hazardous for the health of the workers who are involved in the process.*
6. *Use of fly as (minimum 25%) in clay brick should be made mandatory to save soil and fuel.*

(D) LONG TERM MEASURES (After 10 years)

After 10 years, based on need to shift/upgrade on to the new technology like tunnel kin, Hoffman kiln or any other new technology based on cheaper fuel like solar power or natural gas (PNG/CNG), long term measures can be implemented to reduce emission of particulate matter to negligible level. Although there are many environmental advantages of shifting to new technology like gas based kiln/tunnel kiln, but the implementation of these measures depends on the availability of infrastructure and willing of brick kilns for huge investment for change of technology which is not possible in today's scenario. After 10 years, there may be possibility of availability of cheaper fuel and infrastructures required for adopting gas based technology. The major constraints in use of natural gas in existing zig-zag kiln are as under:

1. *All the kilns will have to modify either to Hoffman Kiln or a Tunnel kiln. Both these technologies are comparatively less efficient than the existing kilns.*
2. ***Viability of PNG:***

- *The combustible mixture of natural gas and air does not ignite if the mixture is leaner than 5% and richer than 15% of the fuel-air ratio required for ignition. This narrow inflammability range makes PNG one of the safest fuel. (Source: GAIL India, Ltd). However, bricks kilns require it in very large volume. Expert man power is required to handle it and work has to be carried out according to strict schedules and parameters. To keep such high level of disciple, looks very difficult in bricks kilns.*
- *The pricing of PNG is another issue. To make a comparison, the coal, having GCV of about 6000 Kcal/kg, is available at a price of about 11000 per MT whereas, currently the PNG (GCV 11500kcal/kg) cost at Agra for industrial use is Rs. 45/SCM (rate effective from 7.4.2021), it will mean an increased cost of burning.*

  Brick kiln operator need to make modifications in plant & arrange for internal pipeline from downstream of meter till the gas consumption points which requires addition expenditure. This shall increase the cost of manufacturing.

- *The technology to use PNG in brick kilns is not available indigenously and has to be imported. Even the equipment with the required safety devices has to be imported.*

(E) MEASURES TO CONTROL FUGITIVE DUST EMISSION

Fugitive dust is generated from various processes during brick manufacturing and having bigger particle size which cannot travel beyond a distance of more than 100 meters. The major fugitive dust emission takes place from following steps during brick manufacturing:

i. *Clay Excavation, Transportation, and Stacking at the Kiln site*
ii. *Preparation of Clay by adding internal fuel and water*
iii. *Manual Moulding of Green bricks*
iv. *Loading in the Brick Kiln*
v. *Covering Bricks with Ash in Kiln Rooftop*
vi. *Fuel Handling (Coal/ Agriculture Waste)*
vii. *Firing of Bricks in High Draught Kiln*
viii. *Removal of Ash from Kiln Rooftop*
ix. *Unloading of Fired Bricks*
x. *Stacking and Delivery of bricks*

Following measures are recommended to control the fugitive dust emission from a brick kiln:

1. *Coal should preferably be stored under shed with proper ventilation on a pucca platform. Crushing of coal should be done in enclosed equipment/ area to avoid process emissions. The coal size should be between powders to ¾ inch i.e. properly graded coal. This would help in uniform brick quality as the powdered coal ignites immediately on feeding thereby releasing heat to the top layer of brick setting.*

2. *To control dust emissions due to airborne ash from the top of brick settings, the top ash layer in the preheating zone should be kept covered with sheet.*

3. *The clay should be prepared at a Centralized location with the use of Backhoe-Loader (JCB) and Mechanized Clay mixing machine which can help in the reduction of dust emissions at*

clay mixing places.

4. *An iron shed should be installed over the kiln which will reduce the fugitive emission from the kiln and also reduce the coal consumption. This will further helpful in reducing the pollution due to burning of coal and protection of the kiln during rains. Provision of shed over kiln would save at least 20-30 tons of coal every first cycle. Providing shed over the kiln would also improve the ambience of the area and provide shed to the workers working in the kiln.*

5. *Pavement of approach road within the premises of brick kilns. Water should be sprinkled frequently over roads around brick kiln and over the ash layer before its removal and transfer.*

6. *A wall of at least 3.0 meters height to be constructed on the sides where land is not available for green belt development to prevent fugitive emissions. Multi-layer green belt to be developed along the periphery of brick kiln.*

As per the MoEFCC notification 22.2.2022 following is to be compliant by the brick kilns:

1. *All new brick kilns shall be allowed only with zig-zag technology or vertical shaft or use of Piped Natural Gas as fuel in brick making and shall comply to these standards as stipulated in this notification.*

2. *The existing brick kilns which are not following zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making shall be converted to zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making within a period of -*

   (a) one year in case of kilns located within ten kilometre radius of non- attainment cities as defined by Central Pollution Control Board

   (b) two years for other areas. Further, in cases where Central Pollution Control Board/State Pollution Control Boards/Pollution Control Committees has separately laid down timelines for conversion, such orders shall prevail.

3. *All brick kilns shall use only approved fuel such as Piped Natural Gas, coal, fire wood and/or agricultural residues. Use of pet coke, tyres, plastic, hazardous waste shall not be allowed in brick kilns.*

4. *Brick kilns shall construct permanent facility (port hole and platform) as per the norms or design laid down by the Central Pollution Control Board for monitoring of emissions.*

In Rajasthan, CPCB has defined 05 cities i.e. Jaipur, Jodhpur, Kota, Udaipur, Alwar as non-attainment cities. The brick kilns situated within ten kilometre radius of non-attainment cities shall be converted to zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making within a period of ONE year.

Brick kilns in Rajasthan

As per the brick kiln survey reports received on 6.6.2023 from RSPCB there are total 2037 brick kilns established in 24 districts of the Rajasthan. Out of these 263 are of Zig-Zag type & rest 1730 are operating on FCBTK. Status of remaining 3 & 41 brick kilns of Alwar & Bharatpur were reported as closed in survey and their type of operation is not provided. There are 07 districts viz. Sriganganagar, Bhilwara, Hanumangarh, Bharatpur, Alwar, Dholpur & Jhunjhunu having more than 100 brick kilns. The NCR region's kilns of Alwar & Bharatpur districts operated during March to June for 4 months; whereas in other districts the operation period is of 5 to 8months i.e. October to June. Majorly mustard residue, biomass is the fuel used by the BKs. In 1000 bricks 300Kgs fuel is used and on an average daily 12-13 thousands bricks are produced that requires 3 Tons of fuel. The details are as tabulated below:

S. No.	District	Total Brick kiln	Zig Zag	FCBTK
1	Alwar	149	146	0
2	Balotra	2	0	2
3	Banswara	7	2	5
4	Dungarpur	5	0	5
5	Bhilwara	280	0	280
6	Bundi	4	2	2
7	Chittorgarh	12	0	12
8	Jhalawar	1	0	1
9	Ajmer	24	0	24
10	Tonk	13	1	12
11	Churu	36	0	36

12	Rajsamand	11	0	11
13	Sikar	91	0	91
14	Sawai Madhopur	23	0	23
15	Udaipur	5	0	5
16	Bhiwadi	4	4	0
17	Dholpur	135	1	134
18	Sriganganagar	420	5	415
19	Hanumangarh	274	7	267
20	Jaisalmer	8	1	7
21	Jhunjhunu	110	0	110
22	Jaipur North	183	2	181
23	Bharatpur	153	88	24
24	Bikaner	87	4	83

The outcome of the survey reveals that a large number of brick kilns are operational with FCBTK system in Rajasthan.

ii) Impact of brick kilns operation on loss/degradation of top soil

To study the impact of brick kilns operation on loss/ degradation of top soil, the methodology adopted in NGT O.A. 1088 of 2018 Dinesh Chahal & UOI was used in this study. To assess the loss of top soil due to brick kiln activity, soil samples (from upper 15 cm layer) were collected by the CPCB team from the land where top soils had been removed for brick manufacturing. For assessing loss of soil fertility due to brick manufacturing, samples of top soil (from upper 15 cm layer) were collected from the same land where soils were not yet removed from brick manufacturing. In places of brick kiln activity where such un-dugged soils could not be clearly identified visually, surface soils were collected from nearest agricultural lands for comparison.

Total 16 soil samples were collected during in 9th June to 10th June 2023 from 03 districts viz. Sriganganagar, Churu & Ajmer from agricultural land & mined out area to assess the soil quality for total 10 parameters viz. pH, EC, Organic Carbon, N, P, K, Fe, Mn, Zn & Cu. The samples were sent to ICAR- Indian Institute of Soil Science, Bhopal institute for required analysis. The analysis will complete by the end of July 2023. Copy of the details are enclosed. The analysis report is pending.

iii) Study involving Carrying Capacity Assessment of brick kilns with adequate samples in terms of number of brick kilns and days for which monitoring be conducted & Evaluation of the performance of brick kilns against the

background concentration and carrying capacity of the area

Study No. 1. Rajakhera, Dholpur district (Year 2019 & 2020)

The field survey revealed that out of 103 brick kilns established within 11kms radial distance from Rajakhera block, only one brick kiln is utilizing Zig-Zag technology and rest all are of Fixed Chimney Bull's Trench Kiln (FCBTK) technology. The major fuel used is Husk (Agro-residue). A huge number of brick kilns i.e. 57 out of 103 are running without Consent to Operate.

Estimation of daily pollution load from single brick kiln

Source emission monitoring was not performed as the brick kilns of Rajakhera block were non-operational due to ongoing rainy season; Considering this, the source emission monitoring data of FCBTK based kilns operating on coal & husk at Aligarh (Uttar Pradesh) was considered. This monitoring was carried out by CPCB in June 2021. Based on this data, daily pollution load from single brick kiln was estimated. The calculated PM emission load with 17% O2 correction for single brick kiln is 0.705 Tons/day.

The detailed information is given as below:

Sr. No.	***Parameter***	***Value***
1.	*Type of Fuel Used*	*Coal + Husk*
2.	*Monitored at Port Hole Height , m*	*3.0*
3.	*Internal diameter of Stack, m*	*3.0*
4.	*Flue Gas Velocity, m/s*	*3.0*
5.	*Ambient Temp., K*	*311*
6.	*Flue Gas Temp., K*	*350*
7.	*Actual PM Concentration, mg/Nm3*	*273*
8.	*Corrected PM Concentration at 17% O2, mg/Nm3*	*420*
9.	*Normalized Flow Volume at 25□ C, (Nm3/day)*	*16,77,818*
10.	*Actual PM Emission Load, kg/day*	*458*
11.	*Corrected PM Emission Load at 17% O2, kg/day*	*705*

Estimation of Existing Pollution Load w.r.t $PM_{2.5}$

For the estimation of the pollution load w.r.t. $PM_{2.5}$; total area in which brick kilns are operational, mixing height of the area and PM2.5 concentration for the particular months were considered. For PM2.5 data, Aerosol Optical Density (AOD) data was

considered.

- *Total area (a) : 380 km2 (All the 103 brick kilns operational in the radial distance of 11 kms from the centre of Rajakhera village)*

Average atmospheric mixing height during a particular month in km (b) district : *As there is meteorological station nearby wise meteorological information available online for 2015 at https://urbanemissions.info / blog-pieces /india-meterology-bydistrict/ was considered for monthly mixing height. The mixing height was considered same for 2019 & 2020 due to unavailability of the yearly meteorological data. The meteorological data is as tabulated below:*

Month	*% Frequency of Mixing height in different ranges*					*Weighted mixing height in KMs*
	<100	*100-500*	*500-1000*	*1000-2000*	*>2000*	
Considered Average height, m	*50*	*300*	*750*	*1500*	*2000*	
Jan	*66.12*	*15.45*	*13.17*	*5.24*	*0*	*0.257*
Feb	*63.69*	*13.095*	*9.52*	*12.5*	*1.19*	*0.354*
Mar	*58.198*	*11.69*	*8.1989*	*17.6075*	*4.3*	*0.476*
Apr	*55*	*10.13*	*4.166*	*9.72*	*20.97*	*0.654*
May	*51.47*	*11.55*	*3.22*	*4.3*	*29.43*	*0.738*
Jun	*36.94*	*17.638*	*5.13*	*10*	*30.27*	*0.865*
Jul	*20.43*	*31.45*	*12.5*	*25.67*	*9.94*	*0.782*
Aug	*32.25*	*30.24*	*12.7*	*24.59*	*0.134*	*0.574*
Sep	*55.55*	*12.777*	*4.86*	*17.91*	*8.88*	*0.549*
Oct	*63.3*	*9.94*	*3.897*	*17.069*	*5.779*	*0.462*
Nov	*68.75*	*11.66*	*8.33*	*9.86*	*1.38*	*0.307*
Dec	*68.41*	*15.32*	*13.84*	*2.419*	*0*	*0.220*
Source: https://urbanemissions.info/blog-pieces/india-meterology-bydistrict/						

- *Total volume of Air in the area of concern during a particular month in KM3 (C) : a x b*
- *Average PM2.5 concentration for a particular month in kg/km3 (d):*

For understanding the ratio of AOD data to CAAQMS data, PM2.5 values of 06 cities for the year 2019 were analyzed for the ratio of CAAQMS to AOD. The ratio is tabulated below:

S.NO.	*City*	*CAAQMS/AOD ratio of 2019*
1.	*Jhind*	*1.08*
2.	*Bhiwani*	*1.12*
3.	*Agra*	*0.96*
4.	*Muzaffarnagar*	*1.07*
5.	*Sonipat*	*0.994*

6.	*Bulandsahar*	*0.998*

As the average ratio is nearly 1 and in the case of unavailability of the ambient air quality data of the Rajakhera village; AOD data was considered for the calculation.

The AOD derived $PM_{2.5}$ values for the year 2019 & 2020 are as tabulated below:

Month	*PM2.5 Values (µg/m3)*	
	2019	*2020*
January	*154*	*152*
February	*95*	*122*
March	*60*	*54*
April	*61*	*51*
May	*64*	*62*
June	*53*	*44*
July	*43*	*33*
August	*39*	*27*
September	*39*	*59*
October	*80*	*114*
November	*126*	*165*
December	*150*	*214*

Therefore, Total estimated pollution load of PM2.5 (X) = c x d

Month	*PM2.5 Pollution load (MT/Month)*	
	2019	*2020*
January	*15*	*15*
February	*13*	*16*
March	*11*	*10*
April	*15*	*13*
May	*18*	*18*
June	*17*	*14*
July	*13*	*10*
August	*8*	*6*
September	*8*	*12*
October	*14*	*20*
November	*15*	*19*
December	*13*	*18*

Estimation of total assimilative capacity w.r.t. PM_{10}

Total volume of Air in the district during a particular month in km3 (c)

Particulate Matter (PM10) concentration in ambient air as per NAAQ standard, 2009: 100µg/m^3 i.e. 100 Kg/Km^3 (Ref. Air Quality Index/NAAQ Standards)

Therefore, total assimilative capacity w.r.t. PM10 in ambient air of the area during a particular month (y): C x 100 = y Kgs

2019 & 2020	
Month	Total Assimilative Capacity in MT
January	10
February	13
March	18
April	25
May	28
June	33
July	30
August	22
September	21
October	18
November	12
December	8

Estimation of total supportive capacity based on PM10

Total Supportive Capacity (z) = Total Assimilative Capacity (y) (-) Total Estimated Load (PM10) (x)

As for the estimation of the pollution load, Aerosol Optical Density (AOD) data of PM2.5 was considered. The PM2.5 values have been extrapolated to PM10. The month-wise ratio of PM10 to PM2.5 for the year 2019 & 2020 was calculated based on the nearest manual Ambient Air Quality Monitoring station i.e. Agra city (35 kms from Rajakhera village). The monitoring data for April & May 2020 were not available due to non-operation of manual station during COVID restriction. For these 02 months, average annual ratio was considered which is 1.57.

The estimated total supportive capacity for the year 2019 is

2019					
Month	Pollution load in MT PM2.5	Monthly factor of PM10/PM 2.5	Pollution load in MT w.r.t. PM10 (x)	Total Assimilative capacity in MT w.r.t. PM10 (y)	Total Supportive capacity in MT w.r.t. PM10 (z)
January	15	1.4	21	10	-11
February	13	1.34	17.42	13	-4.42
March	11	1.93	21.23	18	-3.23
April	15	2.63	39.45	25	-14.45
May	18	2.63	47.34	28	-19.34
June	17	2.86	48.62	33	-15.62
July	13	1.68	21.84	30	8.16
August	8	1.28	10.24	22	11.76
September	8	1.32	10.56	21	10.44
October	14	1.37	19.18	18	-1.18
November	15	1.18	17.7	12	-5.7
December	13	1.2	15.6	8	-7.6

The estimated total supportive capacity for the year 2020 is

2020					
Month	*Pollution load in MT PM2.5*	*Monthly factor of PM10/PM2.5*	*Pollution load in MT w.r.t. PM10 (x)*	*Total Assimilative capacity in MT w.r.t. PM10 (y)*	*Total Supportive capacity in MT w.r.t. PM10 (z)*
January	*15*	*1.23*	*18.45*	*10*	*-8.45*
February	*16*	*1.46*	*23.36*	*13*	*-10.36*
March	*10*	*1.62*	*16.2*	*18*	*1.8*
April	*13*	*1.57*	*20.41*	*25*	*4.59*
May	*18*	*1.57*	*28.26*	*28*	*-0.26*
June	*14*	*2.56*	*35.84*	*33*	*-2.84*
July	*10*	*1.81*	*18.1*	*30*	*11.9*
August	*6*	*1.24*	*7.44*	*22*	*14.56*
September	*12*	*1.59*	*19.08*	*21*	*1.92*
October	*20*	*1.65*	*33*	*18*	*-15*
November	*19*	*1.3*	*24.7*	*12*	*-12.7*
December	*18*	*1.26*	*22.68*	*8*	*-14.68*

The above analysis indicates that some supportive capacity may be available during the monsoon months, i.e. July, August & September.

Assessment of restriction of brick kiln operation w.r.t. total Supportive capacity available

Based on the above estimation of pollution load, total assimilative & supportive capacity of the Rajakhera block, decision on restriction of brick kiln operation may be planned to sustain the supportive capacity available. For this the factor of pollution load i.e. 0.705 Tons/day/brick kiln (Corrected PM emission load at 17% O2) has been considered.

The year-wise assessment for restriction of brick kiln operation w.r.t. supportive carrying capacity is as tabulated below:

2019		*Particulates contribution of single brick kiln in Tons/day*	*No. of brick kilns operation needs to be restricted w.r.t. the supportive capacity available*
Month	*Supportive capacity available in MT w.r.t. PM10*		
January	*-11*		*-16*
February	*-4.42*		*- 6*

March	*-3.23*	*0.705*	*- 5*
April	*-14.45*		*- 20*
May	*-19.34*		*- 27*
June	*-15.62*		*- 22*
July	*8.16*		*+12*
August	*11.76*		*+17*
September	*10.44*		*+15*
October	*-1.18*		*- 2*
November	*-5.7*		*- 8*
December	*-7.6*		*- 11*

2020		*Particulates contribution of single brick kiln in Tons/day*	*No. of brick kilns operation needs to be restricted w.r.t. the supportive capacity available*
Month	*Supportive capacity available in MT w.r.t. PM10*		
January	*-8.45*	*0.705*	*-12*
February	*-10.36*		*-15*
March	*1.8*		*+3*
April	*4.59*		*+7*
May	*-0.26*		*0*
June	*-2.84*		*-4*
July	*11.9*		*+17*
August	*14.56*		*+21*
September	*1.92*		*+3*
October	*-15*		*-21*
November	*-12.7*		*-18*
December	*-14.68*		*-21*

NOTE:

i. The numerical value with (-) symbol indicates the number of brick kilns whose operation needs to be restricted.

ii. The numerical value with (+) symbol indicates the number of brick kilns that can be allowed other then the operational ones.

Study no. 2 Sriganga nagar district, Rajasthan (Year 2021-22)

In compliance of the Hon'ble NGT order dated 10.11.2021 in NGT O.A. 262/2020 (PB) in the matter of Hakam Singh Vs State of Rajasthan & Ors; detailed study of ambient air quality, source emission monitoring and carrying capacity assessment was carried out. The details are as below:

- ***Site visit and monitoring***

To ascertain the contribution of the brick kiln operation and other activities viz. mining, transportation etc in ambient pollutants viz.

PM10, PM2.5; the committee opined to carryout Ambient Air Quality (AAQ) monitoring in the upwind and downwind direction of brick kilns during their operational and non-operational period.

- ***Ambient Air Quality monitoring:***

The Ambient Air Quality monitoring was carried out by Rajasthan State Pollution Control Board, Bikaner during 15th to 19th Dec 2021 (operational period) & during 26th January to 2nd February 2022 (non-operational period) in brick kiln area of Suratgarh & Anupgarh tehsils of Sriganganagar district.

Monitoring locations during operational period (15th to 19th Dec 2021)

1. *Brick Kiln Units, near Gurudwara 7 Chak, Suratgarh (Upwind)*
2. *Brick Kiln Units, near 6 Chak, Suratgarh (Downwind)*
3. *Brick Kiln Units. Near 87 GB A, Anupgarh (Upwind)*
4. *Brick Kiln Units, Near 87 CB B, Anupgarh (Downwind)*

S. No.	*Location*	*Date of monitoring*	*24 hourly concentration of the pollutants in µg/m3*		*Remarks*
			PM10	*PM2.5*	
1.	*Brick Kiln Units, near Gurudwara 7 Chak, Suratgarh (Upwind)*	*15.12.2021*	*206*	*169*	*About 70% brick kilns were operational. (About 200 brick kilns out of consented 286)*
2.	*Point no. 1 of the Brick Kiln Units, near 6 Chak, Suratgarh (Downwind)*	*15.12.2021*	*217*	*170*	
3.	*Brick Kiln Units. Near 87 GB A, Anupgarh (Upwind)*	*18.12.2021*	*173*	*137*	
4.	*Brick Kiln Units, Near 87 GB B, Anupgarh (Downwind)*	*18.12.2021*	*194*	*138*	

It is quite evident that PM2.5 is equal in both downwind as well as upwind. There is negligible increment in PM2.5 concentration i.e. 1 µg/m3 in downwind. This contribution of major PM2.5 may be due to other sources like vehicles movements etc. To assess contribution of crop residue based FCBTK brick kilns in

particulate matters viz. PM10 & PM2.5, it was opined to carry out particle size analysis of the particulate matter in flue gas. CSIR-Advanced Materials & Processes Research Institute (AMPRI) was asked to analyze few samples for the particle size analysis. The samples were submitted on 10.3.2022 for the analysis. The analysis work is in progress. On receipt of the report; results with interpretation shall be incorporated.

AAQ Monitoring during non-operational period (23rd January to 2nd February 2022)

The brick kilns stopped their operations from the mid of January, 2022 due to the rainfall during 4th to 8th January 2022 and 19th to 22nd January that resulted in re-preparation of green bricks as all prepared bricks ready for firing were wet and became muddy. The heavy rainfall was observed on 5th January 2022 i.e. 24.8 mm/day. The meteorological data from 1.1.2022 to 26.1.2022 available on India Meteorological Department (IMD) website are as tabulated below:

S.NO.	Date	Ambient Temp (oC)	Rainfall (mm/day)	Wind Direction (Degree)	Wind Speed (m/s)
1.	1.1.2022	12	0.0	162	0.14
2.	2.1.2022	13	0.0	228	0.33
3.	3.1.2022	15	0.0	188	0.37
4.	4.1.2022	14	0.1	92	0.57
5.	5.1.2022	13	24.8	179	0.67
6.	6.1.2022	13	5.4	190	0.33
7.	7.1.2022	13	9.1	216	0.42
8.	8.1.2022	11	2.6	231	0.31
9.	9.1.2022	11	0.0	244	0.30
10.	10.1.2022	10	0.0	175	0.41
11.	11.1.2022	10	0.0	201	0.40
12.	12.1.2022	11	0.0	183	0.28
13.	13.1.2022	09	0.0	80	0.43
14.	14.1.2022	10	0.0	164	0.32
15.	15.1.2022	9	0.0	136	0.37
16.	16.1.2022	9	0.0	110	0.45
17.	17.1.2022	10	0.0	82	0.36
18.	18.1.2022	12	0.0	214	0.31
19.	19.1.2022	13	0.9	85	0.55
20.	20.1.2022	11	0.3	118	0.56
21.	21.1.2022	12	0.7	64	0.83
22.	22.1.2022	12	0.6	161	0.41
23.	23.1.2022	12	0.0	120	2.63
24.	24.1.2022	12	0.0	125	0.60
25.	25.1.2022	13	0.0	180	0.84
26.	26.1.2022	11	0.0	224	0.25

The rainfall was not observed after 23rd January 2022 and as per the committee opinion, this was the right time to assess the ambient air quality during the non-operational period of brick kilns. The monitoring locations and observed pollutants concentration during 27th Jan to 2nd Feb 2022 at Srivijaynagar are as tabulated below:

S. No.	Location	Date of monitoring	24 hourly concentration of the pollutants in µg/m3		Remarks (field observation)
			PM10	PM2.5	
1.	Near Chugh bricks, vill. 36GB, Anupgarh road,	27.01.2022	134	76	Kilns were non-operative in whole district.
		29.01.2022	127	80	
		31.01.2022	136	84	
		02.02.2022	143	94	
	Srivijaynagar (Upwind)				Weather was clear except on 1st Feb, 2022 (Fog in morning was observed)
2.	Near house of Sh Sukha Singh, Vill. 36 GB, Anupgarh rd, Srivijaynagar (Downwind)	27.01.2022	115	77	
		29.01.2022	114	79	
		31.01.2022	163	121	
		02.02.2022	121	103	

The PM10 & PM2.5 during the non-operational period of the brick kilns reveals that the average concentration of PM10 & PM2.5 ranges from 128µg/m3 to 135µg/m3 and 83.5 µg/m3 to 95µg/m3 respectively in upwind and downwind. The higher concentration of pollutant may be due to lifting of fine particles of crustal sand (being non-cohesive), vehicle movement, agricultural activities and other domestic activities.

- ***Source emission monitoring***

Central Pollution Control Board (CPCB), Regional Directorate, Bhopal vide its letter dated 17.12.2021 constituted the monitoring team for conducting source emission monitoring of 286 brick kilns units having valid consent to operate from Rajasthan State Pollution Control Board. RSPCB also constituted 05 teams to inspect and monitor brick kilns with CPCB. The emission monitoring was scheduled from 3rd January 2022 to 23rd January 2022.

It is pertinent to mention that the monitoring of 286 brick kilns was suspended in between from 8th January 2022 due to the spread of 'Omicron' COVID variant in the monitoring team and the field conditions were also not feasible due to continuous rainfall as there was no electric earthing provision available on the kiln stack and the brick kilns were planning to shut their operation due to rainfall.

Further the source emission monitoring shall be scheduled on normalization of the COVID situation and full load operation of the kilns; probably from last week of March 2022.

However, 19 kilns were monitored on 6th to 7th January 2022 during this adverse situation.

The list of brick kilns monitored is as tabulated below with monitored Particulate Matters (PM) concentration in mg/NM3.

S.NO.	Name of the brick Kiln	Monitored conc. of PM in mg/NM3
1.	M/s Jai Bharat Brick Industries, Suratgarh	665
2.	M/s Bagri Brick Products, Suratgarh	231
3.	M/s Bagri Bricks, Suratgarh	190
4.	M/s Maheshwari Brick Kiln Company, Suratgarh	279
5.	M/s Bagri Brick Kiln Company, Suratgarh	203
6.	M/s Bagri Bricks Kiln Industries, Suratgarh	410
7.	M/s Deepika Bricks Suppliers, Suratgarh	239
8.	M/s Bagri Kilns, Suratgarh	593
9.	M/s Bagri Int Udhyog, Suratgarh	661
10.	M/s Kothari Bricks Suppliers, Suratgarh	206
11.	M/s Bajrang Kiln Company, Suratgarh	421
12.	M/s Gumber Int Udhyog, Suratgarh	295
13.	M/s Bahlim Kiln Co, Suratgarh	621
14.	M/s Sharma Kiln Industries, Suratgarh	209
15.	M/s Sharma Int Udhyog, Suratgarh	460
16.	M/s Santosh Bricks Manufacturer, Suratgarh	210
17.	M/s Ram Shree Int Udhyog, Suratgarh	170
18.	M/s Tiger Int Udhyog, Suratgarh	655
19.	M/s Vinayak Brick Industries, Suratgarh	191

All the monitored 19 brick kilns were meeting the consented emission standard of 750mg/NM3.

NOTE: *Emission monitoring of the 19 brick kilns, where concentration varied from 170mg/Nm3 to 665 mg/Nm3 in the crop-residue based FCBTK kilns reveals that the variation may be due to the monitoring at non-isokinetic velocity or due to improper feeding of fuel during the monitoring period. Source emission monitoring at constant velocity in such non-continuous process of firing & non-firing where flue gas velocity varies significantly, is not advisable to get the appropriate emission concentration. It was opined*

that to verify the compliance, proper methodology needs to be developed by CPCB along with SPCBs.

During discussion with brick kiln representatives, following was brought into the knowledge:

The brick kilns established in 10 Tehsils of Sriganganagar district are mostly based on Fixed Chimney Bull's Trench Kiln (FCBTK) technology and uses mustard husk as fuel due to its sufficient availability in this area. The average fuel consumption is 300 kgs/1000 bricks. The fuel cost varied from Rs. 300- 400/quintal based on the availability. On a 21-ghodi brick kiln i.e. arranging 21 bricks of 9 inches each in one row. Each row has 2100-2200 bricks. One row gets completed in about 3-4 hrs heating, i.e. 6 rows in a day operation. By this the average production is 12000-13000 bricks daily. These bricks cool down in about 8 days and removed after 8th day. One firing to non-firing period has average 30 mins gap. On an average 60 kgs fuel is used during each firing period i.e. 2kgs/min; about 3000kgs/day.

Estimation of the carrying capacity of the area

To estimate the carrying capacity of the Sriganganagar district w.r.t. brick kilns operation, methodology earlier adopted in Hon'ble NGT (PB) Original Application No. 1016/2019 in the matter of Utkarsh Panwar Vs CPCB & Ors was considered here too.

Estimation of Existing Pollution Load w.r.t PM2.5

In Sriganganagar district all the 10 tehsils i.e. Srivijaynagar, Anupgarh, Gharsana, Sriganganagar, Suratgarh, Sadulsahar, Rawla, Srikaranpur, Padampur & Raisinghnagar have brick kiln manufacturing units.

- *Total area (a) : 10930 km2 (Total area of the district as per the Rajasthan Govt. district website https://sriganganagar.rajasthan.gov.in/)*

- *Average atmospheric mixing height during a particular month in km (b) : The Mixing height of Rajasthan is as per the : "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India", published in 2008 by India Meteorological Department, New Delhi. The Hourly mixing height is as tabulated below:*

Mixing height of Rajasthan as per the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India", published in 2008 by India Meteorological Department, New Delhi										
Day time (hour of the day)	*Month & Season*		*March*		*Month & Season*		*Month & Season*		*Month & Season*	
	Dec-Feb				*April-June*		*July-Sept*		*Oct-Nov*	
	winter		*Intermediate month of winter & summer*		*Summer*		*Monsoon*		*Post Mansoon*	
	Min	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*
1.	*20*	*40*	*60*	*75*	*100*	*110*	*70*	*85*	*40*	*60*
2.	*30*	*60*	*85*	*105*	*140*	*150*	*110*	*145*	*80*	*140*
3.	*80*	*110*	*165*	*205*	*250*	*300*	*275*	*340*	*300*	*380*
4.	*180*	*220*	*365*	*410*	*550*	*600*	*525*	*590*	*500*	*580*
5.	*370*	*420*	*635*	*735*	*900*	*1050*	*850*	*975*	*800*	*900*
6.	*580*	*680*	*1015*	*1140*	*1450*	*1600*	*1265*	*1420*	*1080*	*1240*
7.	*720*	*900*	*1210*	*1460*	*1700*	*2020*	*1540*	*1800*	*1380*	*1580*
8.	*900*	*1020*	*1450*	*1660*	*2000*	*2300*	*1775*	*2040*	*1550*	*1780*
9.	*950*	*1100*	*1525*	*1775*	*2100*	*2450*	*1850*	*2205*	*1600*	*1960*
10.	*950*	*1120*	*1500*	*1760*	*2050*	*2400*	*1800*	*2150*	*1550*	*1900*
11.	*900*	*940*	*1400*	*1660*	*1900*	*2380*	*1600*	*2015*	*1300*	*1650*
12.	*600*	*700*	*1150*	*1450*	*1700*	*2200*	*1270*	*1610*	*840*	*1020*
13.	*370*	*440*	*785*	*920*	*1200*	*1400*	*825*	*990*	*450*	*580*
Average Mixing height (m)	*512*	*596*	*873*	*1027*	*1234*	*1458*	*1058*	*1259*	*882*	*1059*

The monthly available maximum mixing height in KMs is as tabulated below:

Month wise maximum mixing height in KMs	
Month	*Mixing Height in KMs*
January	*0.596*
February	*0.596*
March	*1.027*
April	*1.458*
May	*1.458*
June	*1.458*
July	*1.259*
August	*1.259*
September	*1.259*

October	*1.059*
November	*1.059*
December	*0.596*

- *Total volume of Air in the district boundary in KM3(C) : a x b*
- *Average PM2.5 concentration for a particular month in kg/km3 (d):*

M/s Suratgarh Thermal Power Plant, Suratgarh (Sriganganagar) GPS location 29.163621,74.024601 CAAQMS (Switch Yard) data of Year 2021			
Month	*PM10*	*PM2.5*	*Ratio of PM10/PM2.5*
Jan 2021	*146*	*124*	*1.2*
Feb 2021	*124*	*100*	*1.4*
Mar 2021	*133*	*75*	*1.8*
Apr 2021	*140*	*80*	*1.9*
May 2021	*124*	*67*	*1.9*
June 2021	*197*	*101*	*1.9*
July 2021	*120*	*82*	*1.6*
Aug 2021	*96*	*50*	*1.9*
Sep 2021	*36*	*32*	*1.3*
Oct 2021	*85*	*48*	*1.8*
Nov 2021	*202*	*147*	*1.5*
Dec 2021	*160*	*121*	*1.4*

Therefore, total estimated pollution load (in MT) of PM2.5(x) = c x d

Month	*Total volume of Air in the District during a particular month in KM3 (C)*	*24 hourly Concentration of PM2.5 in µg/m3 (kg/km3) (D)*	*PM2.5 pollution load in MT/day during 2021 (XPM2.5) = C x D*
January	*6514*	*124*	*805*
February	*6514*	*100*	*653*
March	*11225*	*75*	*845*
April	*15936*	*80*	*1275*
May	*15936*	*67*	*1075*
June	*15936*	*101*	*1609*
July	*13761*	*82*	*1131*
August	*13761*	*50*	*686*
September	*13761*	*32*	*437*
October	*11575*	*48*	*553*
November	*11575*	*147*	*1701*
December	*6514*	*121*	*790*

Estimation of physical assimilative capacity w.r.t. PM10

Total volume of Air in the district Sriganganagar in a particular month in KM3(c)

Particulate Matter (PM10) concentration in ambient air as per NAAQ

standard:

100µg/m3 i.e. 100 Kg/Km3 (Ref. Air Quality Index/NAAQ Standards, 2009)

Therefore, daily Assimilative capacity w.r.t. PM10 in ambient air of the area during a particular month (y): c x 100 = y Kgs

Month	*Total volume of Air in the Sriganganagar District during a particular month in KM3 (C)*	*24 hourly Concentration of PM10 in µg/m3 (kg/km3) as per NAAQS,2009 (D)*	*Average Daily Permissible PM10 pollution load in MT/day during 2021 (YPM10) = C x D*
January	*6514*	*100*	*651*
February	*6514*	*100*	*651*
March	*11225*	*100*	*1123*
April	*15936*	*100*	*1594*
May	*15936*	*100*	*1594*
June	*15936*	*100*	*1594*
July	*13761*	*100*	*1376*
August	*13761*	*100*	*1376*
September	*13761*	*100*	*1376*
October	*11575*	*100*	*1157*
November	*11575*	*100*	*1157*
December	*6514*	*100*	*651*

Estimation of physical supportive capacity based on PM10

The formula for assessing the supportive capacity is based on the physical boundaries (Box-model) that works on assumptions of steady-state conditions; i.e. it is supposed that the emissions, wind speed and characteristics of air available for dilution will not vary over time and that pollutants emitted to the atmosphere are uniformly mixed in a volume. Considering this, it is better to call it physical supportive capacity.

Physical Supportive Capacity (z) = Assimilative Capacity (y) - Total Estimated Load (PM10) (XPM10)

Month	*Existing PM2.5 Pollution load (MT/day) during 2021 (XPM2.5)*	*Ratio of PM10/ PM 2.5*	*Existing PM10 Pollution Load (MT/day) during 2021*	*PM10 Emission Load(MT/day) [Permissible capacity] (YPM10)*	*Available PM10 Emission Load (MT/day) [Available Physical capacity]*

			(XPM10)		(Z)=(YPM10-XPM10)
January	805	1.2	954	651	(-)302
February	653	1.4	892	651	(-)241
March	845	1.8	1562	1123	(-)439
April	1275	1.9	2362	1594	(-)768
May	1075	1.9	2022	1594	(-)428
June	1609	1.9	3089	1594	(-)1496
July	1131	1.6	1760	1376	(-)384
August	686	1.9	1306	1376	(+)70
September	437	1.3	563	1376	(+)813
October	553	1.8	1008	1157	(+)150
November	1701	1.5	2527	1157	(-)1369
December	790	1.4	1109	651	(-)458

NOTE:

1. *The numerical value with (-) symbol indicates that area has no available physical supportive capacity.*
2. *The numerical value with (+) symbol indicates that area has available physical supportive capacity.*

{The methodology earlier adopted in Hon'ble NGT (PB) Original Application No. 1016/2019 in the matter of Utkarsh Panwar Vs CPCB & Ors was considered for estimating the carrying capacity}

- *It is pertinent to mention here that in the months (March to June) when dispersion is found significantly well, in those months also the physical supportive capacity is not available; this may be due to lifting of fine particles of crustal sand (being non-cohesive), vehicle movement, agricultural activities and other domestic activities. For rationalizing the supportive carrying capacity this factor needs to be incorporated to bring a holistic view on the available carrying capacity.*

Cumulative & individual impact of brick kilns on Ambient Air quality:

An expert committee report was submitted in NGT O.A. 31 of 2021 (CZ) in order dated 3.6.2021 (Vijay Singh Vs State of Rajasthan & Ors) regarding the brick kilns operation in Rajakhera village of Dholpur (Rajasthan). There were 103 brick kilns established within 11kms radial distance from

Rajakhera block, only one brick kiln is based on Zig-Zag technology and rest all are of Fixed Chimney Bull's Trench Kiln (FCBTK) technology. The major fuel used is Husk (Agro-residue). The committee carried out the sensitivity analysis with available data. The dominant wind speed taken was 0.50-2.10 m/s. 24 hourly predicted PM concentrations levels in Rajakhera Village under 2 emission and 4 meteorological scenarios (as observed in isopleths). Further, for better understanding predicted PM levels (minimum, maximum and average values) at discrete receptor points of Rajakhera village are included. Depending upon the predominant wind direction, the brick kilns in the upwind direction of the village will have more impact on the air quality of the village. Maximum impact is predicted under the worst meteorological condition (wind from N-W direction) to be 24 µg/m3 for actual emission scenario and 36 µg/m3 for combustion corrected emission scenario. Further, impact of a single brick kiln is predicted under the similar situation/scenario. It is predicted that 24 hourly PM concentration from single brick would be about 2.32 µg/m3 and 3.62 µg/m3 for actual and corrected PM emissions scenario at a distance of 500 m from the brick kiln. Similar kind of analysis for Sriganganagar district may help in understanding the cumulative and individual impact of brick kilns and accordingly mitigation measure may be taken.

iv) Impact on Brick Kilns operation on ambient air in categorized different districts of State of Rajasthan

The brick kiln distribution in Rajasthan as per the survey report of RSPCB is as shown below in 20 grids of 200x200KM2 area. The major spread is in North- East and South-East.

SENSITIVITY ANALYSIS

CPCB has carried out sensitivity analysis for the prediction of Cumulative Impact of all the Existing Brick Kilns with the committee constituted in NGT matter OA 31 of 2021 (CZ) vide order dated 3.6.2021 in the matter of Vijay Singh Vs State of Rajasthan & Ors related to Rajakhera area of Dholpur districts

of Rajasthan. The details outcome are as below:

The committee made an effort to predict the cumulative impact of all the 103 brick Kilns in Rajakhera Block on the Air Quality of Rajakhera Village

1.0 Introduction

Cumulative impact of all the 103 brick kilns presently operating in the Rajakhera Block has been predicted using widely accepted air quality model (AERMOD) under certain critical meteorological conditions (represented by uni-directional flow with low wind) and with assumption that all the brick kilns are of same capacity and similar amount of emissions are released from all the stacks. The air quality model requires inputs with respect to stack details with flue gas characteristic, and meteorological data (like wind speed, wind direction, relative humidity, ambient temperature etc.) which predicts the resultant air quality in the region/places (receptor) of interest. The details of model input data with respect to emission sources, meteorological data and predicted resultant air quality in the Rajakhera village is given in the following sections.

2.0 Details of Brick Kilns and Meteorology

2.1 Distribution of Brick Kilns in the Rajakhera Block

At present, there are total 103 brick kilns in the Rajakhera Block. Distribution of all the brick kilns is depicted in Fig. 1. These kilns are further divided in three clusters as C1, C2 & C3 based on their location in different directions with respect to Rajakhera village. Cluster C1 (North-West Sector) has most number of brick kilns 62, whereas Cluster C2 (West-South West Sector) has 21 and Cluster C3 has 20 brick kilns. These kilns are located within about 11 km radius from the center of Rajakhera village.

2.2 Stack and Likely Emission details of Brick Kilns

At present all the brick kilns are non-operational. In the absence of actual field data of the brick kilns in the Rajakhera Block, stack emission data of similar type of brick kilns (FCBTK) located in Aligarh district has been considered. Aligarh is aerially about 110 km from Rajakhera village. Stack monitoring in the brick

kilns was done during June 2021 by the team of CPCB. Stack monitoring data of 8 brick kilns is considered and average values are used for the present analysis. Stack monitoring was done at an average height of about 3 meters from the ground, where portholes are provided in the brick kiln stack. The flue gas exit velocity observed at that level has been calculated at the top of the stack by following the standard procedure. Details of stack and flue gas characteristics considered in the air quality modeling are given in Table 1. Two emission scenarios are considered taking actual PM concentration and PM level corrected to 17% O2 levels.

Table 1: Details of Stack and Flue Gas Characteristics used as Model Input Parameters (based on Actual Data Monitored for 8 Brick Kilns at Aligarh)

Sr. No.	*Parameter*	*Value*
	Type of Fuel Used	*Coal + Husk*
A.	***Monitored at Port Hole Height (3.0 m)***	
1.	*Diameter of Stack, m*	*3.0*
2.	*Flue Gas Velocity, m/s*	*3.0*
3.	*Flue Gas Temp., K*	*350*
4.	*Actual PM Concentration, mg/Nm3*	*273*
5.	*Corrected PM Concentration at 17% O2, mg/Nm3*	*420*
6.	*Normalized Flow Volume at 25□ C, (Nm3/day)*	*16,77,818*
B.	***Calculated/Expected at the Stack Top (30.0 m) and used in Modeling Exercise***	
1.	*Top Diameter (m)*	*1.0*
2.	*Exit Flue Gas Velocity (m/s) (corresponding to top diameter)*	*27.0*
3.	*Exit Flue Gas Temperature (K)*	*350*
4.	*Stack Height, (m)*	*30*
5.	*Actual PM Emission Load, kg/day*	*458*
6.	*Corrected PM Emission Load at 17% O2,*	*705*
	kg/day	
7.	*Actual PM Emission Rate, g/s*	*5.30*
8.	*Corrected PM Emission Rate at 17% O2, g/s*	*8.16*
9.	*Daily Operational Schedule*	*24 hrs Continuous*

10.	*Total Number of Brick Kilns in Rajakhera block*	*103*

2.3 Meteorological Data

Region specific meteorological data was not available for Rajakhera Block/ Dholpur district, therefore, hourly surface meteorological data collected from the continuous ambient air quality monitoring station (CAAQMS) located at Sanjay Palace, Agra has been used. Agra is about 35 km from Rajakhera village. As most of brick kiln are expected to operate from November-December onwards, typical meteorological data for the month of December is considered. The meteorological pre-processor, AERMET has been setup and run for one day. The meteorological parameters used in the AERMET are wind speed, wind direction, relative humidity, ambient temperature, solar radiation, atmospheric pressure and precipitation. In addition to that, upper air estimator, an in-built feature of AERMOD, is used to estimate the upper air profile of meteorological parameters.

To present the worst case scenario (uni-direction wind flow with low wind speed), the collected meteorological data has been assumed into three uni- directional directions and one with the wind direction spread equally in all the 8 directions. Wind rose for 4 meteorological scenarios are shown in Fig. 2. The uni-directions are selected with a view to consider brick kilns in the upwind direction of Rajakhera village.

3.0 Prediction of Impact due to 103 Brick Kiln Emissions on Rajakhera Village

3.1 Modelling Domain keeping Rajakhera Village as Receptor

Air quality modelling has been carried out to predict the likely impact of all the 103 brick kilns operation on the ambient air quality of Rajakhera village. The receptor grid is defined for an area of 11 km x 11 km with Rajakhera village as Centre and grid cell size of 0.5 km x 0.5 km, as shown. Total 2025 receptor points are defined to capture the impact of emission from brick kiln stacks.

Further, 17 discrete receptor points are chosen within 2 km x 2 km region and in all the directions of the Rajakhera village area to predict the PM pollutant concentrations emitted from the brick kiln stacks. The discrete receptor locations are shown.

3.2 Air Quality Modeling

Air quality model, AERMOD is used to predict the pollutant concentration emitted from multiple stacks as described in previous sections. The model is setup and run using input data of sources, emissions and meteorology. The model is setup keeping Rajakhera village as centre of modeling domain (11 km x 11 km) using actual UTM coordinate system which is converted to local coordinates for better understanding. Individual stacks are defined in the model and grouped altogether to predict the cumulative impact at Receptor Points under different meteorological and emission scenarios. The cumulative impact of all the 103 brick kilns has been predicted under 4 meteorological scenarios (3 uni-directions and multiple directions) for 2 emission scenarios (actual and corrected PM emissions). The air quality modeling results are presented in the following sub-sections.

3.2.1 Cumulative Impact of 103 Brick Kilns for Actual PM Emission Scenario (458 kg/day)

24-hourly predicted PM Concentration Isopleths for actual PM emission scenario (458 kg/d or 5.30 g/s) considering different wind flow conditions is presented, respectively for N-W sector, W-SW sector, N-E sector and multiple directions.

3.2.2 Cumulative Impact of 103 Brick Kilns for Corrected PM Emission Scenario (705 kg/d)

Similarly, 24-hourly predicted PM concentration isopleths for corrected PM emission scenario (705 kg/d or 8.16 g/s) considering different wind flow conditions is presented respectively for N-W sector, W- SW sector, N-E sector and multiple directions.

3.3 Predicted PM Concentration Levels at Rajakhera Village

3.3.1 Cumulative Impact of 103 Brick Kilns

24 hourly predicted PM concentrations levels in Rajakhera Village under 2 emission and 4 meteorological scenarios (as observed in isopleths) are summarized in Table 2. Further, for better understanding predicted PM levels (minimum, maximum and average values) at discrete receptor points of Rajakhera village are included.

Depending upon the predominant wind direction, the brick kilns in the upwind direction of the village will have more impact on the air quality of the village. Maximum impact is predicted under the worst meteorological condition (wind from N-W direction) to be 24 µg/m3 for actual emission scenario and 36 µg/m3 for combustion corrected emission scenario.

Table 2: Predicted 24 hourly PM Concentrations Levels in Rajakhera Village for Different Emission and Met Scenario

Sr. No.	*PM Emissions / Meteorological Scenario*	*No. of Brick Kilns likely to impact*	*PM Conc. Range based on Isopleths (µg/m3)*	*PM Conc. (µg/m3)*		
				Min.	*Max.*	*Avg.*
1.	*Actual Emission Scenario (458 kg/d or 5.30 g/s)*					
a.	*North-West (N-W) Sector*	*62*	*20-30*	*23*	*24*	*24*
b.	*West-South West (W-SW) Sector*	*21*	*10-20*	*9*	*18*	*13*
c.	*North-East (N-E) Sector*	*20*	*1-10*	*9*	*10*	*9*
d.	*All Directions*	*103*	*1-10*	*3*	*5*	*4*
2.	*Corrected Emission Scenario (705 kg/d or 8.16 g/s)*					
a.	*North-West (N-W) Sector*	*62*	*30-45*	*35*	*37*	*36*
b.	*West-South West (W-SW) Sector*	*21*	*15-30*	*13*	*28*	*20*
c.	*North-East (N-E) Sector*	*20*	*1-15*	*14*	*16*	*15*
d.	*All Directions*	*103*	*1-15*	*5*	*8*	*6*

3.3.2 Impact of Single Brick Kiln

Further, impact of a single brick kiln is predicted under the similar situation/scenario. It is predicted that 24 hourly PM concentration from single brick would be about 2.32 µg/m3 and 3.62 µg/m3 for actual and corrected PM emissions scenario at a distance of 500 m from the brick kiln. The predicted PM levels at different distances are summarized in Table 3.

Table 3: Predicted 24 hourly PM Concentration from Single Brick Kiln at different Downwind Distances

Distance in Downwind Direction	*PM Concentrations (µg/m3)*			
	Actual Emission Scenario (458 kg/d or 5.30 g/s)		*Corrected Emission Scenario (705 kg/d or 8.16 g/s)*	
	N-W Sector Wind Flow	*All Directions Wind Flow*	*N-W Sector Wind Flow*	*All Directions Wind Flow*
500 m	*2.32*	*0.01*	*3.62*	*0.02*
1 km	*1.28*	*001*	*3.18*	*002*
1.5 km	*0.99*	*0.01*	*2.10*	*0.02*
2 km	*0.84*	*0.01*	*1.37*	*0.01*
2.5 km	*0.59*	*0.01*	*1.13*	*0.01*
3 km	*0.47*	*0.01*	*1.06*	*0.01*
5 km	*0.40*	*0.00*	*0.66*	*0.01*
10 km	*0.36*	*0.00*	*0.56*	*0.00*

Limitation: *In the absence of actual stack emission data for the brick kilns and meteorological data of the Rajakhera Block, similar/corresponding data for the nearby brick kilns in Aligarh region and met data of Agra has been used in the air quality modelling. Therefore, the air quality prediction results should be treated as indicative values. It is recommended that this exercise need to be updated for the brick kilns of Rajakhera block adopting "Guidelines on Methodologies for Source Emission Monitoring" published by CPCB and actual meteorological data for the Rajakhera region.*

Based on the supportive capacity estimation and the sensitivity analysis outcomes; regulatory authority may take decision on the month-wise restriction on the operation of the brick kilns situated on the upwind direction i.e. North, North-West considering the distance from the Rajakhera village.

V) SAAQMS data with respect to PM concentration for year 2021-22

The Ambient air quality data for FY 2021-22 of 10 CAAQMS stations reveals that in the particular months when Air quality is not as per NAAQS, 2009, due to no supportive carrying capacity the brick kiln operation needs to be restricted. The details are as tabulated below:

Cities	*No. of Months (FY 21-22) in which average AAQ was exceeding PM10 standard of 100µ/m3*	*Name of the months*
Alwar	*3*	*Nov 21 to Jan 2022*
Ajmer	*6*	*April 2021, Nov 21 to March 2022*
Bhiwadi	*11*	*April 21 to Aug 21, Oct 21 to March 2022*
Udaipur	*6*	*April 2021, Nov 21 to March 2022*
Jaipur	*9*	*April 21 to June 21, Oct 21 to March 2022*
Kota	*6*	*April 2021, Nov 21 to March 2022*
Jodhpur	*11*	*April 21 to Aug 21, Oct 21 to March 2022*
Pali	*7*	*April-May 21 & Nov 21 to March 22*

Monthly Ambient Air Quality monitored at 10 CAAQMS stations established in Rajasthan

City	Parameters	Monthly Concentration (microgram/m3)	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Alwar	PM10	Minimum	54	31	38	44	46	46	48	81	73	52	59	61
		Maximum	117	240	132	176	115	88	99	191	154	176	124	132
		Average	84	66	71	82	76	62	75	124	107	108	89	99
	PM2.5	Minimum	23	15	18	20	23	22	24	37	39	27	25	24
		Maximum	54	98	46	144	49	33	62	107	91	81	59	53
		Average	43	32	31	35	30	27	38	69	58	57	38	38
Ajmer	PM10	Minimum	65	39	50	41	31	46	38	54	45	35	60	72
		Maximum	281	161	218	109	145	101	145	257	177	203	225	186
		Average	113	84	79	71	79	63	98	115	109	103	109	115
	PM2.5	Minimum	24	22	23	24	23	22	26	27	28	25	34	29
		Maximum	165	70	71	46	54	50	75	144	114	89	110	103
		Average	53	41	35	36	38	31	53	58	56	57	59	55
Bhiwadi	PM10	Minimum	143	65	74	69	47	54	83	222	158	69	86	146
		Maximum	440	503	495	244	259	180	369	814	443	326	350	331
		Average	310	178	195	127	136	86	225	381	282	205	199	252
	PM2.5	Minimum	71	38	39	30	25	26	33	106	63	39	37	70
		Maximum	211	242	205	98	127	96	195	440	218	203	186	165
		Average	149	89	94	56	59	43	103	194	137	111	104	119
Udaipur	PM10	Minimum	73	42	44	26	61	33	38	61	83	61	95	79
		Maximum	159	228	143	155	134	110	140	276	204	232	206	182
		Average	107	99	76	81	95	67	99	158	148	150	141	138
	PM2.5	Minimum	36	18	23	18	32	17	23	40	44	23	43	38
		Maximum	62	78	59	58	60	43	68	186	121	113	86	84
		Average	49	41	36	36	42	32	48	87	79	75	58	64

Jaipur-1 (Psy. Center)	PM10	Minimum	53	16	62	30	25	22	29	91	86	47	63	71
		Maximum	203	149	264	113	114	74	182	258	190	192	260	181
		Average	127	87	106	74	73	40	103	168	128	106	113	127
	PM2.5	Minimum	33	8	36	16	15	8	17	50	56	22	28	30
		Maximum	103	71	75	57	52	47	123	190	117	141	92	116
		Average	61	39	47	37	34	22	51	111	85	64	51	61
Jaipur-2 Science Park	PM10	Minimum	61	29	64	31	51	34	44	93	122	71	59	78
		Maximum	236	181	267	117	141	76	164	300	262	281	382	210
		Average	132	103	117	72	86	51	107	173	183	167	156	139
	PM2.5	Minimum	27	13	31	17	23	13	17	53	45	29	27	34
		Maximum	86	72	100	52	59	34	78	184	98	113	132	93
		Average	52	42	46	32	35	23	49	94	70	68	63	63
Jaipur-3 Police Commissionerate	PM10	Minimum	58	23	69	42	39	32	61	145	105	71	72	88
		Maximum	278	435	289	131	140	119	261	355	233	329	309	223
		Average	139	112	114	79	83	68	153	218	161	167	153	156
	PM2.5	Minimum	34	12	35	18	19	19	33	64	49	34	33	34
		Maximum	124	195	80	53	55	54	123	236	129	183	106	116
		Average	76	54	49	37	38	32	77	100	85	88	69	74
Kota	PM10	Minimum	92	39	56	36	40	36	41	93	70	55	87	64
		Maximum	466	158	116	124	104	74	147	345	213	172	208	176
		Average	145	89	74	63	62	50	89	170	138	114	138	134
	PM2.5	Minimum	48	15	23	14	21	19	24	54	48	35	43	38

		Maximum	*138*	*82*	*71*	*50*	*48*	*47*	*86*	*257*	*131*	*136*	*96*	*84*
		Average	*67*	*47*	*39*	*28*	*35*	*27*	*50*	*121*	*99*	*80*	*69*	*66*
Jodhpur	*PM10*	*Minimum*	*107*	*45*	*90*	*66*	*88*	*56*	*75*	*100*	*117*	*65*	*111*	*109*
		Maximum	*677*	*344*	*320*	*193*	*161*	*99*	*259*	*322*	*352*	*306*	*281*	*241*
		Average	*228*	*152*	*130*	*114*	*118*	*76*	*144*	*222*	*180*	*172*	*176*	*173*
	PM2.5	*Minimum*	*52*	*20*	*44*	*30*	*40*	*27*	*38*	*58*	*58*	*31*	*60*	*60*
		Maximum	*205*	*132*	*100*	*86*	*78*	*51*	*129*	*210*	*192*	*164*	*127*	*112*
		Average	*91*	*63*	*60*	*53*	*58*	*40*	*71*	*108*	*89*	*81*	*85*	*84*
Pali	*PM10*	*Minimum*	*128*	*38*	*60*	*51*	*42*	*51*	*51*	*64*	*52*	*66*	*72*	*73*
		Maximum	*1203*	*178*	*178*	*141*	*117*	*96*	*124*	*192*	*141*	*174*	*165*	*175*
		Average	*212*	*123*	*97*	*81*	*76*	*68*	*92*	*117*	*102*	*104*	*114*	*118*
	PM2.5	*Minimum*	*58*	*18*	*34*	*25*	*25*	*24*	*29*	*32*	*37*	*31*	*43*	*40*
		Maximum	*311*	*76*	*100*	*59*	*53*	*47*	*66*	*119*	*101*	*89*	*95*	*88*
		Average	*82*	*51*	*55*	*40*	*37*	*35*	*45*	*69*	*62*	*59*	*62*	*64*

The studies pending as per the Hon'ble NGT order:

1. Analysis report of the soil quality
2. Impact of brick kilns on the air quality grid-wise/district-wise. Performance evaluation of brick kilns w.rit the background concentration and carrying capacity of the area.

Recommendations:

1. A large number of brick kilns are still operating on FCBTK. Conversion of brick kiln as per the notification dated 22.2.2022 is to be implemented by the brick kilns owners to reduce the air pollution.

2. Based on the earlier carrying capacity study of Rajakhera block, Dholpur & Sriganganagar district, the regulation on the brick kiln operation may be imposed for the month in which negative supportive carrying capacity prevails. The Air Quality data of 10 CAAQMS stations for year 2021-22 reveals that the negative supportive capacity prevails from 3 months to 11 months in cities like Alwar, Ajmer, Bhiwadi, Udaipur, Jodhpur, Jaipur, Kota, Pali.

3. RSPCB shall initiate action against the violators operating the kiln near by the non-attainment cities without converting to zig-zag."

18. Respondent nos. 06 to 14 were also given an opportunity of hearing and the reply has been filed on behalf of different ईंट भट्टा एसोसिएशन (Brick Kiln Association) with the facts that brick kiln industries are not accountable for the air pollution or any health hazards due to air pollution. It is further submitted that the studies and reports source that the factors contributing

to air pollution are vehicular movements, dust storms, agriculture activities and domestic activities.

19. The similar matter was considered in O.A. No. 1016/2019 titled *Utkarsh Panwar vs. CPCB & Ors.* vide order dated 11.02.2021 uploaded on 17.02.2021 and it was observed as follows :-

A. Order dated 23.03.2020:

1. "We have considered the above data which shows that in the corresponding months when brick kilns were operating, standard of air quality was not as per prescribed norms. Thus, the air quality of the area is unable to take further pollution load. In this regard, it may be noted that while considering the issue of operation of brick kilns in non-NCR area, where GRAP was not applicable as such, in O.A. No. 1088/2018, Dinesh Chahal & Ors. vs. Union of India & Ors., the Tribunal vide order dated 30.04.2019 observed that standards of ambient air quality are required to be maintained under Section 17(g) of the Air Act, 1981:

"3. ... The matter was again considered on 21.02.2019 with reference to the contention that the impugned order was only for Non-NCR to which order of CPCB or EPCA did not apply. The Tribunal held that even in Non-NCR, Standards of Ambient Air Quality laid down under Section 17 (g) of the Air Act are required to be followed. If the impugned order has been passed without undertaking any study on status of ambient air quality without any carrying capacity assessment to take the additional load at concerned areas

and without any safeguards on 'Precautionary' principle, the same may not be justifiable having regard to the acknowledged adverse impact of operation of the brick kilns on the ambient air quality. Reference was made to the Judgements of the Hon'ble Supreme Court in M.C. Mehta v. Union of India, (1998) 9 SCC 149, M.C. Mehta v. Union of India (2000) 7 SCC 422, M.C. Mehta v. Union of India, (2002) 4 SCC 378, K. Guruprasad Rao v. State of Karnataka, (2012) 12 SCC 736 wherein the Hon'ble Supreme Court directed closure or shifting of brick kiln industries and M.C. Mehta v. Union of India, (2001) 9 SCC 235 laying down that brick kilns may be allowed to operate after studying the impact on human population and vegetation."

2. Learned Counsel for the brick kiln operators, however, submit that prohibition on operation of brick kilns be lifted as some individual brick kilns meet the air quality emission standards laid down under the Environment (Protection) Rules, 1986 and the brick kilns are not the only source of pollution. Contribution of all the brick kilns taken together, to the air pollution, was about 3%. It was also mentioned that as at present air quality norms are within limit in seven districts out of 15 districts of NCR.

3. As observed earlier, the question is not merely of an individual brick kiln not emitting pollution or the extent of contribution of the brick kilns taken separately, but of the capacity of the area being already air polluted and unable to take the load of pollution. When there is no carrying capacity in the area for further air pollution, we find it difficult to permit operation of the closed brick kilns to

uphold the 'Sustainable Development' principle. When even without operation of the brick kilns the air quality is not within the norms, the impact of operation of the brick kilns cannot be ignored. Thus, we find it difficult to accept the submission that the individual brick kilns maintaining the prescribed standards for discharge of emissions are entitled to operate or that they be allowed to operate on the ground that pollution caused by the brick kilns is less than other pollution from other sources irrespective of carrying capacity of the area. The fact remains that brick kilns add to the air pollution and thereby affect right of citizens to breathe fresh air.

4. We may now consider another aspect of the matter i.e. impact of the brick kilns on the top soil. As noted in order dated 05.03.2020, CPCB has undertaken to look into this aspect and has not yet completed its study. As per available study, there is huge environmental cost in using top soil for making brick making[1]*. Reference may also be made to a study on "The Impact of Brick Kiln operation to the degradation of topsoil quality of Agricultural Land*[2]*". There is further issue of unutilized fly ash adversely affecting the environment which may require barring red clay brick kilns. This is proposed in a draft notification of the MoEF&CC 25.02.2019 within 300 kms of coal or lignite based thermal power plants. No doubt the said notification is only a draft but the same is evidence of such step being necessary for sustainable development.*

---

[1] *www.journals.sagepub.com/doi/abs/10.1177/0974929214521892#*
(Environmental Cost of using top-soil for brick making – a case study form India (MoEF, GoI project) (Published in Review of Market Integration, 2013) Vinish Kathuria, Professor, IIT Bombay – March 11, 2015.

[2] *www.researchgate.net/publication/282431176_The_impact_of_brick_kiln_operation_to_the_degradation_of_to psoil_quality_of _agricultural_land.*

5. Main reason for air pollution by brick kilns is use of coal etc. as fuel. The pollution can be minimized if the fuel which is currently used is considered to be replaced by cleaner fuels like PNG by appropriate modification in design not adding to the PM load. Dealing with the air pollution caused in Morby Industrial Area in Gujarat on account of coal gasifiers in tile manufacturing, the Tribunal directed closing of coal gasifier industries without prejudice to such industries switching over to non-coal gasifiers, PNG or other such technology. It was directed[3]:

> ***"25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage*** *to the environment and public health."*

6. Issue of allowing operation of brick kilns may give rise to following questions:

i. *The use of cleaner fuels or any other alternative measures to be used to prevent air pollution.*

ii. *Siting and carrying capacity.*

[3] *Order dated 06.03.2019 in O.A. No. 20/2017 (WZ), Babubhai Ramubhai Saini vs. Gujarat Pollution Control Board& Ors.*

7. In view of the fact that there is no carrying capacity of the air quality in NCR region to permit any further addition to PM load by permitting unconditional operation of brick kilns using fuel which adds to PM load and since it may be necessary to consider the issue of utilizing fly ash, we require an expert opinion on following issues:

a) how brick kilns can be allowed in NCR without damage to the air quality;

b) conditions subject to which it may be done;

c) number of brick kilns to be allowed and criteria for fixing such numbers."

20. It is further argued by the brick kiln owners that :- the FCBTK technology based kiln on natural draft runs majorly on crop residue (mustard) that is available in plenty in this area. The average stack height is 30 mtrs. On an average 6T daily crop residue is consumed by individual kiln of 20,000-30,000 bricks/day capacity. Other than the source, emission, vehicle transportation, fuel handling, leakages, kaccha road, and nearby agricultural activities, along with the natural condition, (sandy soil and sand dunes) are also contributing in increased level of particulate matters in Ambient Air even when none of the kiln was operational. The ambient air quality monitored during operational days of bricks revealed that the change in $PM_{2.5}$ is negligible in downwind. The particle size distribution of few source emission sample shown a wide variation in fraction of $PM_{2.5}$ & PM_{10} and their ratio doesn't provide much insight on the contribution of

kilns in $PM_{2.5}$ / $PM_{10}$to conclude on emission factor w.r.t. $PM_{2.5}$ or PM_{10} and on the basis of that, it is submitted that the brick kilns operated by the answering respondents use agree residue as a fuel which does not emit any sulfur oxide and thus, no harmful or toxic elements are released in the air.

21. On the point of the use of PNG it is submitted that the use of PNG is not applicable in so far as the State of Rajasthan because State does not have the infrastructure to provide large quantities of PNG and to ensure that the same is available in all districts. The report of the State PCB enumerate that :-

    i. *"Brick kilns require large volume of PNG. Expert man power is required to handle it and work has to be carried out according to strict schedules and parameters, which looks very difficult in brick kilns.*

    ii. *The pricing of PNG taken from Agra for industrial use showed the market rate to be Rs.45ISCM. The Brick Kilns would further require to make modification in their plants and arrange for internal pipeline from. downstream of meter .till the gas consumption points which requires additional expenditure. Therefore, the switch to PNG would increase the cost of the manufacturing multifold.*

    iii. *The technology to use PNG in brick kilns is not available indigenously and has to be imported. Even the equipment with the required safety devices has to be imported. The*

aforementioned reasons provided in the report. Amply clarifies, that the switch to PNG is not viable.

iv. *There are total 573 brick kilns spread in all the 10 Tehsils of Sriganganagar district. The district has sandy soil and presence of sand dunes. The FCBTK technology based kiln on natural draft runs majorly on crop residue (mustard) that is available in plenty in this area. The average stack height is 30 mtrs, On an average 6T daily crop residue is consumed by individual kiln of 20,00030,000 bricks/day capacity. Other than the source, emission, vehicle transportation, fuel handling, leakages, kaccha road, and nearby agricultural activities, along with the natural condition, (sandy soil and sand dunes) are also contributing in increased level of particulate matters in Ambient Air even when none of the kiln was operational. The ambient air quality monitored during operational days of bricks revealed that the change in* $PM_{2.5}$ *is negligible in downwind. The particle size distribution of few source emission sample shown a wide variation in fraction of* $PM_{2.5}$ *and* PM_{10} *and their ratio doesnot provide much insight on the contribution of kilns in* $PM_{2.5}$ *or* $PM_{10.}$*to conclude on emission factor w.r.t.* $PM_{2.5}$ *or* $PM_{10.}$

v. *The FCBTK technology based kiln on natural draft runs majorly on crop residue (mustard) that is available in plenty in this area. The average stack height is 30 mtrs. On an average 6T daily crop residue is consumed by individual kiln of 20,000 – 30,000 bricks/day capacity."*

22. It is further submitted that the report submitted by the committee is silent on any impact of the operation of the brick kilns to the death rate in the area. In .the absence of any data, report or any other reliable scientific data, no liability can be fastened 'upon the brick industry. Interestingly; the Report attributes the level of air pollution to "traffic". It submits that re-routing and provision .of alternative routes, limit the movement of heavy vehicles on the agreed-upon ways, the organization of periodic maintenance of vehicles and the promotion of the public transport instead of private cars is worthy of attention for control of pollution caused by transport. In addition, it was also submitted, that a project be undertaken to educate the public about the need to protect the environment and to promote green areas, roads and industrial companies. Therefore, it is most respectfully submitted, that the conclusion sought to be drawn by the Applicant in the answering paragraph is not only incorrect but entirely baseless and uncorroborated.

23. It is further submitted that the brick kiln industry in district Sriganganagar is complying with the pollution control standard set up by the State PCB and the same has been duly noted in the case of Hakam Singh. The compliance with

regard to viability at the PNG is presently unfeasible for the following reasons :-

i. *"Brick kilns require large volume of PNG. Expert man power is required to handle it and work has to be carried out according to strict schedules and parameters, which looks very difficult in brick kilns.*

ii. *The pricing of PNG taken from Agra for industrial use showed the market rate to be Rs.45/SCM. The Brick Kilns would further _ require to make modification in their plants and arrange for internal pipeline from downstream of meter till the gas consumption points which requires additional expenditure. Therefore, the switch to PNG would increase the cost of the manufacturing multifold.*

iii. *The technology to use PNG in brick kilns is not available indigenously and has to be imported. Even the equipment with the required safety devices has to be imported. Additionally, the training and expertise required to handle the usage of PNG would further lead to unemployment in the area which would impact numerous families. It is for these reasons, that the Hon'ble Supreme Court has culled out the principle of "Sustainable Development".*

24. The contention of the brick kiln owners are that they have adopted all the precautionary conditions and criteria provided by the state PCB from time to time and have further represented to the state PCB to restrict the operation of the brick kilns industry from January to June (extended to next 15 days).

25. On the basis of above contention of the brick kiln owners the committee/CPCB was directed to consider the following points:-

    i. Analysis report of the soil quality

    ii. Impact of brick kilns on the air quality grid-wise/district-wise. Performance evaluation of brick kilns w.r.t. the background concentration and carrying capacity of the area.

And the committee revisited the above matters and submitted the report with the following facts :-

1. "ANALYSIS REPORT OF THE SOIL QUALITY *(impact of brick kilns operation on loss/degradation of top soil)*

To study the impact of brick kilns operation on loss/degradation of top soil, the methodology adopted in NGT O.A. 1088 of 2018 Dinesh Chahal & UOI was used in this study. To assess the loss of top soil due to brick kiln activity, soil samples (from upper 15 cm layer) were collected by the CPCB team from the land where top soils had been removed for brick manufacturing. For assessing loss of soil fertility due to brick manufacturing, samples of top soil (from upper 15 cm layer) were collected from the same land where soils were not yet removed from brick manufacturing. In places of brick kiln activity where such un-dugged soils could not be clearly identified visually, surface soils were collected from nearest agricultural lands for comparison.

Total 16 soil samples were collected during in 9th June to 10th June 2023 from 03 districts viz. Sriganganagar, Churu & Ajmer from agricultural land & mined out area to assess the soil quality for total 10 parameters viz. pH, EC, Organic Carbon, N, P, K, Fe, Mn, Zn & Cu. The samples were analysed by ICAR-Indian Institute of Soil Science, Bhopal institute for required analysis.

Outcome of the analysis results:

The soil samples were air dried, processed and sieved through 2 mm sieve. The processed soil samples were analyzed for various soil fertility parameters. The pH and electrical conductivity (EC) of soil samples were measured in soil: water solution of 1:2 ratio, whereas soil organic carbon was estimated by following a wet oxidation method (Walkley and Black, 1934). Plant available micronutrient was extracted by the DTPA extractant (Lindsay and Norvell 1978) and analyzed in ICP-OES instrument. Available nitrogen, phosphorus and potassium content in soil was estimated following standard protocol (Av- N (Kjeldahl method; Subbaiah and Asija, 1956), Av-P (Olsen et al., 1954), Av- K (ammonium acetate extraction; Hanway and Heidel, 1952). The result indicates that variation in soil fertility parameters exist among the sampling sites. For comparison of soil parameters, mean values obtained from all agricultural field sample (site 1,3,5,7,9,11,13,15) were compared with mean value obtained from all brick kiln sample (site 2,4,6,8, 10,12,14,16) were used. It is evident from the result that the soil parameters indicating the soil fertility status like organic carbon (OC), available, N, P, K, Fe, Mn, Zn and Cu are significantly lower in the brick kiln soil as compared to agricultural surface soil sample indicating reduction in soil fertility due to brick kiln and may result in decline in crop productivity.

The results are as tabulated below:

Table 1

Soil Fertility parameters of soil sample collected from various locations

S. No.	Location Name	Location typeof soil sample	Geo location	OC	pH	EC	Availabl eN	Availabl eP	Availabl eK	Fe	Mn	Zn	Cu
				(%)		(ds/m)	Kg/ha			PPM			
1	Sh Dinesh Bishnoi, Village-Jetsar, The-Vijaynagar	Agriculture soil	29.316572, 73.618991	0.3	8.6	0.834	156.8	33.53	451.68	1.1	8.35	0.5	0.73
2	Bisnoi Int Bhatta, Jatsar	Soil of minedout area	29.316423, 73.618423	0.1	9.4	0.658	125.44	12.76	225.6	0.94	5.55	0.17	0.54
3	Navneet Balana, 33GB,Srivijaynagar	Agriculture soil	29.239222, 73.497494	0.2	8.4	0.517	112.9	22.15	371.04	1.55	5.66	0.13	0.31
4	A-1 Brick Kiln, 33GB, Srivijanagar	Soil of minedout area	29.239682, 73.498334	0.2	9	2.425	100.35	20.49	304.96	1.51	5.45	0.28	0.56
5	Shri Baghla, Chak-1SGM,Suratgarh	Agriculture soil	29.373775, 73.860924	0.3	8.9	0.279	200.7	29.15	385.12	2.13	8.65	0.38	0.47
6	Badhla Int Udhyog, Chalk-1SGM, Suratgarh	Soil of minedout area	29.373564, 73.860216	0.2	8.6	1.717	100.35	15.4	260.16	1	4.53	0.14	0.35
7	Shyam ji ka Khet, 15SGM,Suratgarh	Agricult ure soil	29.505807, 73.874694	0.2	9	0.363	160.35	22.11	327.36	0.92	4.3	0.5	0.33
8	Jai Sri Shyam Int Udhyog,15SGM, Suratgarh	Soil of minedout area	29.505581, 73.874883	0.2	8.9	0.182	134.43	22.31	315.2	0.97	5.81	0.39	0.35
9	S M Brick agri field, Netwadavillage, Sriganganagar	Agricult ure soil	29.835994, 73.876863	0.3	9.3	0.487	150.53	18.13	367.84	1.63	8.59	0.35	0.74

2416

10	S M Brick Supplier, Netwada, Sriganaganagar	Soil of minedout area	29.835348, 73.874785	0.3	8.8	0.339	112.9	15.63	259.44	1.62	8.64	0.45	0.75
11	Sh Punia ji Agri field, Ganesggarh, Sriganagnagar	Agricult ure soil	29.740304, 73.874262	0.3	8.8	0.26	206.98	10.2	302.88	1.22	7	0.56	0.36
12	Punia Int Udhyog, Ganeshgarh,Srigangan agar	Soil of minedout area	29.739474, 73.873868	0.2	8.7	0.255	194.43	2.53	145.6	1.05	2.61	0.58	0.2
13	Sh ShyamSundar agri field, Ladsar, Ratangarh, Churu	Agricult ure soil	28.136243, 74.617746	0.1	9	1.568	112.9	10.41	211.68	1.31	5.07	0.72	0.32
14	BBC Int Udhyog, Ladsar, Ratangarh, Churu	Soil of mined out area	28.136411, 74.617459	0.1	10	0.129	106.62	1.85	125.84	1.37	4.29	0.53	0.11
15	Andul Rahim agri field, Gegal, Ajmer	Agricult ure soil	26.53029, 74.758342	0.2	8.8	1.03	194.43	28.98	289.12	1.74	5.09	0.37	0.53
16	Maa Vaishnodevi Int Udhyog, Kishangarh, Ajmer	Soil of mined out area	26.534605, 74.764204	0.2	9.9	0.763	94.08	1.27	102.88	1.3	3.97	0.12	0.19

Table 2: Mean value of sampling sites for different soil fertility parameters

Sampling Locations	OC	pH	EC	Available Nitrogen	Available Phosphorus	Available Potassium	Fe	Mn	Zn	Cu
	(%)		(ds/m)	Kg/ha			PPM			
Agriculture soil	0.24	8.82	0.667	161.9	21.8	338.3	1.45	6.59	0.438	0.473
Soil of mined out area	0.17	9.15	0.808	121.1	11.5	217.5	1.22	5.11	0.333	0.380

2. *Impact of brick kilns on the air quality grid- wise/district-wise. Performance evaluation of brick kilns w.r.t the background concentration and carrying capacity of the area.*

2.1 Estimation Of The Carrying Capacity Of The 07 Districts

To estimate the carrying capacity of the 07 district i.e. Alwar, Ajmer, Udaipur, Jaipur, Kota, Jodhpur & Pali based on the available CAAQMS data for FY 2021-22; the methodology earlier adopted in Hon'ble NGT (PB) Original Application No. 1016/2019 in the matter of Utkarsh Panwar Vs CPCB & Ors was considered here too.

Estimation of Existing Pollution Load w.r.t PM10

- *Total area (a) :*

- *Total area of the 07 district as per the Rajasthan Govt. district website (https://forest.rajasthan.gov.in/content/raj/forest/en/resources/forest-statistics/general-introduction1/district-wise---forest-area-w-r-t--geographical-area.html) is as tabulated below:*

S. No.	***Cities***	***Geographical Area (SQKM)***
1.	*Alwar**	*8380*
2.	*Ajmer*	*8481*
3.	*Udaipur*	*11724*
4.	*Jaipur*	*11143*
5.	*Kota*	*5217*
6.	*Jodhpur*	*22850*
7.	*Pali*	*12387*

**- Alwar includes Bhiwadi too*

Average atmospheric mixing height during a particular month in km (b) the	*:*	*The Mixing height of Rajasthan is as per the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India", published in 2008 by India Meteorological Department, New Delhi. The Hourly mixing height is as tabulated below:*

Mixing height of Rajasthan as per the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India", published in 2008 by India Meteorological Department, New Delhi										
Day time (hour of the day)	*Month & Season*		*March*		*Month & Season*		*Month & Season*		*Month & Season*	
	Dec-Feb				*April-June*		*July-Sept*		*Oct-Nov*	
	winter		*Intermediate month of winter & summer*		*Summer*		*Monsoon*		*Post Monsoon*	
	Min	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*
7	*20*	*40*	*60*	*75*	*100*	*110*	*70*	*85*	*40*	*60*
8	*30*	*60*	*85*	*105*	*140*	*150*	*110*	*145*	*80*	*140*
9	*80*	*110*	*165*	*205*	*250*	*300*	*275*	*340*	*300*	*380*
10	*180*	*220*	*365*	*410*	*550*	*600*	*525*	*590*	*500*	*580*
11	*370*	*420*	*635*	*735*	*900*	*1050*	*850*	*975*	*800*	*900*
12	*580*	*680*	*1015*	*1140*	*1450*	*1600*	*1265*	*1420*	*1080*	*1240*
13	*720*	*900*	*1210*	*1460*	*1700*	*2020*	*1540*	*1800*	*1380*	*1580*
14	*900*	*1020*	*1450*	*1660*	*2000*	*2300*	*1775*	*2040*	*1550*	*1780*
15	*950*	*1100*	*1525*	*1775*	*2100*	*2450*	*1850*	*2205*	*1600*	*1960*
16	*950*	*1120*	*1500*	*1760*	*2050*	*2400*	*1800*	*2150*	*1550*	*1900*
17	*900*	*940*	*1400*	*1660*	*1900*	*2380*	*1600*	*2015*	*1300*	*1650*
18	*600*	*700*	*1150*	*1450*	*1700*	*2200*	*1270*	*1610*	*840*	*1020*
19	*370*	*440*	*785*	*920*	*1200*	*1400*	*825*	*990*	*450*	*580*
Average Mixing height (m)	*512*	*596*	*873*	*1027*	*1234*	*1458*	*1058*	*1259*	*882*	*1059*

The monthly available maximum mixing height in KMs is as tabulated below:

Month wise maximum mixing height in KMs	
Month	*Mixing Height in KMs*
January	*0.596*
February	*0.596*
March	*1.027*
April	*1.458*
May	*1.458*
June	*1.458*
July	*1.259*
August	*1.259*
September	*1.259*
October	*1.059*
November	*1.059*
December	*0.596*

- *Total volume of Air in the district boundary in KM3(C) : a x b*

Month	Total volume of Air in the district boundary in KM3						
	Alwar	Ajmer	Udaipur	Jaipur	Kota	Jodhpur	Pali
Apr-21	12218	12365	17094	16246	7606	33315	18060
May-21	12218	12365	17094	16246	7606	33315	18060
Jun-21	12218	12365	17094	16246	7606	33315	18060
Jul-21	10550	10678	14761	14029	6568	28768	15595
Aug-21	10550	10678	14761	14029	6568	28768	15595
Sep-21	10550	10678	14761	14029	6568	28768	15595
Oct-21	8874	8981	12416	11800	5525	24198	13118
Nov-21	8874	8981	12416	11800	5525	24198	13118
Dec-21	4994	5055	6988	6641	3109	13619	7383
Jan-22	4994	5055	6988	6641	3109	13619	7383
Feb-22	4994	5055	6988	6641	3109	13619	7383
Mar-22	8606	8710	12041	11444	5358	23467	12721

- *Average PM10 concentration for a particular month in kg/km3 (d):*

Month	Average month-wise PM10 concentration in Kg/KM3						
	Alwar#	Ajmer	Udaipur	Jaipur*	Kota	Jodhpur	Pali
Apr-21	197	113	107	133	145	228	212
May-21	122	84	99	101	89	152	123
Jun-21	133	79	76	112	74	130	97
Jul-21	105	71	81	75	63	114	81
Aug-21	106	79	95	81	62	118	76
Sep-21	74	63	67	53	50	76	68
Oct-21	150	98	99	121	89	144	92
Nov-21	253	115	158	186	170	222	117
Dec-21	195	109	148	157	138	180	102
Jan-22	157	103	150	147	114	172	104
Feb-22	144	109	141	141	138	176	114
Mar-22	176	115	138	141	134	173	118

 # - The average PM10 concentration of Alwar & Bhiwadi CAAQMS data

**- The average PM10 concentration of 03 CAAQMS stations established in Jaipur*

Therefore, total estimated pollution load (in MT) of PM10(x) = c x d

Month	Total estimated pollution load (in MT) of PM10						
	Alwar#	Ajmer	Udaipur	Jaipur*	Kota	Jodhpur	Pali
Apr-21	2407	1397	1829	2161	1103	7596	3829
May-21	1491	1039	1692	1641	677	5064	2221
Jun-21	1625	977	1299	1820	563	4331	1752
Jul-21	1102	758	1196	1052	414	3280	1263
Aug-21	1118	844	1402	1136	407	3395	1185
Sep-21	781	673	989	744	328	2186	1060
Oct-21	1331	880	1229	1428	492	3485	1207
Nov-21	2241	1033	1962	2195	939	5372	1535
Dec-21	971	551	1034	1043	429	2451	753
Jan-22	782	521	1048	976	354	2342	768
Feb-22	719	551	985	936	429	2397	842
Mar-22	1510	1002	1662	1614	718	4060	1501

- The average PM10 concentration of Alwar & Bhiwadi CAAQMS data

*- The average PM10 concentration of 03 CAAQMS stations established in Jaipur

Estimation of physical assimilative capacity w.r.t. PM10

Total volume of Air in the 07 districts of Rajasthan in a particular month in KM3(c)

Particulate Matter (PM10) concentration in ambient air as per NAAQ standard: 100µg/m3 i.e. 100 Kg/Km3 (Ref. Air Quality Index/NAAQ Standards, 2009)

Therefore, daily Assimilative capacity w.r.t. PM10 in ambient air of the area during a particular month (y): c x 100 = y Kgs

Month	Estimation of physical assimilative capacity w.r.t. PM10						
	Alwar#	Ajmer	Udaipur	Jaipur*	Kota	Jodhpur	Pali
Apr-21	1222	1237	1709	1625	761	3332	1806
May-21	1222	1237	1709	1625	761	3332	1806
Jun-21	1222	1237	1709	1625	761	3332	1806
Jul-21	1055	1068	1476	1403	657	2877	1560
Aug-21	1055	1068	1476	1403	657	2877	1560
Sep-21	1055	1068	1476	1403	657	2877	1560
Oct-21	887	898	1242	1180	553	2420	1312
Nov-21	887	898	1242	1180	553	2420	1312
Dec-21	499	506	699	664	311	1362	738
Jan-22	499	506	699	664	311	1362	738
Feb-22	499	506	699	664	311	1362	738
Mar-22	861	871	1204	1144	536	2347	1272

 # - The average PM10 concentration of Alwar & Bhiwadi CAAQMS data

**- The average PM10 concentration of 03 CAAQMS stations established in Jaipur*

Estimation of physical supportive capacity based on PM10

The formula for assessing the supportive capacity is based on the physical boundaries (Box-model) that works on assumptions of steady-state conditions; i.e. it is supposed that the emissions, wind speed and characteristics of air available for dilution will not vary over time and that pollutants emitted to the atmosphere are uniformly mixed in a volume. Considering this, it is better to call it physical supportive capacity.

Physical Supportive Capacity (z) = Assimilative Capacity (y) - Total Estimated Load (PM10) (XPM10)

	Estimation of physical supportive capacity based on PM10						
	Alwar#	***Ajmer***	***Udaipur***	***Jaipur ****	***Kota***	***Jodhpur***	***Pali***
Apr-21	(-)1185	(-)161	(-)120	(-)536	(-)342	(-)4264	(-)2023
May-21	(-)269	(+)198	(+)17	(-)16	(+)84	(-)1732	(-)415
Jun-21	(-)403	(+)260	(+)410	(-)195	(+)198	(-)999	(+)54
Jul-21	(-)47	(+)310	(+)280	(+)351	(+)243	(-)403	(+)296
Aug-21	(-)63	(+)224	(+)74	(+)267	(+)250	(-)518	(+)374
Sep-21	(+)274	(+)395	(+)487	(+)659	(+)328	(+)690	(+)499

Oct-21	*(-)444*	*(+)18*	*(+)12*	*(-)248*	*(+)61*	*(-)1065*	*(+)105*
Nov-21	*(-)1353*	*(-)135*	*(-)720*	*(-)1015*	*(-)387*	*(-)2952*	*(-)223*
Dec-21	*(-)472*	*(-)45*	*(-)335*	*(-)379*	*(-)118*	*(-)1090*	*(-)15*
Jan-22	*(-)282*	*(-)15*	*(-)349*	*(-)312*	*(-)44*	*(-)981*	*(-)30*
Feb-22	*(-)220*	*(-)45*	*(-)287*	*(-)272*	*(-)118*	*(-)1035*	*(-)103*
Mar-22	*(-)650*	*(-)131*	*(-)458*	*(-)469*	*(-)182*	*(-)1713*	*(-)229*

 # - The average PM10 concentration of Alwar & Bhiwadi CAAQMS data

**- The average PM10 concentration of 03 CAAQMS stations established in Jaipur*

NOTE:

1. *The numerical value with (-) symbol indicates that area has no availablephysical supportive capacity.*

2. *The numerical value with (+) symbol indicates that area has available physical supportive capacity.*

The assessment of carrying capacity based on the available CAAQMS data of 07 districts for FY 2021-22 reveals that in all the 07 districts, the supportive carrying capacity during November to April is NEGATIVE. The most of the months i.e. 11 months with negative supportive capacity were observed in Alwar & Jodhpur. As reported there is no brick kiln in operation in Jodhpur. Jaipur is the third district where 9 months observed with negative supportive capacity. In Jaipur & Dausa districts total 183 brick kilns are established.

Further, if Alwar & Bhiwadi's Ambient Air Quality data of FY 2021-22 considered separately than Alwar has only negative supportive capacity during 03 months (November to January) whereas Bhiwadi has 11 months with negative supportive capacity except in September month. However, Alwar has 149 brick kilns out of which 147 converted to Zig-zag, irrespective to that Bhiwadi has only 04 zig-zag technology based brick kilns in total. Bhiwadi is an industrial town in Alwar district. The month-wise AAQ w.r.t. PM10 is as tabulated below:

Month	Month-wise AAQ w.r.t. PM10		
	Alwar	Bhiwadi	Alwar & Bhiwadi
Apr-21	84	310	197
May-21	66	178	122
Jun-21	71	195	133
Jul-21	82	127	105
Aug-21	76	136	106
Sep-21	62	86	74
Oct-21	75	225	150
Nov-21	124	381	253
Dec-21	107	282	195
Jan-22	108	205	157
Feb-22	89	199	144
Mar-22	99	252	176

Assimilative Capacity Of Rajasthan (Grid-Wise Dispersion Method)

Assimilative capacity of atmosphere is assessed using its ability to dilute and ventilate pollutants by advecting it away from its source of generation. Dilution of pollutant is a function of atmospheric mixing height, which is diurnally and seasonally varying parameter. Ventilation is a directly proportional to atmospheric mixing height and horizontal wind speed. In order to assess the temporal variation of dilution and ventilation of dry arid region, weather research forecast (WRF) generated hourly mixing height is determined for an area west of Kota city (Latitude: 25.15; Longitude: 75.62). The same data is used for visual presentation of hourly and monthly variation of mixing height and ventilation.

The diurnal variation of hourly mixing height using box plot. Six months data is given in each page. The X-axis is time of the day and Y- axis is the hourly mixing height. The box shows minimum, first, second and third quartile and maximum value of hourly mixing height. For example, during January, mixing height at a particular hour for each day is put together in a box and arranged in different quartile groups. The scale of Y- axis is fixed at 2500 m. This helps in comparison among different months. It can be seen that during November to January, the

mixing height is relatively low compared to maximum mixing height of April to June. In the same figure, mixing height during evening and night time for January and June is compared. It can be seen that during winter (January), the night time mixing height is very low, limited within 100 m, whereas during summer (June), the night time mixing height is more than 500 m. Thus, during summer months, atmospheric high atmospheric dilution is available compared to winter months.

The comparison of mixing height during different months in terms of percentage. Hourly mixing height is normalized between 0 and 100 and shown as box plots. It can be seen that during January, the maximum day time mixing height is about 40% of the maximum mixing height. Thus, the dilution available during winter months is only 40% of the June months' dilution.

Daily maximum mixing height of each day for a month is used for plotting the box of quartiles for that month. It can be seen that for winter months that is December and January, the mixing height is lowest and therefore air pollution emission related activity should be restricted during these months.

Vertical extent of atmosphere provides dilution; however, horizontal wind provides advection of pollutant from its source of origin. Therefore, if the wind speed is high, the accumulation of pollutant will not take place near its source of origin, however, if the wind speed is low, accumulation of pollutant takes place. A measure of ventilation is product of mixing height and wind speed. Therefore, hourly ventilation is determined and plotted in the same way as done for mixing height."

26. While submitting this report it was found that out of 2037 total brick kilns in 24 Districts of Rajasthan approximately 269 have adopted zig-zag technology and 1768 are operating on FCBTK technology.

The Cluster-Wise Analysis Of Brick Kiln Impact On Air Quality

Simulation of dispersion of emission from brick kiln in cluster is carried out using Gaussian Dispersion Model named Industrial Source Complex Short Term (ISCST). The model considers emission

from kiln and disperse it under the influence of meteorology. The following emission is considered for simulation:

- *Stack height – 30m*
- *Emission rate – 11g/s (~1000Kg/day)*
- *Stack top diameter - 01 m*
- *Exit gas velocity – 01m/s*
- *Exit gas temperature – 333 K*

As per the requirement of ISCST Model, the meteorological data on hourly time basis for one full day is derived from Weather Research Forecast (WRF) model. Worst Case scenario predicted using winter time meteorological data generated by Weather Research Forecast (WRF) model. ***Table 1*** *shows the WRF derived data used in the simulation exercise. Stability class for each hour is derived from the other meteorological parameters i.e. solar radiation depending on the time of the day. The one day meteorology of January month (winter period) is considered which gives the worst case scenario.*

Table 1: *Meteorological data used in ISC Model.*

Time	*Wind Direction*	*Wind Speed*	*Temp*	*Stability Class*	*Mixing height*
1.	*339*	*0.91*	*302.5*	*6*	*50*
2.	*331*	*1.44*	*303.8*	*6*	*51*
3.	*195*	*2.47*	*306.4*	*6*	*85*
4.	*135*	*2.2*	*308.8*	*6*	*52*
5.	*98*	*0.89*	*310.1*	*5*	*51*
6.	*304*	*1.89*	*311.1*	*5*	*50*
7.	*341*	*1.29*	*312.5*	*4*	*52*
8.	*357*	*1.71*	*313.4*	*4*	*227*
9.	*25*	*2.63*	*313.6*	*3*	*342*
10.	*53*	*3.32*	*314.8*	*2*	*871*
11.	*90*	*3.31*	*313.8*	*2*	*959*
12.	*88*	*3.1*	*313.2*	*2*	*1015*
13.	*94*	*4.31*	*311.4*	*1*	*278*
14.	*67*	*2.04*	*309.5*	*1*	*416*
15.	*10*	*2.97*	*308.9*	*1*	*366*
16.	*14*	*3.8*	*308.3*	*2*	*416*
17.	*14*	*4.21*	*307.5*	*2*	*460*
18.	*43*	*3.95*	*306.8*	*3*	*418*
19.	*63*	*3.81*	*305.9*	*4*	*266*
20.	*73*	*4.52*	*305.1*	*5*	*332*
21.	*58*	*2.78*	*304.8*	*6*	*131*
22.	*28*	*1.92*	*304.1*	*6*	*55*
23.	*5*	*2.2*	*303.4*	*6*	*57*
24.	*11*	*2.38*	*302.8*	*6*	*74*

Figure 1 shows the location of brick kiln across Rajasthan. It can be seen that there are some dense cluster of brick kiln. Based on visual judgment, three clusters are drawn and shown. The three

major cluster are area of Ganganagar, Alwar & Jaipur (North)-Bhilwara and their nearby towns/ tehsil/cities. The receptor grid for Jaipur (North)-Bhilwara cluster is shown in Figure 3. On X & Y direction, there are 21 nodes each in the grid. These equidistant nodes cover all brick kilns in that cluster. Figure 4 shows the grid in Jaipur (North)-Bhilwara cluster.

The Ground Level Concentration (GLC) of particulate matter is shown in figure 5. It can be seen that area close to the brick kiln have concentration of particulate matter (PM) beyond the National Ambient Air Quality Standards, 2009 for PM10 i.e. 100µg/M3. Figure 6 shows the receptor grids in Ganganagar cluster. This receptor grid is also of 21 x 21 nodes cluster. The GLC of PM for Ganganagar cluster is shown in Figure 7. The zoom-in view of GLC is shown in figure 8 for Ganganagar cluster. Figure 9 shows the receptor grid for Alwar cluster.

All the GLC shows exceedance beyond the National Ambient Air Quality Standards, 2009 for PM_{10} i.e. 100µg/M^3. This is the worst case scenario analysis. The GLC of PM in the vicinity of brick kiln should not be expected to be within the prescribed standard for PM_{10} if any solid fuel like wood, coal is used for firing."

3.0 Summary

As per the brick kiln survey, there are total 2037 brick kilns established in more than 24 districts/cities of the Rajasthan. Out of these, only 269 are of Zig-Zag type & rest 1768 are on FCBTK. Out of these 1768 brick kilns, 21 FCBTK Brick kilns dismantled the kilns operation in Bharatpur. There are 08 districts viz. Sriganganagar, Bhilwara, Hanumangarh, Bharatpur, Alwar, Dholpur, Jaipur & Jhunjhunu having more than 100 brick kilns. The NCR region's kilns of Alwar & Bharatpur districts operated during March to June for 4 months; whereas in other districts the operation period is of 5 to 8months i.e. October to June. Majorly mustard residue, biomass is the fuel used by the Brick kilns. For the production of 1000 bricks, 300kgs fuel is used and on an average daily 12-13 thousands bricks are produced that requires 3 Tons of fuel.

The assessment of the impact on soil quality due to brick kiln operation reveals that the soil parameters indicating the soil fertility status like organic carbon (OC), available N, P, K, Fe, Mn, Zn and Cu are significantly lower in the soil near brick kilns as compared to agricultural surface soil sample. This indicates reduction in soil fertility due to brick kiln and may result in decline in crop productivity.

The assessment of carrying capacity based on the available CAAQMS data of 07 districts (Alwar, Ajmer, Udaipur, Jaipur, Kota, Jodhpur & Pali) for FY 2021-22 reveals that in all the 07 districts, the supportive carrying capacity during November to April is NEGATIVE. The most of the months i.e. 11 months with negative supportive capacity were observed in Alwar & Jodhpur. As reported there is no brick kiln in operation in Jodhpur. Jaipur is the third district where 9 months observed with negative supportive capacity. In Jaipur & Dausa districts total 183 brick kilns are established. Further, Alwar & Bhiwadi's Ambient Air Quality data of FY 2021-22 considered separately than Alwar has only negative supportive capacity during 03 months (November to January) whereas Bhiwadi has 11 months with negative supportive capacity except in September month. However, Alwar has 149 brick kilns out of which 147 converted to Zig-zag, irrespective to that Bhiwadi has only 04 zig-zag technology based brick kilns in total. Bhiwadi is an industrial town in Alwar district.

The cluster-wise assessment of the impact of brick kiln on ambient air quality during worst case scenario (winter season) for the 03 major clusters i.e. Ganganagar, Jaipur (North)-Bhilwara and Alwar reveals that, all the Ground Level Concentration (GLC) shown exceedance beyond the National Ambient Air Quality Standards, 2009 for PM10 i.e. 100µg/M3. The GLC of PM in the vicinity of brick kiln should not be expected to be within the prescribed standard for PM10 if any solid fuel like wood, coal is used for firing.

Further, in the months (March to June) when dispersion found significantly well, in those months also the physical supportive capacity is not available; this may be due to lifting of fine particles of crustal sand (being non-cohesive), vehicle movement,

agricultural activities and other domestic activities. Further, the assessment of the carrying capacity without considering the other source of pollution and environmental condition is not rationalized and advisable. As the present carrying capacity assessment is based on the physical boundary with steady state (Box-model), it needs to be further assessed in detail by considering brick kiln operation in totality viz. fuel use, fugitive emission, local conditions, agricultural activities etc. The crop residue used in loose form, that contribute in ambient pollution and also the thermal heat is not utilized properly. Briquetting/pelleting of such residue will help in increasing the thermal heat and reduce particulate pollution too. Funnel feeding system for continuous feeding of fuel at constant rate may result in effective combustion.

4.0 Recommendations:

1. A large number of brick kilns are still operating on FCBTK technology. Conversion of brick kiln as per the timeline stipulated under MoEFCC notification dated 22.2.2022 is to be implemented by the brick kilns owners to reduce the air pollution.

2. Based on the earlier carrying capacity study of Rajakhera block, Dholpur & Sriganganagar district and the assessment of the ambient air quality data of FY 2021-22 of 07 cities (Ajmer, Alwar, Kota, Jaipur, Jodhpur, Pali & Udaipur), the regulation on the brick kiln operation may be imposed for the month in which negative supportive carrying capacity prevails.

3. RSPCB shall initiate action against the violators operating the kiln near by the non-attainment cities without converting from FCBTK to Zig-Zag technology.

27. It is further contended that pollutants can trigger an inflammatory cascade that can impact the Brain, Kidneys, Heart and even cause diabetes. The allergy like symptoms are only the immediate and short term consequence of the poor Air Quality Index (AQI). The longer term impact is more insidious because it is invisible. All living things need good quality air to survive and when the air is polluted life itself is threatened.

28. Now-a-days pollution is usually a mixture of highly concentrated carbon monoxide, nitrogen oxide, sulphur dioxide and hydrocarbons, emitted from vehicles, factories and fossil fuel burning. These react with sunlight to produce smog, a thick fog or haze. There is one more component to this mix that is not always visible that Particulate Matter (PM). Chemicals, soil, smoke, dust or allergens constitute different types of PM. Varying in size, shape and chemical composition, they are defined by their diameter for air quality regulatory purposes.

29. According to the CPCB survey in the country out of the 242 cities (CPCB data released on 14.11.2023). The air quality in only 40 cities was found in this satisfactory to good range. On that day the air quality was severe in three cities, very poor in 32, poor in another 64 and moderate in 106. Bhatatpur in Rajasthan was the most polluted with its AQI of 405 beating Delhi's 377.

30. Following were found to be to have great impact on various organs (as reported in India Today 11th December, 2023).

a) Lungs

Particulate matter enters our airways first and causes an immune reaction we recognize as inflammation. This ongoing inflammation is a leading risk factor for COPD and lung cancer.

b) Heart

Particulate matter can prematurely age our blood vessels and lead to more build up of calcium in the arteries a risk for stroke and heart attack. It can also cause changes to the heart rhythm and structure.

c) Brain

Pollutants can impact your memory recall function as well as increase risk of Parkinson's disease by 56 percent.

d) Eyes

Pollution is now a risk factor for age related macular degeneration (AMD), a leading cause of blindness.

e) Kidney

Pollution can impair kidney function as well as damage it through chronic inflammation.

31. Diseases being strongly linked to the pollution for the first time –

a) Metabolic

Per a study, the risk for diabetes increased by 22 per cent for every 10 micrograms per cubic meter (µg/m3) increase in annual average levels of PM2.5 in Delhi and Chennai.

b) Cancer

Inflammation caused by pollutants wakes up normally inactive cells in organs that carry cancer-causing mutations. For every 10 µg/ m3 of increased exposure to PM2.5, risk of dying from any cancer rose by 22 per cent. For cancers of the upper digestive tract, the mortality risk was 42 per cent higher. For cancers of the accessory digestive organs like the liver, bile ducts, gall bladder and the pancreas, the mortality risk was 35 per cent higher. For breast cancer, the mortality risk went up by 80 per cent.

c) Reduced Brain Performances

A rise in exposure to air toxins has been linked to reduced academic performance in school; for some, the effect is equivalent to missing out a whole month of elementary schooling.

32. It is contended that various other things are also contributing the air pollution and examples as narrated are :-

a) Power Sector - 34%

b) Industry including the construction sector - 28%

c) Agriculture – 17.8%

d) Transport segment - 9%

33. As reported by Secretary, Union Ministry of Environment, Forest & Climate Change (India Today 11.12.2023) India had 210 million two-wheelers and 70 million four-wheelers registered as on 03.08.2022. In financial year, 2023, 22 million new vehicles, including 16 million two-wheelers and 3.6 million passenger vehicles were added.

34. Learned Counsel for the CPCB has submitted that the notification dated 22.02.2022 issued by the MoEF&CC has been amended vide order dated 15.12.2023 which was communicated to all the Member Secretaries of State Pollution Control Board vide CPCB's letter dated 29.01.2024. The relevant portion of the amendment as communicated are as follows:-

> *"2. The existing brick kilns which are not following zig-zag technology or vertical shaft or use piped natural gas as fuel in brick making shall be converted to zig-zag technology or vertical shaft or use piped natural gas as fuel in brick making within a period of*
>
> *(a) one year w.ef. 23.02.2023 in case of kilns located within ten kilometers radius of non- attainment cities, except those treated in million plus population cities NCR districts and critically & severally polluted areas as categorized by CPCB:*
>
> *(b) one year w.ef. 23.02.2024 in case of other kilns.*
>
> *Provided that in case where Commission for Air Quality Management/Central Pollution Control Board/ State Pollution Control Board/Pollution Control Committee has separately issued more stringent Norms/ timelines, such orders shall prevail. "*

35. It is further argued that the State PCB must enforce the guidelines issued by the MoEF&CC in light of the joint committee report. On the basis of above expert report, notification issued by the MoEF&CC and the argument advanced by the learned counsel for the parties the conclusions are as below :-

i. The State PCB, Rajasthan is directed to implement the provisions of the notification dated 22.02.2022 with the amendments dated 15.12.2023 communicated by CPCB dated 29.01.2024 with respect to emission standard, technology conversion and sitting criteria. The operation of brick kilns in major clusters viz. Suratgarh, Jaitsar, Srivijaynagar, Raisinghnagar and Anupgarh tehsils needs to be regulated by restricting consented production or duration of operation.

ii. Order passed in original application no. 1016/2019 dated 17.02.2021 titled as *Utkarsh Panwar Vs CPCB & Ors* and orders passed in original application no. 262/2020 dated 11.07.2022 *Hakam Singh & Anr. Vs. State of Rajasthan & Others* must be strictly complied with (as applicable).

iii. An in depth study on brick kiln process optimization, assessment of region specific assimilative/supportive and carrying capacity is required to suggest and prepare environmentally sustainable functioning of brick kilns in each Tehsil of Sriganganagar district. Such kind of detailed study may be conducted by State PCB with the help and support of other technical institutes, expert bodies and on the basis of such study passed suitable orders for the operation of the brick kiln keeping in mind the carrying capacity of the area. This exercise should be done every year in the month of January or July as suitable to the department to be decided by the Secretary (Environment).

iv. Brick manufacturer's Association should ensure that the fuel is stored properly and provide pucca road in operation area to control fugitive emission. The best practices to tap the flue gas leakages need to be adopted by all the brick manufacturers.

v. In-case of AQI being very poor or above the norms the GRAP as applicable in the NCR region vide order quoted above may be considered to be adopted by the State PCB.

vi. Minimum distance as prescribed by the MoEF&CC, process emission, utilisation of ash generated in the brick kiln, proper maintenance and protection of the paved roads utilized by the brick owner for transportation should be properly maintained.

vii. Vehicles transporting the raw materials should be covered as provided in the guidelines issued by the MoEF&CC.

36. The recommendations submitted by the joint committee in this application be suitably considered by the Secretary (Environment) and suitable orders be issued accordingly to be implemented by the brick kiln owners to control the air pollution in the area.

37. With these observations and directions **Original Application No. 67/2022** stands **disposed of**. Copy of the order be communicated to Secretary (Environment), Rajasthan and Madhya Pradesh for necessary action.

Sheo Kumar Singh, JM

Dr. A. Senthil Vel, EM

20th February, 2024
O.A No. 67/2022 (CZ)
PN

BEFORE THE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI

Appeal No. 42 of 2013 (SZ)

In the matter of:

M/s. Gokulam Blue Metals
Rep. by its Partner Mr K. Raj Kumar
S.F.No. 3, Palathurai Village
Coimbatore South Taluk
Coimbatore District ..... Appellant

versus

1. Tamil Nadu Pollution Control Board
   Represented by its Chairman
   Tamil Nadu Pollution Control Board
   100, Anna Salai, Guindy
   Chennai – 600 032.

2. The District Environmental Engineer
   Tamil Nadu Pollution Control Board
   42d, SNR College Road
   Peelamedu, Coimbatore South
   Coimbatore

3. Superintending Engineer
   TANGEDCO
   Tamil Nadu Electricity Board
   Tatabad, Coimbatore South
   Coimbatore District. .... Respondents

Counsel for the appellant

M/s.K. Rajasekaran, and N. Thangavel advocates

Counsel for the respondents:

Smt. H. Yasmeen Ali, for respondent Nos. 1 and 2, Shri P. Gnanasekaran for Responent No. 3

ORDER/JUDGEMENT

PRESENT :

Hon'ble Mr. Justice Dr. P. Jyothimani

Hon'ble Prof. Dr. R. Nagendran

Dated: July 12, 2013

Justice Dr. P. Jyothimani, Judicial Member

1. We heard the learned counsel for the appellant as well as the counsel for the respondents at length. We have also perused the report filed by the single member Expert Committee appointed by this Tribunal presided by Dr. R. Sivacoumar, Principal Scientist, CSIR-NEERI.

2. This appeal has been filed by the appellant, who is engaged in the business of blue metals involving the process of stone crushing, against the order of the Tamil Nadu Pollution

Control Board dated 25.4.2013 by the which the Pollution Control Board by exercising the powers conferred under Section 31(A) of the Air (Prevention and Control of Pollution) Act 1981 has directed the immediate closure of the stone crushing plant of the appellant on various grounds., that all the air pollution control measures namely closed cover for the jaw crusher and rotary screen were found to be in damaged condition, that no water sprinkler was provided to suppress the dust emission both at the jaw crusher and other vulnerable points in the premises, that conveyors were not provided with cover, that the unit has expanded its activity by providing Hot Mix Plant and Ready Mix Concrete Plant without obtaining Consent of the Board, and that complaints were received against the operation of the unit causing air pollution.

3. It is not in dispute that the hot mix plant and the ready mix concrete plant of the appellant unit were completely removed and therefore the complaint made by the Tamil Nadu Pollution Board in that regard has become infructuous. The Appellant who is engaged in the business of crushing blue metals is stated to have established its industry during 1990 as a small scale industry with nearly 500 employees. Thereafter, in

the year 2000, after purchasing the adjacent business of stone crushing which was carried on in the name of M/s. Ponni Maan Blue Metals, the Appellant has applied for consent and it is stated that it has been functioning for the past 23 years without any complaint either under air or water related pollution.

4. It is the case of the Appellant that the consent to renewal to operate was granted to the Appellant under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 only on 3.12.2012 which was renewed till 30.6.2013 and the application for further extension of renewal is stated to be pending before the Tamil Nadu Pollution Control Board. It is also stated by the Appellant that the Appellant has planted around 3000 trees around the crushing unit. While so, the impugned order has been passed by the Tamil Nadu Pollution Control Board abruptly ordering the closure of the unit without even giving opportunity to the Appellant. In fact, the Appellant has chosen to state that the reason adduced for the abrupt closure of the unit by the Tamil Nadu Pollution Control Board were that in the Appellant unit the pollution control equipments are not functioning properly, the water sprinkling unit has

exceeded its production capacity, that the Appellant unit is operating hot mix plant and concrete mixing plant without the consent of the Board, that the Appellant unit is operating in violation of various conditions imposed by the 1st and the 2nd respondents resulting in the pollution of agriculture lands in and around the unit and complaints from public have been received, etc. Therefore, the appeal has been filed challenging the impugned order on various grounds including that the impugned order is in violation of the principle of natural justice, that the impugned order has been passed ignoring the fact that the consent for the unit has been granted by the same Tamil Nadu Pollution Control Board which is in force till 9/2013 and that the further action for renewal of consent is also pending and no order has been passed.

5. That apart, it is the case of the Appellant that the Tamil Nadu Pollution Control Board has failed to find out any non-compliance of various conditions and requirements of the Tamil Nadu Pollution Control Board itself and therefore, the impugned order has been affected by total non-application of mind. As stated above, where all the alleged violations relating to the hot mix plant and the concrete mix plant are concerned,

since the same were closed, we are to consider about the other requirements.

6. After hearing the learned counsel, the Tribunal, in order to find out the correct factual position, appointed a Single Member Expert Committee presided by the Dr. R. Sivacoumar, Principal Scientist, CSIR-NEERI, who after a thorough inspection, has filed his report before this Tribunal. The report, which has taken note of each and every minute detail regarding the functioning of the unit with reference to the terms and references made by the Tribunal, considered various issues at length, as to whether the unit has installed all the pollution control equipment in the stone crushing unit.

7. While considering each one of the issues, the expert has stated that in so far as the installation of air pollution control equipment, the same has been complied with by the Appellant unit. That apart, while answering the same, the expert has also stated that the Appellant has planted nearly 3111 trees of various species. Again, while referring to the next question on proper functioning of air pollution control equipments, the Expert has given his report positively. Relating to the measuring of air ambient quality available in and around the

plant, it is stated by the Expert that the scheme of measuring the ambient air quality is not available in and around the plant and neither Tamil Nadu Pollution Control Board nor M/s. Gokulam Blue Metals has any scheme of measuring the ambient air quality in and around the plant. The non-providing of such a facility would not mean that the project proponent has exceeded the limit as far as the ambient air quality is concerned.

8. While answering the next question about the unit whether it has installed water sprinkling to control quarry dust emanating during the operation, again the Expert has given a positive reply. That was so in respect of the next question of production. Since the change in the ownership of the unit, there is no change in the sanctioned capacity and production during the time of inspection of the unit according to the Expert.

9. Further, while answering the next question on whether the unit has any hot mix plant without approval, the expert has also concurred with the Appellant and there is no operation of hot mix plant during the time of inspection. As stated above, the project proponent, namely the Appellant, has removed the

said two schemes namely the hot mix plant and the ready mix concrete plant and he also undertakes that he has no proposal of reintroducing the same in future.

10. The Expert, while answering for any visible observations on the impact of this crusher unit on abutting agricultural lands, has clearly stated that there is not much visible dust emanating from this stone crushing unit on the abutting agricultural lands around the crusher unit. He has also answered many other observations and has given the following recommendations:

1. ***Construction of metalled / paved road within the premises leading to bunker near jaw crusher;***
2. ***Crusher sanctioned capacity may be stipulated on daily basis 55MT/day for 24 working days per month) instead of monthly basis so as to utilise optimally the assimilative capacity of the air shed;***
3. ***A buffer zone of at least 200 m may be provided by the Government / Authorities around M/s. Gokulam Blue Metals so as to contain any dust in case of strong winds;***
4. ***It is recommended that M/s. Gokulam Blue Metals may be asked to replace the wind breaking net in the west direction from where the complaint is originating, with a***

permanent structure - either steel with proper support or masonry wall up to a height of 15 m.

11. The learned counsel for the appellant, while reiterating his stand, submits that the impugned order is not innocuous in the sense that the same has been passed in total violation of the principles of natural justice and that the order is in ignorance of the existing factual position and it is to be set aside on the ground of total non-application of mind. The learned counsel would fairly submit that the unit is prepared to comply with the recommendations given by the learned Expert and if necessary, abide by any other conditions which may be imposed by this Tribunal also.

12. On going through the recommendations of the learned Expert, we are of the view that there is no reason to go against the report of the Expert except, of course, a few minor modifications which are based on the existing facts and also on the statutory and other circulars issued by the Tamil Nadu Pollution Control Board. Accordingly, we dispose the appeal with the following directions.

1) Construction of metal / paved road within the premises leading to bunker jaw crusher;

2) Relating to the second recommendation of crusher capacity which has to be stipulated on daily basis instead of monthly basis, so as to utilise optimally the assimilative capacity of the air shed; while reiterating that the unit shall follow the same, we also make it clear that the Tamil Nadu Pollution Control Board shall consider the effect of the sanctioning capacity on daily basis and monthly basis in respect of the other concerned units in the State by appointing an Action Group to make a thorough study about the same and if necessary, file a report before this Tribunal to enable the Tribunal to give guidance in future.

3) Relating to the recommendation on the buffer zone, the Expert has stated that at least 200 m to be provided by the Government or Authorities around the Appellant unit so as to contain any dust in case in case of strong wind.

13. The learned counsel appearing for the Tamil Nadu Pollution Control Board has brought to the notice of this Tribunal about the proceedings of the Board under B.P.Ms. No. 4 dated 2.7.2004 which has streamlined the norms for the location for stone crushing industries based on the orders of the Appellate Authority of Pollution Control constituted under Water Act and Air Act. In this proceedings, in paragraph 1.0. the Board has framed criteria for the existing stone crushing units which are based on the recommendations of NEERI. The distance criteria which has been stated in respect of the existing stone crushing units is set under paragraph 1.1 and is as follows:

> ***1. No stone crushers units should be located within 500 m from any NH or SH or primary residential area or mixed residential area or places of public and religious importance;***
>
> ***2. The minimum distance between two stone crushers should be 1 km to avoid dust pollution influence of one over the other.***

14. Since the Tamil Nadu Pollution Control Board has already assessed and issued proceedings, admittedly the Appellant unit is an existing stone crushing unit, as rightly submitted by the

learned counsel appearing for the Tamil Nadu Pollution Control Board. In as much as it relates to the Appellant unit, the said Board's proceedings being statutory in nature as provided by law, shall be the guiding factor. Accordingly, in respect of the suggestions made by the learned counsel, we direct that the Tamil Nadu Pollution Control Board proceedings as mentioned in its proceedings dated 2.7.2004 and contained in paragraph 1.0 and 1.1 shall be made applicable to the Appellant unit and the Appellant unit shall make necessary arrangements to implement them.

15. Relating to the next suggestion that the Appellant unit, shall be asked to replace the wind breaking net in the west direction from where the complaint is originating by a permanent structure either steel sheet with proper support or masonry wall up to a height of 15 m, the learned counsel appearing for the Appellant unit would submit that putting up a masonry wall to the extent of 15 mts will be absolutely impossible and that would also affect the free flow of air and therefore, he has suggested that the Appellant unit may be directed to put up a masonry wall to the height of 3 m and thereafter another 4 m by way of dust arresting net, instead.

16. We find reason in such a contention raised by the learned counsel for the Appellant and therefore we are of the view that instead of directing the Appellant unit to construct a wall of 15 m height, we direct the Appellant unit that the wall shall be in combination of masonry and dust arresting net as proposed by the learned counsel for the Appellant unit to the extent of 3 m height and thereafter for another 4 m of dust arresting net shall be put up by the Appellant unit, thereby the total barrier shall be 7 m in height. We are of the view that providing such arrangement will be sufficient to prevent air pollution that arises on the western side.

17. On the compliance of the above said directions, the Appellant unit should be entitled to run with its full capacity, of course in accordance with all requirements in law and as per the directions of the Tamil Nadu Pollution Control Board.

18. We also make it clear that it is always up to the Tamil Nadu Pollution Control Board to have the overall provision of supervisory powers over the unit to see as to whether the Appellant unit has complied with the above said directions within a period of 4 months and ensure the compliance

accordingly. With the above said directions, the Appeal stands closed. We also record our appreciation for the involvement and work done by the Expert Dr. R. Sivacoumar and the suggestions made and the efforts taken by the learned counsel for the Appellant unit Shri K. Rajasekaran and the able assistance rendered by the learned counsel appearing the Tamil Nadu Pollution Control Board Smt. H. Yasmeen Ali. The parties shall bear their own costs.

Justice Dr. P. Jyothimani
Judicial Member

Prof. Dr. R. Nagendran
Expert Member

Chennai
July 12, 2013

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 843/2018
(M.A. No. 1565/2018)

IN THE MATTER OF:

Sardar Patel Jan Chetna Education Society
Vs.
State of Haryana & Ors.

CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: Applicant : Mr. Raj Kumar, Adv.

	Date and Remarks	Orders of the Tribunal
	Item No. 07 **October 31, 2018** **R**	1. Prayer in this application is for a direction that in the siting policy of the State of Haryana for the stone crushers, there is no prohibition against setting up of stone crushers near educational institutions which results in violation of the Noise Pollution (Regulation and Control) Rules, 2000 (as amended in 2017) which is required. 2. According to the applicant, the Mines and Geology Department of the State of Haryana has issued Notification dated 28.09.1992 notifying "Haryana Regulation and Control of Crusher Rules, 1992". Rule 3 (5) of the Noise Pollution Rules provides for 100 meters area around educational institutions and hospitals being declared as silence area. The said distance has been now increased to 250 meters vide Notification dated 25.09.2017. There is also requirement for precautions for protection of forest, water bodies, health treatment units etc. Some of the States have issued notifications laying down distance from educational institutions within which no stone crusher can be set up. In the States of Rajasthan, Gujarat and Uttarakhand, the distance is 500

	Item No. 07 **October 31, 2018** **R**	meters. In the State of Punjab, it is 300 meters and in State of Karnataka, it is 2 kilometres. 3. In view of above, we direct respondent no. 3, Directorate of Environment, Haryana to take initiative in the matter in accordance with law so as to specify distance from educational institutions within which a stone crusher is not allowed to be operate within one month from today. He may put up the matter before the concerned authorities competent to take decision and decision may be taken on the subject in accordance with law. 4. The applicant is given liberty to put forward its view point before respondent no. 3 along with all relevant papers and a copy of this order. The applicant may also send a copy of this order to CPCB for circulation to all Pollution Control Boards and Committees for such exercise, wherever required. The application is disposed of. ……., CP (Adarsh Kumar Goel) ……,JM (S.P. Wangdi) ……,EM (Dr. Nagin Nanda) 31.10.2018

NATIONAL GREEN TRIBUNAL, NEW DELHI

Item Nos. 02 & 03 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 667/2018

Mahendra Singh Applicant

Versus

State of Haryana & Ors. Respondent(s)

WITH

Original Application No. 679/2018

Tejpal Applicant

Versus

State of Haryana & Ors. Respondent(s)

Date of hearing: 03.12.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant: Mr. Raj Kumar, Advocate

Respondent(s): Mr. Rajul Khurana, Advocate for HSPCB
Mr. Tarun Gupta, Advocate in I.A Nos. 388/2020, 399/2020, 404/2020 to 408/2020
Ms. Pallavi Singh, Advocate in I.A No. 403/2020

ORDER

1. The issue for consideration is illegal operation of stone crushers in District Mahendergarh, Haryana. Objections of the applicant are that the stone crushers are operating in violation of the environmental norms. They are located close to the plantations, reserved forest, educational institutions and in clusters. The area is critical/over exploited in terms of the ground water but ground water is being illegally extracted. There is scarcity of water even for drinking purposes. There is no proper disclosure and evaluation of the source of water for operation of the stone crushers and no steps are taken to mitigate dust and air pollution. The air quality

of the area, which is part of NCR, is unsatisfactory and cannot sustain addition of dust pollution generated by the stone crushers.

2. The Tribunal directed the statutory authorities to look into the matter, take remedial action and file a report. The matter was last considered on 24.07.2019 in the light of report dated 23.07.2019 jointly filed by the Deputy Commissioner, the District Town and Country Planning department, the Divisional Forest Officer Mahendergarh and the Haryana Pollution Control Board with regard to compliance of siting criteria, extraction of ground water and the remedial action as follows:-

"

a. Siting criteria

1. *There are total 158 Nos. of stone crushers; out of these 118 Nos. are installed/operational and remaining 40 Nos. of stone crushers are under installation at various stages after obtaining CTE from HSPCB on the basis of siting norms reports submitted by the Tehsildar and DFO as per Notification 11.05.2016. Out of 118 Nos. of installed/operational stone crushers,* ***46 Nos. of stone crusher are not meeting the siting criteria,*** *as mentioned in Table-2 (Sr. no. 1 to 46). Out of 40 Nos. of stone crushers which are under installation at various stages,* ***26 Nos. of stone crushers are not meeting the siting criteria as per notification dated 11.05.2016 & Notification dated 04.04.2019*** *as mentioned in Table-2(Sr. No. 47 to 72). Brief details of total 72 Nos. non complying stone crushers is described as below in Table-4:-*

Table-4

Sr. No.	***Remarks***	***Nos.***
1.	*Total Non-Complying stone crushers as per siting criteria*	*72*
2.	*Action already taken* *CTE Revoked* *Closed by Board due non compliances under Air Act, 1981* *CTE Revocation under process* *Closure and CTO Revocation under process*	*31*
3.	*Show cause notices issued non complying units identified after DGPS measurement*	*29*
4.	*No Action required at this stage* *Operational stone crushers granted time for shifting (Annexure II &III)*	*12*

	Already closed by Board described above at Sr. No. 2 =04+01 *Under process stone crusher shifting policy w.r.t. notification 07.11.2017 = 08*	

2. HSPCB has already revoked consent to establish of following 03 Nos. (as mentioned in Table-2, at Sr. No. 70 to 72) stone crushers which are also individual respondents in OA No. 667 of 2018 titled as Mahendra Singh Vs. State of Haryana and Ors. and OA No. 679 of 2018 titled as Tejpal Vs. State of Haryana and Ors. filed before Hon'ble National Green Tribunal respectively:-

i) M/s. DEV SHRI KRISHNA STONE CRUSHER Khewat No. 45, Khatoni No. 53, M.No. 12, Kila No. 25/2 (3-13) M. No. 15, Kila No. 5 min East (7-0) Total 10 Kanal 13 Marla, Village-Karota, Tehsil-Narnaul, Distt. Mahendragarh.

ii) M/s. Unique Stone Crusher, Khewat No. 15, Khatoni No. 15, M. No. 11, Kila no. 11/2(2-15), 20(7-12) & 21/1 (6-9) Total 16 Kanal 16 Marla, Vill-Karota, Narnaul, Distt. Mahendragarh.

iii) M/s. KSY BUILDCON, Khewat No. 47, Khatoni No. 68, M. No. 9, Kila no. 15/2(3-16), 16(7-19), 24/1/1(0-16), 25/1/1(0-18) Total 13 Kanal, 09 Marla at Vill- Khatoli Jat, Nangal Chaudhary, Distt. Mahendragarh. Copies of CTEs revocation order is attached as Annexure-XIII to XV.

3. HSPCB has initiated action for closure and revocation of CTE/CTO as applicable against all those 29 stone crushers (s mentioned in Table -2, at Sr. No. 1 to 24 & 68 to 72) whose parameters were not accordance with measurement done earlier through Shazra & also are not meeting siting criteria as per the fresh measurement report with DGPS.

4. HSPCB has also issued show cause notices for closure and revocation of CTE/CTO on 23.07.2019 as applicable under provisions of sub section 4 of section 21 of Air (Prevention and Control of Pollution) Act, 1981 against all other 29 stone crushing units (as mentioned in Tablke-2, at Sr. No. 31 to 42 & 51 to 67) which were found non-complying with the report (submitted by Tehsildar on 27.07.2019) after DGPS measurement and further action shall be taken accordingly.

5. Two stone crushers (as mentioned in Table-2, at Sr. No. 29 to 30) have already been closed & sealed by Board due to non-compliance under Air Act, 1981.

6. Five stone crushers (as mentioned in Table-2, at Sr. No. 25 to 29) have already been granted time for shifting/relocation as per notification 11.05.2016 and Govt. Order 11.06.2019, out of these one stone crusher mentioned in Table -2 at Sr. No. 29 has already been

closed & sealed by Board due to non-compliance under Air Act, 1981.

7. Eight stone crushers (as mentioned in Table-2, at Sr. No. 43 to 50) are not meeting siting criteria only by the municipal limits notification dated 07.11.2017 of Urban Local Bodies. If draft Urban Local Bodies Notification, dated 08.03.2019 will be finalised as such, then all these 8 stone crushers will fulfil the siting criteria. Further, decision of Govt. of Haryana regarding policy for shifting such stone crushing units as proposed by HSPCB is yet to be finalised by the Govt. of Haryana.

b. Mechanism for drawl of Water

1. Twenty Nos. of operating stone crushers are not taking treated water from STP of PHED as per detailed list provided by PHED (Annexure-XVI). HSPCB had issued show cause notices to submit the source of water being used and permission from any other permitted source. Only five units have submitted reply which was not found satisfactory. HSPCB has initiated action for closure and revocation of CTO against all these twenty stone crushers.

2. Eighteen Nos. of stone crushers falling in dark zone have installed illegal bore-well/tube-well in their premises without any permission from the GWC and illegal bore-well/tube-well has been sealed by the GWC, Narnaul as mentioned in Table-3.

3. Joint Committee in coordination with CGWA shall make an assessment of environmental compensation for illegal extraction of ground water by these stone crushers, in accordance with order of this Hon'ble Tribunal dated 30.11.2018 in Harinder Singh & Ors. Vs. Prateek Buildtech (India) Pvt. Ltd. & Ors and order dated 30.04.2019 in Ramkmar Vs. State of Haryana & Ors. (OA No. 1032/2018)."

3. The Tribunal observed:-

"4. The report shows the State Administration in poor light. The State Administration is the guardian of environment and public health. In this case it appears to be oblivious of its responsibility to check the damage to the environment and to act against the polluters. ***There is no explanation as to how potable water has been continued to be drawn without any restriction by the State Administration even though the area is critical in terms of ground water and in spite of such illegality brought to notice. It is also not clear as to how blatant violation of air quality norms is being allowed for permitting operation of stone crusher units at the cost of public health and environment. The report does not clarify as to how many stone crushers, if any, are legitimate which do not conflict with the environment. It appears that the State Administration has not cared to***

fully verify the compliance of environment norms while permitting continuation of the stone crushers, even after proceedings before this Tribunal. Though the Deputy Commissioner and many officers are available, none of them is in a position to give precise information about the number of stone crushers still operating and on what basis they are being allowed.

5. ***In view of the above unsatisfactory state of affairs, we require the Deputy Commissioner, Mahendergarh to ensure immediate closure of all illegally operating polluting stone crushers in the area and initiation of action by way of prosecution and recovery of compensation which must be deterrent and relatable to the cost of restoration so that illegal activity is not profitable. The compliance of environment norms including the siting criteria, the ambient air quality, the carrying capacity of the area for permitting such polluting activity and health impact on the inhabitants may also be assessed. Such further compliance report be filed before the next date of hearing by email at judicial-ngt@gov.in.***

6. The Deputy Commissioner, Mahendergarh along with the Regional Commissioner, Haryana State PCB may remain present on the next date also.

7. The Chief Secretary, Haryana may look into the conduct of the officers, who gave earlier reports, in withholding the information which has now been given and give a report before the next date by email at judicial-ngt@gov.in."

5. Aggrieved by the above order, the stone crushers filed *Civil Appeal No. 6368 of 2019* and six other Appeals on the ground that they were not parties before the NGT which were disposed of by the Hon'ble Supreme Court by a common order dated 02.11.2020 as follows:-

> *"The National Green Tribunal in an interim order inter alia states that prosecution should be initiated and compensation proceedings for damaging the environment should also take place.* ***Admittedly, none of these persons have been heard by the NGT. On this ground alone, we set aside the order and remand the matter to the NGT to dispose of the matter as soon as possible preferably within four weeks from today. It will be open to all the parties to argue all points before the NGT."***

6. Eight applications have been filed being M.A. No.18/2019, M.A. No.19/2019 & I.A. No.388/2020, I.A. No.399/2020, I.A. No.403/2020, I.A. No.404/2020, I.A No. 405/2020, I.A No. 406/2020, I.A No. 407/2020 and

I.A No. 408/2020 by the stone crushers for impleadment and further orders. We have heard learned counsel. The applications stand allowed as far as impleadment is concerned but even after giving detailed hearing, we are of the view that further steps in terms of order dated 24.7.2019 need to be taken for the reasons that follow.

7. The grievance of the stone crushers is that as per Notification dated 11.05.2016 issued by the State of Haryana, laying down siting and emission norms, the stone crushers were compliant and had been granted consent to establish in the year 2017. Writ Petition was filed before the Punjab and Haryana High Court against Notification dated 11.05.2016 which was amended on 04.04.2019 laying down distance of 500 mtrs from the educational institutions for the first time. The High Court vide order dated 02.05.2019 stayed coercive measures pending consideration of validity of the distance criteria. The Government of Haryana issued order dated 05.05.2020 extending the time for compliance of siting criteria till 10.05.2021. Further, distance from the municipal limit could not be based on Notification dated 07.11.2017 by which municipal limits were defined but by further draft notification dated 08.03.2019 by which the limits have been changed. It is further submitted that some of the stone crushers have constructed wind breaking boundary wall to prevent air pollution and STP water was used instead of ground water. Isolated stone crushers cannot be discriminated vis a vis stone crushers in clusters which are not being required to follow any norms.

8. Substance of the submissions is that the joint Committee report with regard to violation of siting norms is against the order of the High Court and further decisions of the State. Though this Tribunal has repeatedly held that even subsequently laid down norms and safeguards

will bind already established units to give effect to the principle of sustainable development and there is no vested right of a unit established against any future laying down of safeguards to give effect to the Constitutionally guaranteed citizens right to clean environment[1] However, to avoid conflicting orders and assuming the argument to be correct, compliance of environmental norms in terms of ambient air quality, health impact on the inhabitants and the carrying capacity of the area cannot be wished away. The only issue which is said to be pending consideration before the High Court is the siting criteria and not the issues of other pollution norms, background concentration of air quality and the carrying capacity in terms of the air quality which is being considered in the present matter by this Tribunal in terms of order dated 24.7.2019 noted earlier. The carrying capacity is a facet of sustainable development which, among others, will require consideration of air quality, *inter-se* distance and additive impact of operation of the stone crushers on the air quality and water in the light of the 'Precautionary' principle of environmental law to be enforced by this Tribunal under sections 20 and 15 of the NGT Act, 2010.

9. It is well known that NCR is facing air pollution issues and, in winter months, the problem is further aggravated. Polluting activities, even if otherwise legitimate, are required to be stopped/regulated to avoid adverse health impact on account of air pollution. Stone crushers add to air pollution. On that account as per Graded Response Action Plan for Delhi & NCR (GRAP), the stone crushers in NCR have to be automatically closed when the air quality is 'severe'. Relevant portion of the Graded Response Action Plan is as follows:-

[1] Order dt 14.8.2019 OA 53/2019, Tej Pal v state of UP, prs 5 to 8

"

Severe (ambient PM2.5or PM10concentration value is more than 250 µg/m3 or 430µg/m3 respectively)	Agency responsible/Implementing Agency
Close brick kilns, Hot Mix plants, Stone Crushers	Chairpersons Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh
	Superintendent of Police and Deputy Commissioner of respective districts

"

10. GRAP is self-operating but does not exclude assessment-based restrictions. Permissibility of stone crushers depends on the available air quality and impact of operation of such stone crushers on the environment and public health in a particular area. In this regard, we may notice the observations of the Hon'ble Supreme Court in some matters. In ***M.C. Mehta v. Union of India, (1992) 3 SCC 256*, at page 257,** it was observed:

> "*....Utter disregard to environment has placed Delhi in an unenviable position of being the world's third grubbiest, most polluted and unhealthy city as per a study conducted by the World Health Organisation.* ***Needless to say that every citizen has a right to fresh air and to live in pollution-free environments.***
>
> ***3.*** *For the reasons to be recorded and pronounced at a later stage we order and direct as under:*
>
> > *(1)* ***The mechanical stone crushers established/operating in Lal Kuan, Anand Parbat, Rajokri, Tughlakabad and in any other area of the Union territory of Delhi shall stop operating/functioning with effect from August 15, 1992. No stone crusher shall operate in the Union territory of Delhi from August 15, 1992 onward.***
> >
> > *(2)* ***The mechanical stone crushers established/operating in Suraj Kund, Lakhanpur, Lakkarpur, Kattan, Gurukul, Badkhal, Pallinangla, Saraikhaja, Anangpur and Ballabgarh areas of Haryana shall stop operating/functioning with effect from August 15, 1992. No stone crusher shall operate in the above-said area from August 15, 1992 onward.***

11. Again, in **M.C. Mehta v. Union of India, (2006) 11 SCC 582, at page 586,** it was observed **:**

> *"While conducting a study of environmental problems of the Aravalli hills and preparation of action plan for restoration of environmental quality in Gurgaon district,* ***the Central Mine Planning and Design Institute Limited (CMPDI), had inter alia noted that in the Aravalli hills, large number of activities, operations of stone crushers and deforestation besides other activities are causing environmental degradation****. These mines are usually located in clusters in remote mineral-rich districts/areas where living standards are lower and understanding of people towards environmental impact is also poor. In the past, the mine operators took no note of environmental damage. In fact, they were not even conscious about it. The attitude of the mining community is to ignore the environmental concerns. In the majority of the cases, the environmental concerns are ignored for making quick profits. The small mines (less than 5 hectares) and the mining of minor minerals which are no doubt small individually but have damaging characteristics when in clusters e.g. the* ***mines of granite, marble, slates, quartzite, etc. (falling under minor minerals) are no less damaging than the others****, especially when the processing is taken into consideration.* ***The mining activities result in disturbance of land surface, altering drainage pattern and land use, besides the pollution problems, which may lead to the environmental problems of air, water and noise pollution and solid waste pollution****.*

12. In *People Right and Social Responsibility Centre v UoI, (2010) 14 SCC 769,* it was noted that persons at and close to stone crushers suffer from Silicosis disease against which safeguards are to be adopted.

13. *In Arjun Gopal & Ors. v. UOI & Ors.*[2]*,* the Hon'ble Supreme Court noted the **adverse impact of unsatisfactory air quality on health** and air quality grading as follows:

> ***"5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels***

[2] (2017) 1 SCC 412

of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution category wise. The gradation of AQI and its health impact is extracted below:

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	*Minimal impact.*
Satisfactory (51-100)	*May cause minor breathing discomfort to sensitive people.*
Moderately polluted (101-200)	*May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.*
Poor (201-300)	*May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.*
Very Poor (301-400)	*May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.*
Severe May (401-500)	*May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.*

Table 2

AQI Category, Pollutants and Health Breakpoints								
AQI category (Range)	**PM_{10} 24-hr**	**$PM_{2.5}$ 24-hr**	**NO_2 24-hr**	**O_3 8-hr**	**CO 8-hr (mg/m^3)**	**SO_2 24-hr**	**NH_3 24-hr**	**Pb 24-hr**
Good (0-50)	**0-50**	**0-30**	**0-40**	**0-50**	**0-1.0**	**0-40**	**0-200**	**0-0.5**
Satisfactory (51-100)	**51-100**	**31-60**	**41-80**	**51-100**	**1.1-2.0**	**41-80**	**201-400**	**0.5-1.0**
Moderately polluted (101-200)	**101-250**	**61-90**	**81-180**	**101-168**	**2.1-10**	**81-380**	**401-800**	**1.1-2.0**
Poor (201-300)	**251-350**	**91-120**	**181-280**	**169-208**	**10-17**	**381-800**	**801-1200**	**2.1-3.0**
Very poor (301-400)	**351-430**	**121-250**	**281-400**	**209-748***	**17-34**	**801-1600**	**1200-1800**	**3.1-3.5**
Severe (401-500)	**430+**	**250+**	**400+**	**748+***	**34+**	**1600+**	**1800+**	**3.5+**

14. After noting the above, the Hon'ble Supreme Court first banned the sale and use of fire crackers and then restricted their use with the observations that finally the same may have to be banned.

15. This Tribunal recently considered the issue in the context of closing/restricting the brick kilns in absence of carrying capacity of the air quality in the NCR[3]. Relevant observations are as follows:-

"

10. It was concluded from the above data that there was no supporting carrying capacity to operate brick kilns during the entire brick kilns operating season. However, with regard to Districts where supporting carrying capacity was available in particular months such number was worked out for Haryana, UP and Rajasthan as follows:-

***"Table 9:** Number of brick kilns which can be operated in NCR Districts of Haryana during March-June.*

S.No.	Name of District	Load in Excess of Assimilative Carrying Capacity				Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated			
		March	April	May	June		March	April	May	June
1	Bhiwani	-28668	80404	116249	85775	132	161	52	16	46
2	Faridabad (Ballabhgarh)	59651	89514	127402	97954	85	25	-5	-42	-13
3	Gurugram	40885	118701	125489	89308	6	-35	-113	-119	-83
4	Jhajjar	11004	67236	104116	59862	387	376	320	283	327
5	Jind	39179	120169	199410	198435	111	72	-9	-88	-87
6	Kornai	35280	128734	151235	135717	92	57	-37	-59	-44
7	**Mahendragarh**	**9495**	**76467**	**58523**	**51136**	**42**	**33**	**-34**	**-17**	**-9**
8	Nuh (Mewat)	5275	68834	54998	34432	62	57	-7	7	28
6	Palwal	26345	108801	95323	112446	110	84	1	15	-2
10	Panipat	2536	64014	140884	49665	87	84	23	-54	37
11	Rewari	27098	86219	118932	123567	76	49	-10	-43	-48
12	Rohtak	**NA**	**18244**	**27870**	**36965**	**49**	**NA**	**31**	**21**	**12**
13	Sonipat	11671	113504	163489	159303	265	253	151	102	106
14	Charkhi Dadri	NA **I**	**NA I**	**NA I**	**NA**	**29**	**NA**	1\ **NA**	**NA**	**NA**

Note: CAAQMS and AOD values for Charkhi Dadri were not available;

***Negative Values indicate that no brick kiln can be operated**

***Table 10:** Number of brick kilns which can be operated in NCR Districts of Haryana during October- February.*

S.No.	Name of District	Supportive Carrying Capacity, Kg					Total No of Zig Zag type Brick Kilns	*No of Zig Zag type Brick Kilns, which can be operated				
		October	Novembe	December	Januar	February		October	November	Decembe	Januar	Februar
1	Bhiwani	-181287	-217834	-161372	-50771	-102713	132	-181	-218	-161	-51	-103
2	Faridabad (Ballabhgarh)	-58074	-63482	-86309	-60595	-69744	85	-58	-63	-86	-61	-70
3	Gurugram	-86855	-114707	-95870	-44752	-54086	6	-87	-115	-96	-45	-54
4	Jhajjar	-57037	-66156	-35735	-8473	-24508	387	-57	-66	-36	-8	-25
5	Jind	-139493	-200348	-87747	-19973	-42386	111	-139	-200	-88	-20	-42

[3] Vide order dated 15.10.2020 in O.A No. 1016 of 2019, Utkarsh Panwar v. CPCB

6	Karnal	-199065	-210841	-124392	NA	-74670	92	-199	-211	-124	NA	-75
7	**Mahendragarh**	**-56697**	**-40910**	**-24668**	**-29829**	**-17653**	**42**	**-57**	**-41**	**-25**	**-30**	**-18**
8	Nuh (Mewat)	-41244	-54361	-24796	NA	-31520	62	-41	-54	-25	NA	-32
9	Palwal	-68906	-96790	-52648	-18725	-51021	110	-69	-97	-53	-19	-51
10	Panipat	-157739	-148653	-154830	-3515	-110506	87	-158	-149	-155	-4	-111
11	Rewari	-132857	-123782	-84895	-66279	-100946	76	-133	-124	-85	-66	-101
12	Rohtak	-61359	-79059	-98428	-61270	NA	49	-61	-79	-98	-61	NA
13	Sonipat	-105591	-63787	-59724	-165682	-85069	265	-106	-64	-60	-166	-85
14	Charkhi Dadri	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA

Negative Values indicate that no brick kiln can be operated

The month-wise number of brick kilns which can be operated within the assimilative capacity during March-June and October- February are presented in Table 11 and Table 12 respectively, for NCR districts of Uttar Pradesh.

***Table 11:** Number of brick kilns which can be operated in NCR Districts of Uttar Pradesh during March-June.*

11. Finally, it has been concluded:-

xxx xxx xxx

Following is the submission of CPCB on the above points:

i) Based on the evaluation of the data and estimation of the carrying capacity as explained in the previous section, there is no assimilative capacity available in the ambient air environment in the NCR districts of Haryana, Uttar Pradesh and Rajasthan for simultaneous operation of all the existing brick kilns, even after adopting Zig-zag technology. Based on the available assimilative capacity, some brick kilns may operate.

12 to 14 xxx……xxx……xxx

15. We are unable to find any substance in the objections. CPCB has duly explained that the Carrying Capacity is based on monthly average data on PM_{10} generated from CAAQMS and where no such data was available, Aerosol Optical Depths were extrapolated to PM. Further, carrying capacity has been assessed by taking mixing heights into consideration and comparing with identical air shed of districts geographical area and dispersion air volume conditions. With regard to emission load, the load is based on actually monitored values taking stack diameter, velocity, temperature and pressure of flue gases and standard of 250 mg/Nm 3 at 17% O 2. Overall fact is that entire NCR has no carrying capacity to take load of the pollution of the brick kilns as already levels of PM_{10} and $PM_{2.5}$ are exceeding daily/annual standards. As per Table 15 of the Report, no brick kiln has scope to operate except, some may, during March to June.

16. xxx……xxx……xxx

17. In Arjun Gopal & Ors. v. UOI & Ors.[4], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was smoked into an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> ***"**4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world. **It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m³, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m³ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m³ and with an annual average $PM_{2.5}$ level of 122 µg/m³, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> *5. xxx……xxx……xxx*

[4] (2017) 1 SCC 412

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said

that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

18. In the context of banning sale of crackers having adverse impact on the air quality, it was held that ***even if there were several sources of pollution, a particular polluting activity could be prohibited****. No equality could be pleaded in this regard. Right to trade was not absolute and could be restricted for protection of Environment which was a specific Directive Principle of State Policy enforcement of which was a reasonable restriction on fundamental right to trade. The ‘Precautionary Principle’ of environmental law allows prohibition of a polluting activity even in absence of scientific certainty. …….”*

19. Carrying capacity is a facet of sustainable development. It is inherent in ‘Precautionary Principle’ as well as in ‘Inter-generational Equity’. In MC Mehta v. UOI & Ors., construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity. It was observed that:-

“Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration.”

20. In Vellore Citizens’ Welfare Forum v. UOI & Ors.[5], it was observed that quality of human life is to be improved within the

[5] (1996) 5 SCC 647

carrying capacity to supporting ecosystem. Relevant extract is as follows:-

> ***"****10……* ***During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems****. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.****"***

21. These observations are reiterated in (2006) 6 SCC 371.[6]

22 to 23 xxx…… xxx…… xxx

24. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the National Green Tribunal Act, 2010 and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[7] *and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.*[8] *Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).*[9]

25. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of* ***vehicular pollution***[10]***, industrial and construction sector pollution***[11]***, power***

---

[6] Para 66 to 76

[7] 2019 SCC online SC 322, Para 43-47

[8] AIR 2020 (SC) 3471, Para 75

[9] (2019) 15 SCC 401

[10] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[11] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement

sector pollution[12] and agricultural sector pollution[13] *and orders of this Tribunal dealing with the said issues[14]. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017[15] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such* ***as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[16]***

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[17]

5. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes ***stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc****.*

6. The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities

---

Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[12] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[13] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[14] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[15] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[16] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[17] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles."

7to13..xxx……xxxx……xxx

*14. According to the CPCB, draft framework has been prepared and SA study completed in four States (for 05 cities). Study was under progress in 14 States (for 54 cities), and at proposal stage in 10 States (for 37 cities). Methodology for carrying capacity has been shared with State PCBs/PCCs. Twelve (12) States/UTs have given the details of the carrying capacity and the remaining have yet to take necessary steps. CC/SA studies are pre requisite for meaningful planning to enforce environmental law. This pre-requisite should have been undertaken long ago. Air quality norms have been statutorily laid down under the Air (Prevention and Control of Pollution) Act, 1981 as well as the Environment (Protection) Act, 1986 and such norms are being flagrantly violated, which has been made by the Parliament a criminal offence. If the rule of law has to have meaning and guilty are to be punished, the policies of the State have to be based on scientific studies to contain polluting activities within the scope of Carrying Capacity.***"***

26. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. This was referred in the earlier order of this Tribunal in the present matter. It was further observed that while under the orders of the Hon'ble Supreme Court, ***GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation****.*

27. Thus, in view of report of the CPCB, at this stage ***it is not possible to vacate direction not to permit operation of brick kilns in NCR beyond the carrying capacity found by the CPCB. All applications of the brick kiln owners seeking rejection of CPCB report and vacation of interim order against operation of brick kilns, without air quality assimilative capacity permitting such activity will stand rejected subject to further exploring viable options, including change to clean fuel like natural gas.*** *We are conscious that brick kilns may be necessary. Object of this order is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to file. The source apportionment studies, placed on record, show that brick kilns contribute 5-7% PM. Air pollution Control devices to be installed by the polluting sources including* ***the brick kilns need to comply not only the consent standards but are also the Ambient Air Quality norms and available assimilative capacity of the region. If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and***

air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of PM_{10} and $PM_{2.5}$ affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases.[18]"

16. It is seen from above, that there was no carrying capacity in Mahendragarh District to sustain brick kilns. Thus, stone crushers can also not be allowed in absence of carrying capacity in terms of air quality to sustain operation of stone crushers. Precautionary principle has to be applied having regard to impact of air pollution on health. Right of citizens to breathe fresh air cannot be denied and right of operating stone crushers cannot get preference over and above right to life on specious plea that the stone crushers were set up as per siting parameters allowed by the State without study of impact of the carrying capacity. As already noted, the siting norms is only one of the issues and even if this issue is to be ignored for the time being, there has to be carrying capacity in terms of air quality.

17. Accordingly, we direct that the joint Committee with the addition of the CPCB to take further steps in terms of order of this Tribunal dated 24.07.2019, quoted earlier for compliance of environmental norms in the light of the carrying capacity of the area and the health impact of the operation of stone crushers on the inhabitants. The joint Committee may go by the order of the High Court and the State Government as far as siting criteria is concerned but close illegally polluting stone crushers in terms of all other environmental norms, including the air quality, illegal water extraction. The joint Committee may also study the health impact on the inhabitants and take remedial action. The State PCB will be the nodal

[18] https://airqualitynews.com/2020/08/13/the-link-between-air-pollution-and-covid-19/http://www.babushahi.com/full-news.php?id=107487

agency for coordination and compliance. The statutory authorities taking coercive measures may ensure due process of law.

18. Let an action taken and status report in the matter be furnished before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

List again on 08.04.2021.

A copy of this order be sent to the CPCB, Deputy Commissioner Mahendergarh, District Town and Country Planning Mahendergarh, Haryana Pollution Control Board and the Divisional Forest Officer Mahendergarh by email for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

December 03, 2020
Original Application No. 667/2018
& Original Application No. 679/2018
AB

Item No. 05 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL

(By Video Conferencing)

Original Application No. 607/2018

Vinod Kumar Jangra Applicant

Versus

State of Haryana & Ors. Respondent(s)

Date of hearing: 26.10.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant : Mr. Raj Kumar, Advocate

Respondent(s): Mr. Anil Grover, Senior AAG with Mr. Rahul Khurana, Advocate for HSPCB

ORDER

1. The issue for consideration is the remedial action for enforcement of the environmental norms under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 by the stone crushers in District Charkhi Dadri, Haryana. According to the applicant, as per the RTI response of Haryana State PCB, dated 18.06.2019, 260 stone crushers are in operation in the District Charkhi Dadri. According to the applicant, the environment does not have capacity to sustain the same, resulting in air and water pollution beyond norms, adversely affecting the environment and public health. We note that in view of subsequent reports, noticing the violations, scope of these proceedings has to extend to District Bhiwani also.

2. The matter was earlier considered on 05.09.2019 in the light of the report of the Chief Secretary, Haryana dated 02.08.2019 to the effect that action was taken against nineteen (19) non-compliant stone crushers and action was in process against twelve (12) more non-compliant stone crushers. The Tribunal found that the action taken was not adequate as admitted violation of norms of air quality was continuing and there was no adequate monitoring mechanism to enforce right of citizens to clean environment. Accordingly, the Tribunal directed the Chief Secretary, Haryana to take further action for enforcement of law for protection of environment and public health. The Tribunal also directed the Central Pollution Control Board (CPCB) to constitute a three-member team to give a composite report on the subject of air pollution and compliance of siting criteria. The Tribunal also directed establishment of air quality monitoring stations and to assess efficacy of pollution control devices by the stone crushers. The operative part of the order is as follows:

> *"3. The report of the Chief Secretary dated 02.08.2019 is that the matter was taken up with the Deputy Commissioner and the State PCB who reported that action has been taken against illegal and non-compliant stone crushers. Nineteen stone crushers were closed and action against twelve was in process.* ***The report does not appear to be based on correct information in view of what has transpired during the course of hearing today. Even the officer of the State PCB from the ground level, who claims to have recently joined, has admitted that there is air pollution and no monitoring mechanism nor any monitoring equipment in the area.***
>
> *4. In view of above, the Chief Secretary may take action against the persons giving false information and ensure that ground level action is taken to monitor the air quality and preventing pollution.* ***For the purpose, carrying capacity assessment of the area may be done and credible monitoring mechanism established which does not appear to be in existence at this moment. The polluting activities may be closed, prosecution initiated against the polluters and environmental compensation assessed and recovered. The siting criteria should also take care of inter-se location apart from distance from the habitation.*** *These steps are necessary for enforcement of law as well as public health of the inhabitants suffering from air pollution.*

Further compliance report may be filed by the Chief Secretary before the next date of hearing.

5. We also direct the CPCB to constitute a three-member team to visit the area and give composite report on the subject of air pollution as well as siting of the stone crushers and their approximate numbers. The CPCB may direct establishment of sufficient number of air quality monitoring stations at suitable locations and review the effectiveness thereof at the suitable intervals. Existence and efficacy of pollution control devices of individual stone crusher may also be assessed. Online computerized continuous air quality monitoring stations may be set up wherever necessary. The Deputy Commissioner, Charkhi Dadri may extend all necessary help to the team of CPCB. The Superintendent of Police may provide necessary security for the purpose. The State PCB may also provide such assistance as may be necessary."

3. The matter was then considered on 19.08.2020 in the light of the reports of CPCB and Chief Secretary, Haryana, which clearly depicted serious violations of environmental norms and inadequacy of the action taken. The Tribunal accordingly constituted a seven Member joint Committee comprising three members team of CPCB (senior level), Member Secretary, State PCB, Member Secretary, SEIAA, Haryana, Divisional Forest Officer, Charkhi Dadri and the Additional District Magistrate, Charkhi Dadri. The observations in the order are:-

"*1to3..xxx……xxx……..xxx*

4. Accordingly, reports have been filed by the CPCB (dated 12.02.2020 and 16.07.2020) and the Chief Secretary, Haryana (dated 13.07.2020 and 17.08.2020), apart from a report by the State PCB. It is not necessary to refer to the report of the State PCB, as the said report is covered by the reports of the Chief Secretary.

5. It will be suffice if we take up the latest of the two reports which have been submitted by the CPCB and the Chief Secretary. ***The report of CPCB dated 16.07.2020 is that out of 320 stone crushers, 143 were operational during the visit. 88 stone crushers were not operational. 76 stone crushers were found closed permanently. 13 stone crushers were found non-existing. Out of 143 operational units, 19 were found exceeding the production capacity. Out of 88 non-operational units, 14 units were found exceeding the consent production capacity. The CPCB has given information with regard to status of dust containment systems in the form of covered sheds and water sprinklers, wind breaking walls and telescopic chutes to contain fugitive emissions, metaled/pucca roads within the premises, green belt***

development and status of permission from CGWA for extraction of ground water*. Overall observations with regard to pollution control measures in the report are:*

"i. As per the survey/inspection of 320 stone crushing units, 143 units were found operational, the list given at ***Annexure-III.*** *Out of these 143 units,*

a. all units have valid consents from HSPCB.
b. 19 units were found exceeding the consented production capacity.
c. all units have provided the sheds covering all process equipments for the dust containment.
d. 5 units have not provided the minimum number of water sprinklers (i.e. 50 nos.) for dust suppression.
e. 10 units were found not having wind breaking walls of appropriate height as per the specifications prescribed in the notification dated 11.5.2016.
f. 58 units were found either without telescopic chute or had telescopic chutes with the product release point less than 2 feet below the height of wind breaking wall.
g. 58 units have not provided or maintained metaled/pucca roads within the premises.
h. 120 units have applied for NOC to CGWA for ground water extraction, 2 units were found operating without applying NOC, while the remaining 21 units were operating with external water supply i.e. water supplied through tankers.
i. 17 units were found not maintaining the logbooks of production details.

ii. As per the survey/inspection of 320 stone crushing units, 88 units were found nonoperational during visit, the list given at ***Annexure-IV.*** *Out of these 88 units,*

a. 1 unit does not have valid consents from HSPCB.
b. 14 units were found exceeding the consented production capacity.
c. 1 unit has not provided the sheds covering all process equipments for the dust containment.
d. 8 units have not provided the minimum number of water sprinklers (i.e. 50 nos.) for dust suppression.
e. 28 units were found not having wind breaking walls of appropriate height as per the specifications prescribed in the notification dated 11.5.2016.
f. 50 stone crushing units were found either without telescopic chute or had telescopic chutes with the product release point less than 2 feet below the height of wind breaking wall.
g. 35 stone crushing units have not provided or maintained metaled/pucca roads within the premises.
h. 5 units were found operating without applying for NOC to CGWA for ground water extraction.
i. 15 units were found not maintaining the logbooks of production details.

j. ***Most of the stone crushing units have limited plantation comprising mostly of small sized plants. In general, the green belt development needs improvement in all the units.***

k. ***As per the survey/inspection of 320 stone crushing units, 76 units were found closed/permanently closed (Annexure-V) and 13 units were not existing (Annexure-VI).”***

1. *Conclusions are as follows:*

*“**10.0 CONCLUSIONS***

*The Environment Department of Haryana Government vide Schedule-II of the notification dated 11.5.2016 prescribed the emission norms and pollution control measures requirement for the stone crushing units **(Annexure-II).** The observations, compliance status as well as the recommendations regarding the implementation of pollution control measures by all the stone crushing units are collated based on the survey/inspection details collected by CPCB during Jan-Feb, 2020 and same are tabulated at **Annexures-III to VI.** The units should ensure to comply with the specific measures as per the recommendations.*

In order to improve the environmental management of stone crushing units located in district Charki-Dadri and air quality of surrounding areas, the overall recommendations, for the stone crushing units, HSPCB, State Revenue & Forest Departments, CGWA, etc. in terms of operation, consent to operate, permission for ground water extraction, pollution control measures etc. are elaborated hereunder, applicability of which may be further referred for individual stone crushing units on case to case basis.

10.1 Operational and consent status:

a) *The non-operational units should inform HSPCB before starting operations.*
b) *The units should ensure to comply with the consent conditions and not to exceed consented production capacity.*

10.2 Dust containment system in the form of covered sheds and water sprinklers:

The stone crushing units should ensure

a) *to provide dust containment cum suppressing system for the equipments in the form of covered sheds and sprinklers in order to reduce the fugitive dust emissions.*
b) *to provide atleast 50 number of sprinklers along with the water storage facility of minimum 10 kilolitre capacity.*

c) *to carry out cleaning and wetting of the ground within the premises, regularly.*
d) *to provide appropriate designed spray nozzles/water sprinkling system in order to optimize water consumption vis-à-vis effective dust suppression.*

10.3 Wind breaking walls and telescopic chutes to contain fugitive emissions:

The stone crushing units should ensure

a) *to provide the wind breaking walls in order to minimize fugitive emissions and carry-over to nearby places/areas.*
b) *to construct wind breaking wall of atleast 50-meter length and minimum 16 feet height along with provision of telescopic chute to ensure that the crushed material from the nod is released from a point, which is atleast 2 feet below the height of the wind-breaking wall. The wall should be structurally sound and should cover the vulnerable abadi side of the crusher unit.*

10.4 Metalled/pucca roads within the premises:

The stone crushing units should ensure

a) *to provide and maintain metalled/pucca roads within the premises in order to minimize dust generation/re-suspension due to the vehicular movement.*
b) *to carry out adequate internal road cleaning mechanism for removing deposition of mud and dust in order to make metalled/pucca roads visible or identifiable.*

10.5 Green belt development:

The stone crushing units should ensure

a) *to provide a green belt along the periphery having avenue plantation of two rows. Till the plantation within the premises are fully developed, the stone crushing unit should erect a barrier/barricade along the periphery to contain the dust emissions.*
b) *to adopt scientific approach with respect to selection of species, spacing, location, numbers, etc. for green belt development.*

10.6 Permission from CGWA for extraction of ground water:

The stone crushing units should ensure

a) *to obtain permission from CGWA for extraction of ground water.*

10.7 Other issues:

10.7.1 The stone crushing units should ensure

a) *to maintain records/logbooks for raw material consumption, production data, water consumption, electricity consumption, green belt development, etc.*
b) *to set-up a display board at entrance gate for information related to name & address of the stone crushing unit, contact details, production details and environmental details.*
c) *to have well-defined boundary demarcation.*
d) *that all the trucks & dumpers carrying the raw material, crushed stones, sands and other material from the area should be properly covered so as to entrap the fugitive emission at source.*

10.7.2 HSPCB should ensure

a) *that units to comply with the specific measures as per the recommendations.*
b) *to monitor the work zone suspended particulate matter in all the units and to ensure compliance with the notified norms of 600 µg/m3.*
c) *to issue "consents to operate" to stone crushing units in uniform manner, e.g. indicating production capacities in tonnes/day, product types & other details.*
d) *to reflect actual quantity required/used by stone crushing units for various purposes, like dust suppression/sprinkling/ green belt development, in the consent issued to stone crushing units.*
e) *to revoke the consents for permanently closed and non-existing units.*
f) *to pave all approach roads, in association with the concerned departments, in the crusher zone/units in order to minimize dust generation/re-suspension.*

10.8 Management of Ambient Air Quality in District Charkhi-Dadri

a) *In order to monitor the ambient air quality in Charkhi-Dadri area, HSPCB has already set-up CAAQMS at Mini Secretariat, Charkhi. HSPCB should also carry out manual ambient air quality monitoring, twice a week, at other three representative locations i.e. Power House (Pichopa Kalan), Power House (Chapar) and Police Station (Jhojhu Kalan), as identified by CPCB.*
b) *In order to keep air quality within norms besides above measures for enforcement and implementation in stone crushing units, the local bodies*

i. *should be vigilant about the burning of solid waste in the area.*
ii. *should organize/arrange awareness/training programmes for stone crushing & other units, transporters, drivers and stakeholders, regularly.*
iii. *should carry out wetting of the roads, regularly.*

10.9 Siting of the Stone Crushing Units

The Revenue & Forest Departments of Haryana State should re-verify/re-certify the siting distances against all the notified eleven siting criteria, of all the stone crushing units, more accurately by employing latest technologies such as DGPS (Differential Global Positioning System) machine."

2. ***The report of the Chief Secretary dated 17.08.2020 is that disciplinary action has been taken against a Scientist and a field officer of the State PCB for giving false information****. Teams of the State PCB inspected all the stone crushers (329). The status of units found operational, non-compliant and assessment of carrying capacity and air quality has been mentioned as follows*:

"2. Further, pursuant to the orders of NGT dated 05.09.2019, 36 teams were constituted by HSPCB vide endst. No. 3336 to 3374 dated 21.11.2019 and endst. No. 4043-4044 dated 11.02.2020, to inspect all the stone crushers of District Charkhi Dadri to check the compliance status regarding installation and adequacy of Air Pollution Control Measures i.e., wind breaking wall, covered shed, sprinkling system, metalled roads, plantation, water storage tank etc. as per the notification dated 11.05.2016 issued for stone crushers by the Environment Department, Government of Haryana,. In view of the Hon'ble National Green Tribunal directions, the teams inspected 329 Nos. of stone crushers (as per record of the HSPCB) of District Charkhi Dadri. Out of these 329 stone crushers, 116 stone crushers were nonoperational (44 stone crushers were dismantled, 36 stone crushers were found closed by themselves, 23 stone crushers were already closed by the Board, 5 stone crushers were under maintenance and 5 stone crushers were not yet established, and 3 were found abandoned.) Out of the remaining 213 stone crushers, ***51 No. of stone crushers were found to be non-complying as per notification dated 11.05.2016 and were closed down by the Board. Prosecution action and Environment Compensation have been recommended against 34 units whose sample parameters were found exceeding the prescribed standards****. Till now, Environment Compensation of Rs. 1,85,50,000/- has been imposed against 15 non-complying stone crushers, out of which Rs.44,593,76/- has been recovered from 6 non-complying units. Prosecution has been sanctioned against 28 non complying stone crushing units. The Board is in the process of imposing a recovering Environment Compensation and initiating prosecution action on remaining non-complying units.*

3. ***33 No. of stone crushing units of District Charkhi Dadri were found exceeding consented production capacity****. Accordingly, Show Cause Notices were issued to these units for the said violation. The Board*

has also requested Mining Officer, Charkhi Dadri to take necessary action and develop a system to check the overproduction in these units.

4. Out of 51 sealed units, 18 units have preferred appeals before the appellate authority against the closure order. To avoid any ambiguity, Appellate authority had directed HSPCB to conduct inspections afresh. The Board is conducting the inspections, afresh as per orders of the Appellate authority, and will take suitable action as per Board's policy.

5. Regarding the exercise of carrying capacity assessment of District Charkhi Dadri, the HSPCB has initiated steps and received a proposal from CSIR - NEERI, which is under process. As per information received from the HSPCB, the study will be taken up following the due procedure.

6. The HSPCB has sought the report on siting parameters from District Revenue Officers and District Forest Officers. It is learnt that the Board has also received the reports pertaining to 303 units and 202 units from Revenue Department and Forest Department respectively so far, and all of them have been found to be complying with siting norms. The rest of the cases are under process in these Departments and, action will be initiated by the Board once the same are received. As per observations of CPCB, the Board has also sought re-verification of siting parameters of 5 No. units and other units located in close vicinity of these units, from District Revenue Officer and District Forest Officer.

7. With regard to monitoring of Ambient Air Quality, the HSPCB has identified 3 different locations for installation of Ambient Air Monitoring Stations in the District. Two of these stations have been installed, (one at village Jhojhu kalan and other at village Chappar, where maximum number of stone crushers are located). Further, one CAAQMS has been installed at Mini Secretariat, Charkhi Dadri, and the results of these 3 stations for the last one month reflect moderate Air Quality Index (AQI) in District Charkhi Dadri, as observed by HSPCB."

3. ***From the above, we find that there is acknowledged violation of environmental norms and while some remedial action has been taken, it is highly inadequate. Having regard to serious adverse consequences on public health and requirement of 'Precautionary' principle under which action has to be taken even against anticipated pollution potential, there is no justification of taking 12 months for carrying capacity assessment without taking effective measures based on available data. In fact, carrying capacity assessment has to be conducted before permitting any activity having potential of pollution. Since data of background concentrations is available with the CPCB as well as the***

State PCB, pending any further elaborate study as proposed, CPCB and State PCB may undertake a joint study based on available background concentration data of air quality preferably within three months and precautionary action may be taken to check pollution potential in the light of such study at the earliest. Compliance of siting criteria inter-se stone crushers as well as with reference to distance from habitations, educational institutions, roads, hospitals, etc. may be ensured in the interest of public health. Any polluting stone crusher operating in violation of environmental norms, including siting criteria may not be allowed to operate till compliance of law. Action also needs to be taken against grant of reckless consents/ permissions for such activities, adversely affecting public health. Compensation of deterrent nature may be assessed and recovered speedily from the law violators, by involvement of senior officers, in view of the fact that the State itself has found some of its officers not giving correct information and thus being party to violation of law.

4. ***We constitute a modified seven member joint Committee comprising three members team of CPCB (senior level), Member Secretary, State PCB, Member Secretary, SEIAA, Haryana, Divisional Forest Officer, Charkhi Dadri and the Additional District Magistrate, Charkhi Dadri. The CPCB will be the nodal agency for coordination and compliance. The said team may undertake site visits at such intervals as found necessary for inspection and give its report within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. Action may also be forthwith taken by the State PCB for stopping illegal drawal of groundwater and recovering compensation for such illegal extraction so far, in the light of judgment of this Tribunal dated 20.07.2020 in OA 176/2015, Shailiesh Singh vs. Hotel Holiday Regency, Moradabad & Ors. This aspect may also be covered by the joint Committee in its report. The Committee may also mention whether parameters of ambient noise level are exceeded on account of operation of such activity and if yes, action taken in that regard."***

4. The matter was last considered on 02.02.2021 in the light of the report dated 31.01.2021, filed by the seven-Member Committee finding that there was no carrying capacity of the ambient environment to sustain the activities of the stone crushers, without adequate mitigation measures and without following the siting norms. Accordingly, the Tribunal directed remedial measures for enforcing the environmental norms and the Rule of Law. The Tribunal directed that polluting activities beyond the carrying capacity of the environment may be

stopped and only such activities may be allowed which can be sustained on the principle of Sustainable Development. The statutory Authorities were directed to exercise their jurisdiction, following due process of law. The operative part of the order is reproduced below:-

"1to5..xxx.....xxx.....xxx

6. Accordingly, the seven Member Committee has filed its report dated 31.01.2021. The Committee has found that there was no carrying capacity of the ambient air environment to sustain the activities of the stone crushers, particularly in absence of adequate mitigation measures and following of siting norms. The observations and recommendations of the Committee are reproduced below:-

"2.3.1. Observations made by the Joint Committee during site visits

The following are the main observations made by the Joint Committee during site visits w.r.t various environmental norms:

i. ***Out of 14 stone crushing units visited by the Joint Committee on 29.09.2020 and 30.09.2020, it was observed that 06 stone crushing units were not meeting the prescribed siting norms notified by notification dated 11.05.2016 and hence it was decided to get the siting norms verified for all the stone crushing units, from the concerned agencies****.*

ii. *In general,* ***the approach roads to the crusher zones were not maintained, which contribute towards re-suspension of particulate matter during movement of vehicles and deterioration of ambient air quality of the area.***

iii. Sprinkling of water within the premises and surrounding area was found to be inadequate during visit.

iv. None of the Units were found to be complying with the condition of the Consent to Operate granted by State Pollution Control Board w.r.t green belt development, as a dust control measure. Further, none of stone crushing has obtained approval of the Green Belt Development Plan, from the Forests Department, as mandated in the notification issued by the State Government.

v. Poor maintenance of the metalled/pucca roads within the premises of individual stone crushing units.

vi. ***In general, there is no demarcation of boundary of the stone crushing units. Distance between two stone crushing units at many places, was observed to be***

inadequate to disperse the dust particles, leading to overall visibly very high dust in the area.

Since the State Pollution Control Board is mandated to grant consent to operate and ensure the compliance of the conditions of the consent to operate, the members representing the State Pollution Control Board were requested by the Joint Committee to provide the status of the compliance of the conditions of the consent to operate and the action taken against the unit not complying with the prescribed norms, as directed by Hon'ble NGT.

2.3.2 Estimation of the Carrying Capacity of the Ambient Air Environment of District Charkhi Dadri

It was directed by Hon'ble NGT to undertake a joint study based on the available background concentration data of air quality. Accordingly, the following approach was followed for estimating the carrying capacity of ambient air environment in the District Charkhi Dadri:

a. The atmospheric mixing height in the District Charkhi Dadri lied between 117 to 850 meters. The 90 percentile value which is majorly dominant during the study period is 691 meters and accordingly this value was used to calculate the volume of the ambient air in the district, as a product of atmospheric mixing height and the area of the district under reference.

b. The concentration of PM_{10} in ambient air was found to be varying between 26 to 466 pg/m^3. The 90 percentile value which is majorly dominant during the study period is 265 pg/$m^3$and this value was used to calculate the total load of PMioload in the district, asa product of predominant PM_ioparticulate matter concentration and volume of the ambient air upto mixing height, in the district.

c. The national ambient air quality standard (NAAQS) for PM_{10} i.e. 100 pg/m^3 and when multiplied by the volume of air in the district, it provided the average assimilative capacity of the district for the study period.

d. Supportive carrying capacity of the district was computed by taking the difference of assimilative carrying capacity of the area & total estimated load of $_{PM10}$ in the district.

e. Similarly, the Joint Committee made an estimation of the season-wise supportive capacity. However, in view of the fact that CAAQMS started working only w.e.f. 04/03/2020, the data for winter season was not available.

The carrying capacity assessment of ambient air environment, of District Charkhi Dadri as estimated by the Joint Committee based on the available data of Continuous Ambient Air Quality Monitoring Station (CAAQMS) located in

the district, for time period of 250 days i.e. 04.03.2020 to 08.11.2020 for the predominant air quality parameter i.e. PM_{10}, is as follows:

Particulars	***Values***	***Summer Season***	***Monsoon Season***	***Post Monsoon Season***
Area of District (km^2)	*1370*	*1370*	*1370*	*1370*
Mixing height (km)	*0.691*	*0.745*	*0.672*	*0.643*
Volume of air in the district	*946*	*1021*	*921*	*882*
PM10 (pg/m^3)	*265*	*246*	*177*	*409*
Total Estimated load of particulate matter in ambient air in the district in a study period	*250815*	*251508*	*162671*	*360369*
Assimilative Carrying Capacity	*94647*	*102073*	*92112*	*88153*
Supportive Carrying Capacity (kg)	*-156168*	*-149435*	*-70558*	*-272216*

It may be concluded from the above table, as such there is no supportive capacity available in the ambient air environment with reference to PK°, in the district Charkhi Dadri. *It may require source apportionment study considering the different polluting activities in the Charkhi Dadri to assess the contribution of individual activities to propose production limits as one of the preventive measures, so as to keep the ambient air environment within assimilative capacity. However, based on the analysis of available data, Joint Committee has suggested as included in the later part of report.*

2.3.3 Status of the compliance of the siting criteria by the stone crushing units

The Environment Department of Haryana Government vide Schedule-I of the notification dated 11.05.2016 prescribed the norms for siting of the stone crushing units ***(Annexure-II)*** *and the following three agencies have been mandated as per notification, for verification of the siting criteria, while granting no objection certificates:*

- *State revenue Department*
- *State Forests Department*
- *State Pollution Control Board (for the parameters, which are not covered by the above two agencies)*

Accordingly, the task of verifying the siting criteria was assigned to the members representing the above three agencies by the Joint Committee, for arriving at conclusion, in compliance of the orders of the Hon'ble NGT.

The Haryana State Pollution Control Board after due field verification informed that ***out of 330 stone crushing units, 44 units were not existing/found to be dismantled. Another, 35 units have been closed down by the board***

for various violations. Besides, 17 units were found to have been closed down on their own.

The following is the status of the compliance of the siting criteria provided by ADC, Charkhi Dadri ***(Annexure-III),*** *based on the verification done by the Revenue Department:*

Out of 330 stone crushing units in the list provided by the State Pollution Control Board, 241 units have been verified by the Revenue Department wherein ***34 stone crushing units were found to have been established in violation of the siting norms prescribed in the notification dated 11.05.2016. The remaining 89 units are getting verified at ground level by the Revenue Department until the finalisation of this report.***

Whereas, the compliance verification report received from DFO has mentioned the compliance of the notification w.r.t relevant parameter ***(Annexure-IV).*** *It is mandatory for the stone crushing units to get the plan for development of green belt, approved from the State Forest Department, as per notification dated 11/05/2016. However, none of stone crushing unit, has obtained approval of the Green Belt Development Plan, from the Forest Department.*

2.3.4 Ambient Noise Level Monitoring

In order to assess the impact of stone crushing activities on the ambient noise levels in the Charkhi-Dadri area, ambient noise level monitoring was conducted by CPCB Team in 09 stone crushing units on 21.10.2020 and 05.11.2020. The ambient noise monitoring results are presented as below:

Table 1: *Ambient Noise Level Monitoring Results.*

S. No	***Name & Address of the Stone Crushing Units***	***Product and Capacity***	***Ambient Noise Level within the premises (monitored at a distance of 5 to 10 meters from stone crusher), dB(A) L_{ee}***	***Ambient Noise Level at boundary of Stone Crushing Unit, dB(A) Leq****	***Industrial Zone Noise Standard, dB(A) L_{eq} (Day time) as per the Noise Pollution (Regulation and Control) Rules, 2000***	***Remarks***
1.	*Jai Ambey Stone Crusher, Kheri Battar*	*GSB (90 MTD)*	*78.3*	*72.1*	***75***	***---***
2	*Caps Trade Link Pvt. Ltd. Kheri Battar*	*10 mm, 20 mm & Dust (1200 MTD)*	*84.5*	*68.1*	***75***	***---***

3	*Diamond Stone Crusher, Kheri Battar*	*10 mm, 20 mm & Dust (2000 MTD)*	*86.7*	*69.2*	***75***	***---***
4	*Surya Stone Crusher, Village Pichopa Kalan*	*10mm, 20mm & Dust (3500 MTD)*	*86.2*	*64.8*	***75***	*Roller Crusher is under maintenance*
5	*Mahaluxmi Mines & Stone Crusher, Village Pichopa Kalan*	*10mm, 20mm & Dust (1100 MTD)*	*93*	*68.1*	***75***	*Jaw Crusher not in operation due to non-availability of raw material.*
6	*Dharampal Stone Crusher, Village Pichopa Kalan*	*10mm, 20mm & Dust (120 MID)*	*84.1*	*73.9*	***75***	***---***
7	*Shree Radhey Stone Crusher, Village Birhi Kalan*	*10mm, 20mm & Dust (250 MTD)*	*87*	*75.8*	***75***	*Exceeding the prescribed norms.*
8	*Mayur Stone Crusher, Village Birhi Kalan*	*10mm, 20mm & Dust (250 MTD)*	*84.6*	*69.5*	***75***	*Power cut 30 minutes before scheduled time.*

As may be seen from the table the above stone crushers were meeting the ambient noise level norms at the boundary of the respective units, however, none of the stone crushing units was found to be meeting the norm of ambient noise levels when monitored at a distance of 5 to 10 meters from stone crusher, irrespective of the operational capacity.

2.3.5 Source Emission Monitoring

A Joint team of CPCB and HSPCB visited the site on 21/10/2020 and 05/11/2020, for source emission and ambient air quality monitoring. The survey of the area indicated that a good number of stone crushing were found be non-operational on account of maintenance as informed by the representatives of the respective units. Therefore, 08 stone crushing units which were found to be operational were selected for Source emission monitoring and the results are summarized in the following ***Table 2.***

Table 2: *Results of the Source Emission Monitoring*

S. No.	**Name & Address of the Stone Crushing Units**	**Product and Capacity**	**Fugitive Emission at 6 meters from Source of Emission, pg/ m^3**			**Prescribed Standards as per Environment (Protection) Rules, 1986 vide S.O. 443 (E) dated 18.04.1987**
			Inward	**Outward**	**Difference**	

1.	Jai Ambey Stone Crusher, Kheri Battar	GSB(90 TPD)	3090	4111	1021	600 ug/m^3 from source at 3 to 10 meters
2.	Caps Trade Link Pvt. Ltd., Kheri Battar	10 mm, 20 mm & Dust(1200 TPD)	4484	4896	412	600 pg/m^3 from source at 3 to 10 meters
3.	Diamond Stone	10 mm, 20 mm & Dust(2000 MTD)	3393	3707	314	600 pg/m^3 from source at 3 to 10 meters
4.	Surya Stone Crusher, Village Pichopa Kalan	10mm, 20mm & Dust(3500 MTD)	9444	9818	374	600 pg/m^3 from source at 3 to 10 meters
5.	Mahaluxmi Mines & Stone Crusher, Village	10mm, 20mm & Dust(1100 MTD)	7121	7472	351	600 pg/m^3 from source at 3 to 10 meters
6.	Dharampal Stone Crusher, Village	10mm, 20mm & Dust(120 MTD)	1000	1454	454	600 pg/m^3 from source at 3 to 10 meters
7.	Shree Radhey Stone Crusher, Village Birhi Kalan	10mm, 20mm & Dust(250 MTD)	9333	9750	417	600 pg/m^3 from source at 3 to 10 meters
8.	Mayur Stone Crusher, Village Birhi Kalan	10mm, 20mm & Dust(250 MTD)	3515	3972	457	600 Ng/m^3 from source at 3 to 10 meters

An evaluation of the source emission monitoring of 08 stone crushing units indicated that although most of the individual stone crushing units are meeting the prescribed fugitive emission norms except one, ***the upwind concentration of fugitive emissions varied between 1000 ug/m³ to 9444 ug/m³. High level of upwind concentration at various location seems to be the impact of inadequate distance between two stone crushing units, thereby necessitating the siting guidelines w.r.t. distance between two stone crushing units as observed and directed by Hon'ble National Green Tribunal. However, HSPCB has prescribed the minimum area of one acre for every stone crusher while in higher capacity units, 1.5 acre is the minimum area requirement.***

2.3.6 Ambient Air Quality Monitoring

The ambient air quality was also monitored by HSPCB team on 21/10/2020 and 05/11/2020, at different locations (Primarily centre points of different locations) of Charkhi Dadri selected jointly by CPCB and HSPCB, where stone crushers are located. The results of the ambient air quality monitoring are summarized in the following ***Table 3:***

Table 3: *Ambient Air Quality Monitoring Results*

S. No.	Locations	Date	Concentration of Air Quality Parameters (in pg/m^3)	
			PMio	**PM2.5**
1.	Kheri Battar Stone Crushing	21.10.2020	140	Not monitored
2.	Pichopa Kalan Stone Crushing Area	05.11.2020	68	19
3.	Birhi Kalan Stone Crushin Area	05.11.2020	239	42
4.	CAAQMS, Mini Secretariat, Charkhi	21.10.2020	253	117
		05.11.2020	265	191

The results of the ambient air quality monitoring at two locations out of three locations monitored by HSPCB Team, were found to be beyond the prescribed limits of PM_{10}. The concentration of PM_{10} & ***$PM2._5$*** *were also be found to be exceeding the prescribed norms as per the data of CAAQMS located at Mini Secretariat, District Charkhi Dadri during that period, indicating contributing of factors other than stone crushers as well, towards ambient air quality of Distt. Charkhi Dadri.*

2.3.7 Action Taken by HSPCB against the units violating the norms

The action taken report w.r.t non-compliance of prescribed norms and the conditions of the consent to operate granted to stone crushing units were requested by the Joint Committee from the members representing State Pollution Control Board, for inclusion in the report to be filed before Hon'ble NGT.

In this regard, the following is the status of the compliance of the action taken against noncomplying units by the HSPCB ***(Annexure-V):***

(i) *Out of 330 stone crushing units, 96 units are non-operational due to the fact that 35 units have been closed down by HSPCB, 17 were found to have been closed on their own and 44 units were found to have been dismantled/non-existing.*

(ii) *A total sum of Rs. 4.89 crores of Environmental Compensation was levied by HSPCB on the 33 non-complying units. 19 units have deposited the EC amount of Rs. 1.62 crores to the HSPCB.*

(iii) *HSPCB is in the process of imposing EC on another 16 non-complying stone crushing units.*

(iv) *The prosecution has been initiated against 35 non-complying units, out of which 27 have been filed in Special Environmental Court, Kurukshetra, Haryana.*

(v) *HSPCB has initiated action against all the stone crushers which have not obtained approval of the Green Belt Development Plan from the Forest Department and issued show cause notices to all units seeking their status of approval of the same and further, action will be taken by the board after receipt of the units.*

2.3.8 Action Taken by HSPCB for illegal ground water abstraction

The Joint Committee was directed by the Hon'ble NGT, to include the action taken by HSPCB in the report of the Joint Committee. Accordingly, HSPCB was requested by the Joint Committee, for providing the action taken report w.r.t. illegal abstraction of the ground water in compliance of the directions of the Hon'ble NGT.

In this regard, as per status report received from HSPCB, there are 330 stone crushing units in the District Charkhi Dadri, out of which 53 units have either been dismantled or non- operational after 15/04/2015 i.e. the date of notification issued by CGWB mandating permission for withdrawal of ground water. Therefore, HSPCB recommended for levying interim environmental compensation against 277 stone crushing units to the Deputy Commissioner, Charkhi Dadri. The total amount of compensation from these 277 stone crushing units is Rs. 31,45, 13, 865/-, the details of which is summarized in ***Annexure-VI.*** *The Deputy Commissioner, Charkhi Dadri has issued order for recovering EC for illegal underground water abstraction against all these units.*

3.0 RECOMMENDATIONS:

(i) Since, the carrying capacity of the Charkhi Dadri region is estimated to be negative and therefore, following actions are suggested to support & protect the air environment:

a. No new stone crusher of any capacity may further be allowed to establish & operate in the region including any expansion of the existing units.

b. A study, such as source apportionment, be carried out to ascertain at what maximum capacity the existing stone crushing units be allowed to operate vis-a-vis their number.

c. The supporting infrastructure such as road needs improvement to minimize the dust formation and to maintain its quality a fund may be created by the stone crushing units proportionate to its production capacity. The fund may be operated through a mechanism where the nodal agency could be the association of the stone crushing units.

d. ***The units which have been reported not conforming the siting criteria according to revenue department (34) shall remain closed and be shifted in compliance with the notification dated 11.05.2016****.*

(ii) ***Considering the stone dust settlement behaviour, the inter-se distance between two stone crushing units may be kept as:***

$$d = (h_i * N. + h2 * p2)/100$$

Where, d = inter-se distance between two stone crushing units (in meter)

h_1& h_2 = height of highest nodes for unit 1 & 2, respectively (in meter)

Pi& P2 = production capacity for unit 1 & 2, respectively (in MTD)

iii. HSPCB shall install additional 3 ambient air quality monitoring stations in accordance to Guidelines for Ambient Air Quality Monitoring published by CPCB (2003). Out of these three, one station may be CAAQMS.

iv. The concerned authority may take suitable action against those stone crushing units found to be non-conforming w.r.t. siting criteria and having not provided adequate pollution control measures.

v. The stone crushing unit may be asked to obtain due approval from State Forest Department for development of green belt in accordance to the notification dated 11.05.2016."

7. ***In view of above report, it does appear that there is large scale violation of law in violation of the mandate of 'Sustainable Development' and 'Precautionary Principle'. Suitable remedial measures need to be taken to stop polluting activities, beyond the carrying capacity of the environment, apart from action for the violations which have already taken place. Only such activity may be allowed which the environment can sustain irrespective of the date on which the stone crushers were set up. While taking action, the State PCB may follow the due process but the action needs to be prompt to protect the public health and environment in view of the material in the seven Member Committee. The District Magistrate, Charkhi Dadri may take prompt steps for protection of environment by taking mitigation measures in terms of the recommendations. Illegal withdrawal of ground water may be effectively stopped. Since we are only requiring the statutory authorities to take action in exercise of their statutory powers, following due process and orders of the statutory authorities are appealable to this Tribunal, we do not find it necessary to issue notice to the individual stone crushers.***

8. The State PCB may file an action taken report of status as on 31.03.2021, before the next date*, by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.***"**

5. In pursuance of the above, an action taken report has been filed on 27.09.2021 by the State PCB. The status report gives the list of 339 stone crushers to whom the consent was granted. It gives list of 22 stone crushers which were inspected along with the Monitoring Committee

constituted by this Tribunal out of which 5 were found to be non-compliant and were closed. The remaining were found to be individually compliant. On 2nd inspection of 14 stone crushers, 10 were found to be non-complaint, which included 4 units which were earlier non-compliant and 6 units which were found to be non-complaint later. Four were found to be compliant. 10 units were closed/ recommended to be closed accordingly. On 3rd inspection on 17.06.2021 and 01.07.2021, 2 more units were found to be non-compliant and were closed. Assessment of compensation against 14 units was in progress. Compensation had already been assessed against 40 non-compliant units amounting to Rs. 4.76 Crores. 27 units out of them have deposited the compensation while proceedings have been initiated for recovery against the remaining. Prosecution has been filed/proposed against 35 units. Compensation has also been assessed for illegal extraction of ground water amounting to Rs. 31.66 Crores approximately against 278 units. We note that for such assessment the area has been taken to be safe category even though it is critical. 34 units have been found to be not meeting the siting criteria and action has been taken for withdrawal of the CTE/CTO. It is further stated that even 339 stone crushers in District Charkhi Dadri 246 were in operation and the remaining have been identified for dismantling. 4 have been closed.

6. In view of the report, we are concerned with the issue of permissibility of functioning of the said 246 stone crushers which are said to be in operation. The list is as follows:-

"*List of CTO of Stone Crusher units in operation at present:-*

In Operation				
Sr. No.	***Village***	***Name and address of unit***	***Status***	***Period***
1.	*Kheri*	*Abhishek Stone Crusher,*	*Granted*	*01.04.21-*

	Batter	Village Kheri Batter, Ch.Dadri		31.03.26
2.	Kheri Batter	Amarnath Stone Crusher Vill-Kheri Battar, Distt Ch.Dadri	Granted	01.04.21-31.03.26
3.	Kheri Batter	Anand Stone Crusher, Vill. Kheri batter, Ch.Dadri	Granted	01.04.17-31.03.22
4.	Pichopa Kalan	Anjani Mata Stone crusher Village Pichopa Kalan, Charkhi Dadri	Granted	10.09.20-31.03.22
5.	Kheri Batter	Anjani Stone Crusher, VPO Kheri Battar, Ch.Dadri	Granted	01.04.17-31.03.22
6.	Kheri Batter	ANUP STONE CRUSHER NO 1, VILLAGE KHERI BATTAR TEHSIL AND DISTRICT CHARKHI DADRI	Granted	01.04.20-31.03.25
7.	Kheri Batter	Anup Stone Crusher, Vill. Kheri Battar, Ch.Dadri	Granted	10.02.21-31.03.25
8.	Jhojhu Kalan	Arya Stone Crusher (16BHI3361876) Ramalwas,/Jhojhu Kalan,Distt Charkhi Dadri	Granted	25.10.19-31.03.24
9.	Asawari	Asawari Stone Crushing Co., Vill-Asawari Tehsil & Distt Charkhi Dadri	Granted	05.02.20-31.03.24
10.	Mankawas	Ashoka Stone Crusher, Vill. Mankawas, Ch.Dadri	Granted	01..04.21-31.03.24
11.	Mankawas	Ashu Stone Crusher Vill. Manakawas, Ch. Dadri	Granted	01.04.21-31.03.24
12.	Jhojhu Kalan	Avtar & Company Stone Crusher, Village jhojhu Kalan, Ch.Dadri	Granted	01.04.21-31.03.26
13.	Birhi kalan	Baba Hari Dass Stone Crushing Co Vill-Birhi Kalan,Distt Ch.Dadri	Granted	01.04.21-31.03.26
14.	Birhi kalan	Baba Raghu Nath Stone Crusher Vill-Birhi Kalan,Distt Dadri	Granted	18.07.17-31.03.22
15.	Jhojhu Kalan	Baba Shyam Crushing Co Vill Jhojhu Kalan Teshil & Distt Charkhi Dadri	Granted	02.10.18-31.03.23
16.	Pandwan	Bala Ji Stone Crusher, Vill. Pandwan, Ch. Dadri	Granted	01.10.18-31.03.25
17.	Birhi kalan	Balaji Stone Crusher, Village Birhi Kalan, District Ch.Dadri	Granted	01.04.21-31.03.26
18.	Kaliyana	Balaji Stone Crusher, VPO Kaliyana, Ch. Dadri	Granted	07.01.18-31.03.22
19.	Kalali	Baljit Stone Crusher Vill-Kalali,Distt Charkhi Dadri	Granted	09.08.18-31.03.23
20.	Pichopa Kalan	Bed Stone Crusher Village Pichopa Kala Tehsil Ch Dadri	Granted	20.05.18-31.03.22
21.	Kheri Batter	Bhagwati Stone Crusher, Vill, Kheri Battar, Charkhi Dadri	Granted	30.01.21-31.03.25
22.	Ramalwas	Bhai Ji Stone Crusher Village Ramalwas Tehsil Ch Dadri	Granted	19.12.19-31.03.24
23.	Kheri Batter	Bhartho Devi Stone Crusher, Village Kheri Batter, Charkhi Dadri	Granted	14.05.20-31.03.23
24.	Kaliyana	Bhavishay Stone Crusher Village Kaliyana, Charkhi Dadri	Granted	21.08.18-31.03.23
25.	Kheri Batter	Caps Tradeling Pvt. Ltd., Kheri Batter, Charkhi Dadri	Granted	11.07.19-31.03.24
26.	Asawari	Chander Mukhi Stone Crusher, Kila/Khasra No. 102//23 & 104//3/1,	Granted	01.04.21-31.03.26

		Asawari, Patwari Halka 83, Ch.Dadri		
27.	*Pandwan*	*Chander Stone Crusher, Village Pandwan, Charkhi Dadri*	*Granted*	*01.04.21-31.03.26*
28.	*Mankawas*	*Chaubisi Stone Crusher, Village Mankawas, Tehsil Chakrhi Dadri*	*Granted*	*01.04.21-31.03.26*
29.	*Birhi kalan*	*Chaudhary Stone Crusher Vill-Birhi Kalan, Distt Charkhi Dadri*	*Granted*	*15/05/2018 - 31/03/2023*
30.	*Atela Kalan*	*Chetna Stone Crusher, Village Atela Kalan, Charkhi Dadri*	*Granted*	*01.04.21-31.03.26*
31.	*Birhi kalan*	*Chirag Stone Crusher, Village Birhi Kalan, Tehsil Charkhi Dadri*	*Granted*	*17.11.17-31.03.22*
32.	*Kaliyana*	*Choudhary Construction Company, Village Kalayana, Dadri*	*Granted*	*27.09.20-31.03.24*
33.	*Kheri Batter*	*Classic Mobile Stone Crusher Village Kheri Battar, Charkhi Dadri*	*Granted*	*09.02.21-31.03.25*
34.	*Kheri Batter*	*Dada Dhola Stone Crusher, Village Kheri Batter, Ch.Dadri*	*Granted*	*01.04.21-31.03.26*
35.	*Mankawas*	*Dada Gosai Stone Crushing Mills, Mankawas, Ch.Dadri*	*Granted*	*01.04.21-31.03.24*
36.	*Kheri Batter*	*Dada Ram Prasad Stone Crusher, Vill. Kheri Battar, Ch.Dadri*	*Granted*	*10.09.20-31.03.25*
37.	*Birhi kalan*	*Dada Shakti Stone Crusher Vill-Birhi Kalan,Distt Ch.Dadri*	*Granted*	*01.04.21-31.03.24*
38.	*Kheri Batter*	*Dada Stone Crusher, Village Kheri Battar, Tehsil Chakrhi Dadri*	*Granted*	*01.04.21-31.03.26*
39.	*Pichopa Kalan*	*Dada Syonand Maharaj Stone Crusher, Village Pichopa Kalan, Charkhi Dadri*	*Granted*	*16.02.18-31.03.22*
40.	*Mankawas*	*Dadri Stone Crusher Village Manakawas Tehsil Charkhi Dadri*	*Granted*	*01.04.21-31.03.25*
41.	*Tiwala*	*Dalawas Stone Crusher, Vill Tiwala,Tehsil & Distt Charkhi Dadri*	*Granted*	*09.11.2018-31.03.2023*
42.	*Mankawas*	*Delhi Stone Crusher, Village Mankawas, Ch.Dadri*	*Granted*	*21.04.16-30.09.16 09.04.19-31.03.24*
43.	*Kheri Batter*	*Dev Stone Crusher, Village - Kheri Batter, Charkhi Dadri*	*Granted*	*27.12.19-31.03.24*
44.	*Kheri Batter*	*Dhankaur Stone Crusher,Village Kheri Batter, Bhiwani*	*Granted*	*01.04.21-31.03.26*
45.	*Kalali*	*Dhanluxmi Stone Crusher, Kalali, Ch. Dadri*	*Granted*	*14.07.20-31.03.25*
46.	*Kheri Batter*	*Dhanpat Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.17-31.03.22*
47.	*Pichopa Kalan*	*Dharampal Stone Crusher, pichopa Kalan, Ch. Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
48.	*Kheri Batter*	*Diamond Stone Crusher Village Kheri Battar Tehsil Ch Dadri Bhiwani*	*Granted*	*15.07.20-31.03.25*

49.	*Pichopa Kalan*	*Durga Stone Crusher, Vill-Pichopa Kalan,Tehsil & Distt Charkhi Dadri*	*Granted*	*19.11.18-31.03.23*
50.	*Kheri Batter*	*Ekta Stone Crusher Village kheri Battar BHIWANI*	*Granted*	*01.04.21-31.03.26*
51.	*Mankawas*	*Gawar Construction Ltd., Village Mankawas, Bhiwani*	*Granted*	*01.04.18-31.03.23*
52.	*Birhi kalan*	*Gitesh Stone Crusher Vill-Birhi Kalan,Distt Bhiwani*	*Granted*	*15.11.20-31.03.22*
53.	*Kheri Batter*	*Gohana Stone Crusher, Village Kheri Batter, Charkhi Dadri*	*Granted*	*18.08.20-31.03.23*
54.	*Pichopa Kalan*	*Hanuman Infrastructure Pvt. Ltd., Village Pichopa Kalan, Charkhi Dadri*	*Granted*	*10.02.18-31.03.22*
55.	*Pichopa Kalan*	*Hari Om Stone Crusher Pichopa Kalan Teshil and District Charkhi Dadri*	*Granted*	*09.09.19-31.03.24*
56.	*Asawari*	*Haryana Stone Crusher, Village Asawari, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
57.	*Tiwala*	*Haryana Stone Crusher, Village Tiwala, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*20.11.20-31.03.25*
58.	*Jhojhu Kalan*	*Indian SC, Jhojhu Kalan, Dadri*	*Granted*	*01.04.21-31.03.26*
59.	*Pichopa Kalan*	*J M and COMPANY Vill-Pichopa Kalan,Distt Bhiwani*	*Granted*	*27/06/18 - 31/03/23*
60.	*Birhi kalan*	*Jai Baba Jamna Giri Stone Crusher, Vill. Birhi Kalan, Charkhi Dadri*	*Granted*	*18.11.20-31.03.22*
61.	*Pandwan*	*Jai Baba Mungipa stone crusher, Pandwan. Charkhi Dadri*	*Granted*	*10.05.19-31.03.24*
62.	*Kheri Batter*	*Jai Baba Stone Crusher, Vill. Kheri Battar,Bhiwani*	*Granted*	*01.04.21-31.03.26*
63.	*Mankawas*	*Jai Bajrang Bali Stone Crusher, Village Mankawas, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*11.02.21-31.03.23*
64.	*Ramalwas*	*Jai Bajrang Bali Stone Crusher, Village Ramlawas, Charkhi Dadri*	*Granted*	*05.02.20-31.03.24*
65.	*Kheri Batter*	*Jai Bajrangbali Stone Crusher, Village kheri Batter, Bhiwani*	*Granted*	*01.04.21-31.03.26*
66.	*Mankawas*	*Jai Balaji Stone Crusher, Vill. Mankawas Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
67.	*Pichopa Kalan*	*Jai Balaji Stone Crusher, Village Pichopa Kalan, Charkhi Dadri*	*Granted*	*13.01.18-31.03.22*
68.	*Birhi kalan*	*Jai Dada Budha Stone Crusher, Village Birhi Kalan, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
69.	*Kheri Batter*	*Jai Durga Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
70.	*Pandwan*	*JAI HANUMAN STORE CRUSHER PANDWAN VILLAGE PANDWAN BHIWANI BHIWANI*	*Granted*	*01.10.20-31.03.22*
71.	*Birhi kalan*	*Jai Hind Stone Crushing Co., Village Birhi Kalan, Bhiwani*	*Granted*	*01.04.21-31.03.26*
72.	*Kheri Batter*	*Jai Mahadev Stone Crusher, Kheri Batter, Dadri*	*Granted*	*25.10.19-31.03.24*

73.	*Kalali*	*JAI MATA DI STONE CRUSHER village Kalali, tehsil Charkhi dadri BHIWANI*	*Granted*	*23.03.21-31.03.25*
74.	*Birhi kalan*	*Jai Mata Di Stone Crusher, Village Birhi Kala, Tehsil Ch. Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
75.	*Pandwan*	*Jai Shivam Stone Crusher Village Pandwan*	*Granted*	*26/07/18 - 31/03/23*
76.	*Kheri Batter*	*Jai Shree Ganesh Stone Crusher Vill-Kheri Battar,Distt Bhiwani*	*Granted*	*01.10.20-31.03.25*
77.	*Mankawas*	*Jai Shree Ram Stone Crusher Village Manakawas District Bhiwani*	*Granted*	*01.04.23-31.03.26*
78.	*Kheri Batter*	*Jai Shree Ram Stone Crusher, Village Kheri Battar, Charkhi Dadri*	*Granted*	*01.04.21-31.03.26*
79.	*Jhojhu Kalan*	*Jai Shree Shyam Stone Crusher Vill-Jhojhu Kalan,Distt Bhiwani*	*Granted*	*01.04.21-31.03.26*
80.	*Kalali*	*Jai Shree Shyam Stone Crusher, Village Kalai, Tehsil Chakrhi Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
81.	*Pichopa Kalan*	*Jai Shree Shyam Stone Crusher, Vill-Pichopa Kalan,Tehsil & Distt Charkhi Dadri*	*Granted*	*01.04.19-31.03.23*
82.	*Kheri Batter*	*Jai Siya Ram Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.24*
83.	*Jhojhu Kalan*	*Jhojhu Stone Crusher, Village Jhojhu Kalan, Bhiwani*	*Granted*	*14.12.19-31.03.24*
84.	*Kaliyana*	*K V R Minerals Pvt Ltd Unit 2 Vill Kaliyana Teshil & Distt Charkhi Dadri*	*Granted*	*05.05.18-31.03.23*
85.	*Kaliyana*	*K V R Minerals Pvt. Ltd., Village Kaliyana, Charkh Idadri*	*Granted*	*09.08.17-31.03.22*
86.	*Pichopa Kalan*	*K.M.P Stone Crusher, Vill Pichopa Kalan Tehsil & Distt Charkhi Dadri*	*Granted*	*05.06.19-31.03.24*
87.	*Birhi kalan*	*Kanhaiya Stone Crusher Vill-Birhi Kalan,Distt Bhiwani BHIWANI*	*Granted*	*01.04.21-31.03.24*
88.	*Mankawas*	*Kanshi Ram Stone Crusher, Village Mankawas, Bhiwani*	*Granted*	*01.04.18-31.03.23*
89.	*Pichopa Kalan*	*Khatu Shyam Stone Crusher, Village Pichopa Kala Tehsil Ch Dadri*	*Granted*	*01.07.19-31.03.24*
90.	*Kheri Batter*	*Krishana Stone Crusher and Supplier Village Kheri BattarTehsil Ch Dadri,Distt Bhiwani*	*Granted*	*29/07/18-31/03/23*
91.	*Pichopa Kalan*	*Krishna Stone Crusher, Vill. Pichopa Kalan, Charkhi Dadri*	*Granted*	*29.06.21-31.06.26*
92.	*Kheri Batter*	*Krishna Stone Crusher-1, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
93.	*Kheri Batter*	*Krishna Stone Crusher-II, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.16-31.03.21*
94.	*Jhojhu Kalan*	*Kumar Infra & Mining Projects, Village Jhoju Kalan, Teshil Chakrhi dadri, Bhiwani*	*Granted*	*04/03/2021 - 31/03/2025*
95.	*Kheri*	*Larsen and Toubro Limited,*	*Granted*	*01.05.19-*

	Batter	*Vill Kheri Battar Tehsil & Distt Charkhi Dadri*		*30.04.24*
96.	*Tiwala*	*Laxmi Mining Company, Village Tiwala, Charkhi Dadri*	*Granted*	*01.04.21-31.03.26*
97.	*Mankawas*	*Laxmi Stone Crusher, Vill. Mankawas, Bhiwani*	*Granted*	*01.04.21-31.03.26*
98.	*Asawari*	*Luxmi Stone Crusher, Asawari, Bhiwani*	*Granted*	*01.04.18-31.03.23*
99.	*Mankawas*	*Maa Pitambara Mines And Cruhsers LLP, Vill Mankawas,Tehsil & Distt Charkhi Dadri*	*Granted*	*01.06.19-31.03.24*
100.	*Kaliyana*	*Maa Stone Crusher, Kaliyana, Charkhi Dadri*	*Granted*	*14.07.20-31.03.23*
101.	*Bilawal*	*Maha Luxmi Stone Cruhser, Village Bilawal, Bhiwnai*	*Granted*	*01.04.21-31.03.26*
102.	*Pichopa Kalan*	*Mahadev Grit Udyog PICHOPA KALAN CHARKHI DADRI*	*Granted*	*01.04.21-31.03.26*
103.	*Birhi kalan*	*Mahadev Stone Crusher, Birhi Kalan, Chakrhi Dadri*	*Granted*	*02.10.18-31.03.23*
104.	*Kheri Batter*	*Mahadev stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
105.	*Pichopa Kalan*	*Mahaluxmi Mines and Stone Crusher VPO Pichopa Kala*	*Granted*	*30/04/2018 - 31/03/2023*
106.	*Birhi kalan*	*Mahaluxmi Stone Crusher Village Birhi Kala District Bhiwani*	*Granted*	*01.04.19-31.03.24*
107.	*Pichopa Kalan*	*Mahashay Stone Crusher, Village Pichopa Kalan, Dadri*	*Granted*	*04.07.19-31.03.24*
108.	*Kheri Batter*	*Maman Stone Crusher, VPO Kheri Battar, Bhiwani*	*Granted*	*01.04.17-31.03.22*
109.	*Kheri Batter*	*Maruti Stone Crusher, Village Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
110.	*Mankawas*	*Maruti Stone Crusher, Village Mankawas,Tehsil Charkhi Dadri, Bhiwani(New Name Maruti SC, Pandwan)*	*Granted*	*01.04.18-31.03.23*
111.	*Birhi kalan*	*Mayur Stone Crusher, Village Birhi Kala, Tehsil Ch. Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
112.	*Pichopa Kalan*	*MDN Stone Crusher Vill-Pichopa Kalan, Tehsil & Distt Charkhi Dadri*	*Granted*	*10.02.18-31.03.22*
113.	*Kaliyana*	*Millan Stone Cusher, Village Kaliyana, Charkhi Dadri*	*Granted*	*21.01.21-31.03.22*
114.	*Jhojhu Kalan*	*Murliwala Stone Crushing Mills, Vill. Jhojhu Kalna, Bhiwani*	*Granted*	*01.04.21-31.03.24*
115.	*Kheri Batter*	*Nandu Stone Crusher, VPO Kheri Batter, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*01.04.17-31.03.22*
116.	*Mankawas*	*NECC Mines & Mineral, Village Manakawas, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
117.	*Pandwan*	*NECC Mining Corporation Unit 2, Village Pandwan Charkhi Dadri*	*Granted*	*22.11.17-31.03.22*
118.	*Pandwan*	*NECC Mining Corporation, Village Pandwan, Charkhi Dadri*	*Granted*	*22.11.17-31.03.22*
119.	*Pandwan*	*NECC Roadways, Village Pandwan, Dadri*	*Granted*	*22.11.17-31.03.22*
120.	*Jhojhu Kalan*	*Neel Kanth Stone Crusher Mill, Village Jhojhu Kalan,*	*Granted*	*01.04.21-31.03.26*

		Tehsil Charkhi Dadri, Bhiwani		
121.	*Pichopa Kalan*	*Neelam Stone Crusher Vill Pichopa Kalan Teshil & Distt Charkhi Dadri*	*Granted*	*26/07/18 - 31/03/23*
122.	*Kheri Batter*	*Neelkanth Stone Crusher, Village Kheri Battar, Bhiwani*	*Granted*	*01.04.17- 31.03.22*
123.	*Birhi kalan*	*Neelkanth Mahadev Grit Udyog Vill-Birhi Kalan,Distt Bhiwani*	*Granted*	*08.05.17- 31.03.22*
124.	*Pichopa Kalan*	*New Avtar Stone Crusher, Vill-Pichopa Kalan,Tehsil & Distt Charkhi Dadri*	*Granted*	*30.04.19- 31.03.24*
125.	*Pichopa Kalan*	*New Bharat Stone Crushing Company, VPO PICHOPA KALAN TEHSIL AND DISTRICT CHARKHI DADRI*	*Granted*	*17.01.19- 31.03.23*
126.	*Kheri Batter*	*New Jai Shree Bala ji Stone Crusher, Village Kheri Battar, Bhiwani*	*Granted*	*12.09.19- 31.03.23*
127.	*Birhi kalan*	*New Rapid stone crusher Old name Jai Baba Shyam Stone Crusher Vill-Birhi Kalan,Distt Bhiwani*	*Granted*	*18.11.20- 31.03.22*
128.	*Jhojhu Kalan*	*Om Shiv Stone Crusher, Village Jhojhu Kalan, Tehsil Chakrhi Dadri, Bhiwani*	*Granted*	*14.12.19- 31.03.24*
129.	*Kaliyana*	*Om Shivam Stone Crusher, Kaliyana, Dadri*	*Granted*	*28.06.19- 31.03.24*
130.	*Asawari*	*Om Shivam Stone Crusher, Village Asawari, Bhiwani*	*Granted*	*01.10.20- 31.03.26*
131.	*Kheri Batter*	*Om Stone Crusher, Kheri Batter, Charkhi Dadri, Bhiwani*	*Granted*	*01.04.20- 31.03.23*
132.	*Mankawas*	*Om Stone Crusher, Mankawas, Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21- 31.03.26*
133.	*Atela Kalan*	*Pal stone Crusher Vill. Atela Kalan Bhiwani*	*Granted*	*01.04.21- 31.03.26*
134.	*Mankawas*	*Panchmukhi Stone Crusher, Village Mankawas, Bhiwani*	*Granted*	*01.10.20- 31.03.25*
135.	*Pichopa Kalan*	*Pardhan Stone Crusher Village Pichopa Kala Tehsil Ch Dadri BHIWANI*	*Granted*	*01.04.21- 31.03.26*
136.	*Kheri Batter*	*Partap Stone Crusher, Vill. Kheri Battar, Bhiwani(Old Name baba pir stone crushing co.)*	*Granted*	*01.04.21- 31.03.26*
137.	*Kheri Batter*	*Parvat Stone Crusher, Village Kheri Battar,Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*04.01.20- 31.03.24*
138.	*Kheri Batter*	*Pokhar Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21- 31.03.26*
139.	*Asawari*	*Pritam Sangwan Stone Crusher, Village Asawari, Charkhi Dadri*	*Granted*	*07.01.18- 31.03.22*
140.	*Asawari*	*Pritam Stone Crusher, Asawari, charkhi Dadri*	*Granted*	*01.01.18- 31.03.22*
141.	*Kheri Batter*	*PRITHVI STONE CRUSHER, Kheri Batter, Charkhi Dadri*	*Granted*	*30.08.20- 31.03.25*
142.	*Birhi kalan*	*Purpal Stone Crusher, Village Birhi Kala, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21- 31.03.26*
143.	*Pichopa Kalan*	*QEM PROCESSING PVT LTD PICHOPA KALAN*	*Granted*	*20.07.19- 31.03.24*
144.	*Kheri*	*QEM PROCESSING PVT LTD*	*Granted*	*01.04.21-*

	Batter	STONE CRUSHER at VILLAGE KHERI BATTAR CHARKHI DADRI DISTRICT BHIWANI HARYANA BHIWANI		31.03.26
145.	Kaliyana	R.B.S Stone Crusher Village Kaliyana, Tehsil Ch. Dadri, Bhiwani	Granted	25.02.18-31.03.22
146.	Kheri Batter	Raj Stone Crusher, Vill. Kheri Battar, Bhiwani	Granted	01.04.21-31.03.26
147.	Pichopa Kalan	Rajesh Stone Crusher, Pichopa Kalan, CharkhiDadri	Granted	25/10/2018 - 31/03/2023
148.	Pichopa Kalan	Rakesh Malik Stone Cruhser Vill-Pichopa Kalan,Distt Bhiwani	Granted	26/07/2018 - 31/03/2023
149.	Jhojhu Kalan	Rudhra Stone Crusher, Village Jhojhu Kalan, Charkhi Dadri	Granted	01.01.18-31.03.22
150.	Kheri Batter	Salasar Stone Crusher Vill-Kheri Battar,Distt Bhiwani	Granted	01.03.21-31.03.25
151.	Birhi kalan	Sangwan Stone Crusher, Vilalge Birhi Kalan, Charkhi Dadri	Granted	19.12-19-31.03.24
152.	Kheri Batter	Sanskar Stone Crusher, Kheri Battar, Bhiwani	Granted	01.04.19-31.03.24
153.	Kheri Batter	Saraswati Stone Crusher, Vill Kheri Batter, Bhiwani	Granted	01.04.21-31.03.26
154.	Kheri Batter	Sarvotam Group, Village Kheri Batter, Charkhi Dadri	Granted	12.05.20-31.03.24
155.	Pichopa Kalan	Satyavir Stone Crusher, Village Pichopa Kalan, Charkhi Dadri	Granted	01.04.21-31.03.26
156.	Kheri Batter	Shakti Stone Crusher, Village Kheri Battar, Charkhi Dadri	Granted	14.12.17-31.03.22
157.	Kheri Batter	Shanti Mobile Stone Crusher, VPO Kheri Battar, Bhiwani	Granted	16.08.17-31.03.22
158.	Kheri Batter	Sheranwali Stone Crusher, Vill. Kheri Battar, Bhiwani	Granted	01.04.17-31.03.22
159.	Kheri Batter	Shiv Bhole Shankar Stone Crusher Village Kheri Battar, Bhiwani BHIWANI	Granted	01.04.19-31.03.24
160.	Kaliyana	SHIV BHOLE STONE CRUSHING Co., Kaliyana, Ch. Dadri	Granted	10.09.20-31.03.25
161.	Kheri Batter	Shiv Durga Stone Crusher, Village Kheri Battar,Tehsil Charkhi Dadri, Bhiwani	Granted	27.12.19-31.03.24
162.	Kaliyana	Shiv Ganga Stone Crusher, Kaliyana, Charkhi dadri	Granted	07.01.18-31.03.22
163.	Kheri Batter	Shiv Gorakh Stone Crusher, Vill Kheri Battar, Bhiwani	Granted	01.04.21-31.03.26
164.	Birhi kalan	Shiv Shakti Grit Udyog, Village Birhi Kala, Bhiwani	Granted	01.04.21-31.03.26
165.	Pichopa Kalan	Shiv Shakti Stone Crusher Village Pichopa Kalan, Charkhi Dadri	Granted	28.05.20-31.03.24
166.	Pichopa Kalan	Shiv Shakti Stone Crusher II Village Pichopa Kalan, Charkhi Dadri	Granted	30.06.20-31.03.25
167.	Kheri Batter	SHIV SHAKTI STONE CRUSHER, Village Kheri BattarTehsil Ch Dadr	Granted	01.06.18-31.03.23
168.	Birhi kalan	Shiv Shankar Stone Crusher Vill-Birhi Kalan,Distt Bhiwani	Granted	09/07/18 - 31/03/23
169.	Mankawas	Shiv Shanti Stone Cruhser,	Granted	01.04.21-

		Village Mankawas, Charkhi Dadri, Bhiwani		*31.03.24*
170.	*Atela Kalan*	*Shiv Stone Crusher, Vill. Atela Kalan, Bhiwani*	*Granted*	*27.04.20-31.03.25*
171.	*Asawari*	*Shiv Stone Crusher, Village Asawari, Bhiwani*	*Granted*	*01.04.18-31.03.23*
172.	*Jhojhu Kalan*	*Shiv Stone Crusher, Village Jhojhu Kalan, Ch. Dadri*	*Granted*	*07.01.18-31.03.22*
173.	*Pichopa Kalan*	*Shiv Stone Crushing co., Village Pichopa kalan, Charkhi Dadri,*	*Granted*	*01.06.20-31.03.25*
174.	*Birhi kalan*	*Shiva Stone Crusher, Village Birhi Kalan, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*21.02.21-31.03.23*
175.	*Mankawas*	*Shivalik Stone Crusher, Village Mankawas, Charkhi Dadri, Bhiwnai*	*Granted*	*01.10.17-31.03.22*
176.	*Kheri Batter*	*Shivalya Construction Pvt Ltd Co., Village Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.23*
177.	*Mankawas*	*Shivalya Grit Udyog, Village Mankawas, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*01.04.19-31.03.24*
178.	*Mankawas*	*Shree Balajee Stone Crusher, Village Mankawas, Tehsil Chakrhi Dadri, Bhiwan*	*Granted*	*12.12.17-31.03.22*
179.	*Bilawal*	*Shree Balaji Stone Crusher, Village Bilawal , , Bhiwani*	*Granted*	*01.04.21-31.03.26*
180.	*Kaliyana*	*Shree Balaji Stone Crusher, Village Kaliyana, Ch. Dadri*	*Granted*	*17.02.21-31.03.25*
181.	*Kheri Batter*	*Shree Dada Dohla Stone Crusher Vill Kheri Battar,Distt Charkhi Dadri*	*Granted*	*20.09.18-31.03.23*
182.	*Kheri Batter*	*Shree Ganesh Crusher Udyog, Village Kheri Battar, Ch. Dadri*	*Granted*	*01.04.21-31.03.26*
183.	*Ramalwas*	*Shree Ganpati Stone Crushing Mills, Village Ramalwas, Charkhi Dadri*	*Granted*	*30.08.20-31.03.25*
184.	*Pichopa Kalan*	*Shree Laxmi Stone Crusher, Pichopa Kalan, Ch. Dadri.*	*Granted*	*18.11.19-31.03.24*
185.	*Kheri Batter*	*Shree Luxmi Stone Crusher, Kheri Battar, Bhiwani*	*Granted*	*01.10.20-31.03.25*
186.	*Kheri Batter*	*Shree Maha Luxmi Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
187.	*Pichopa Kalan*	*Shree Mahadev Stone Crusher, Village Pichopa Kalan, Tehsil Charkhi Dadri*	*Granted*	*01.04.21-31.03.26*
188.	*Kheri Batter*	*Shree Nanak Stone Crusher, VPO Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
189.	*Kheri Batter*	*Shree Ram Stone Crusher, Village Kheri Battar,Tehsil Charkhi Dadri,*	*Granted*	*01.04.21-31.03.26*
190.	*Kheri Batter*	*Shree Satyam Stone Crusher, Kheri Battar, Bhiwani*	*Granted*	*01.04.18-31.03.23*
191.	*Pichopa Kalan*	*Shri Dada Devi Nath Stone Crusher, Village Pichopa Kalan, Tehsil Charkhi Dadri, Bhiwani*	*Granted*	*14.08.20-31.03.23*
192.	*Pichopa Kalan*	*Shri Ganesh Ji Stone Crusher Vill Pichopa Kalan Tehsil & Distt Charkhi Dadri*	*Granted*	*26/07/18 - 31/03/23*
193.	*Kheri Batter*	*Shri Giriraj Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.2021-31.03.26*

194.	*Kheri Batter*	*Shri Hari Stone Crusher, Village Kheri Batter, Bhiwani*	*Granted*	*01.04.21-31.03.26*
195.	*Pichopa Kalan*	*Shri Laxmi Ji Stone Crusher, Pichopa Kalan, Charkhi Dadri*	*Granted*	*06.11.19-31.03-24*
196.	*Birhi kalan*	*Shri Rattan Grit Udyog Village Birhi Kala District Bhiwani*	*Granted*	*15.05.21-31.03.26*
197.	*Kheri Batter*	*Shri Sai Baba Stone Crusher, Vill. Kheri Batter, Bhiwani*	*Granted*	*28.02.21-31.03.26*
198.	*Kheri Batter*	*Shri Shivam Stone Crusher, Kheri Batter, Charkhi Dadri, Bhiwani*	*Granted*	*01.04.21-31.03.26*
199.	*Kaliyana*	*Shri Shyam Stone Crusher Village Kaliyana Tehsil Ch Dadri Bhiwani*	*Granted*	*26/07/18 - 31/03/23*
200.	*Pichopa Kalan*	*Shyam Grit Udyog Village Pichopa Kalan Tehsil Charkhi Dadri*	*Granted*	*01.04.21-31.03.26*
201.	*Jhojhu Kalan*	*Shyam King Stone Crusher Village Jhoju Kala Tehsil Ch Dadri BHIWANI*	*Granted*	*02.12.16-30.09.21*
202.	*Pichopa Kalan*	*Shyam Stones Vill-Pichopa Kalan,Tehsil & Distt Charkhi Dadri*	*Granted*	*06.05.21-31.03.26*
203.	*Kheri Batter*	*Silver Stone Crusher Village Kheri Battar Tehsil Ch Dadri Bhiwani (Old name Jai Shiv SC)*	*Granted*	*14.07.20-31.03.25*
204.	*Kheri Batter*	*Sita Nath Stone Crusher, Village Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.25*
205.	*Kheri Batter*	*Siwach Stone Cruhser, Vill. Kheri battar, Bhiwani*	*Granted*	*01.04.17-31.03.22*
206.	*Pichopa Kalan*	*Sohna Aggregate Solutions (18CRD63956) Vill Pichopa Kalan Tehsil & Distt Charkhi Dadri*	*Granted*	*23.10.19-31.03.24*
207.	*Pichopa Kalan*	*Soorya Stone Crusher Village Pichopa Kala Tehsil Ch Dadri*	*Granted*	*04.07.20-31.03.24*
208.	*Kheri Batter*	*Subh Ram Stone Crusher Village Kheri Battar, Bhiwani*	*Granted*	*01.04.20-31.03.25*
209.	*Kheri Batter*	*Subham Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
210.	*Pichopa Kalan*	*SUMAN STONE CRUSHER, V.P.O- Pichopa Kalan, Charkhi Dadri*	*Granted*	*01.04.21-31.03.25*
211.	*Kheri Batter*	*Sunrise stone Crusher, Village Kheri Batter, Bhiwani*	*Granted*	*01.04.19-31.03.24*
212.	*Tiwala*	*Super White Stone Crusher, Village Tiwala, Charkhi Dadri*	*Granted*	*06.02.18-31.03.22*
213.	*Kheri Batter*	*Suryawansni Stone Crusher, Village Kheri Batter, Bhiwani*	*Granted*	*13.10.17-31.03.22*
214.	*Birhi kalan*	*Swastik Stone Crusher, Village Birhi Kalan, Charkhi Dadri*	*Granted*	*29.08.17-31.03.22*
215.	*Pichopa Kalan*	*Swastik Stone Crusher, Village Pichopa Kala Tehsil Ch Dadri*	*Granted*	*26.04.19-31.03.22*
216.	*Kheri Batter*	*Taj Stone Crusher, Vill. Kheri Battar, Bhiwani*	*Granted*	*01.04.21-31.03.26*
217.	*Mankawas*	*Thadeshri Stone Crusher Vill-Mankawas,Distt Bhiwani*	*Granted*	*01.04.21-31.03.25*
218.	*Jhojhu Kalan*	*Trishul Stone Crushing Mills Vill-Jhojhu Kalan,Distt Bhiwani*	*Granted*	*01.04.21-31.03.26*

219.	Asawari	Uma Stone Crusher, Village Asawari, Bhiwani	Granted	01.04.18-31.03.23
220.	Birhi kalan	V K Stone Crushing Co Vill-Birhi Kalan Distt Dadri	Granted	01.04.21-31.03.26
221.	Kheri Batter	Venus Stone Crusher Village Kheri Battar Tehsil Charkhi Dadri	Granted	07.01.18-31.03.22
222.	Pichopa Kalan	Vijay Stone Crusher, Village Pichopa kalan, Charkhi Dadri,	Granted	01.04.21-31.03.26
223.	Mankawas	Vikas Stone Crusher, Mankawas, Ch. Dadri	Granted	01.10.20-31.03.25
224.	Kheri Batter	Vishal Stone Crusher, Village Kheri Batter, Charkhi Dadri, Bhiwani	Granted	01.10.19-31.03.24
225.	Kaliyana	Zamidar Stone Crusher Village Kaliyana, Dadri	Granted	29/07/18 - 31/03/23
226.	Kheri Batter	Jai Baba Sita Nath Stone Crusher, Vill. Kheri Battar, Bhiwani	Granted	16/03/21 - 31/03/25
227.	Atela Kalan	Sheoran Stone Crusher, Village Atela Kalan, Charkhi Dadri, Bhiwani	Granted	01/04/21 - 31/03/26
228.	Kaliyana	Shree Partaop Stone Crusher, Kaliyana, Charkhi Dadri	Granted	12.11.20 to 31.03.25
229.	Kheri Batter	JHANDEWALA STONE CRUSHER, VILLAGE KHERI BATTAR, Dadri	Granted	21.03.21-31.03.25
230.	Kheri Batter	Yash Stone Crusher, Kheri Batter, Charkhi Dadri	Granted	31.03.21-31.03.25
231.	Kheri Batter	Sanjay Stone Crusher, Village- Kheri Batter, Charkhi Dadri	Granted	10.02.21-31.03.25
232.	Kheri Batter	Shree Shyam Grit Udyog Village Kheri Batter Tehsil Charkhi Dadri	Granted	31.03.21-31.03.25
233.	Kheri Batter	Jai Shri Shivam Stone Crusher, Kheri Batter, Charkhi Dadri, Bhiwani	Granted	06.04.21-31.03.25
234.	Jhojhu Kalan	Baba Hanuman Minerals Vill-Jhojhu Kalan,Distt Charkhi Dadri	Granted	01.04.21-31.03.25
235.	Kheri Batter	Choudhary Stone Crusher, Village Kheri Batter, Bhiwani	Granted	22.03.21-31.03.25
236.	Kheri Batter	Sangwan Stone Crusher, Vill. Kheri Battar,	Granted	19.12-19-31.03.24
237.	Kheri Batter	Baniwal Stone Crusher, Vill. Kheri Battar, Bhiwani	Granted	02.06.21-31.03.26
238.	Birhi kalan	Jagdish Pahal Stone Crusher Village Birhi Kalan District Bhiwani BHIWANI	Granted	13.01.21-31.03.26
239.	Kaliyana	New Baba Sita Nath Stone Crusher, Village Kaliyana, Charkhi Dadri, Bhiwani	Granted	02.06.21-31.03.26
240.	Kalali	Shiv Bhole Stone Crusher Village Kalali Tehsil Ch Dadri District Bhiwani	Granted	26.04.21-31.03.26
241.	Pichopa Kalan	Shree Ganesh Stone Crusher Village Pichopa Kala Tehsil Ch Dadri	Granted	08.04.21-31.03.26
242.	Kheri Batter	United Stone Crusher, Village Kheri Battar, Bhiwani	Granted	01.04.21-31.03.26
243.	Kalali	Sadbhawna Stone Crusher, Village Kalali, Ch. Dadri	Granted	19.08.21-31.03.26
244.	Asawari	Shiv Bhole Stone Crusher	Granted	25.08.21-

		Vill-Asawari,Distt Bhiwani		*31.03.26*
245.	*Kheri Batter*	*Jai Shree Shyam Stone Crusher. Village Kheri Batter, Tehsil Charkhi Dadri,, Bhiwani*	*Granted*	*01.04.19-31.03.24*
246.	*Kaliyana*	*Rao Stone Crusher Co., Village Kaliyana Charkhi Dadri, Bhiwani*	*Granted*	*11.07.17-31.03.22*

7. The conclusion in the report is as follows:-

"Conclusion:-

1. *The inspection of stone crusher zone Charkhi Dadri have been conducted by Monitoring Committee headed by Justice Pritam Pal, Smt. Urvashi Gulati, Rtd. IAS, Sh. Baburam Ex. MS PPCB alongwith District administrative, Charkhi Dadri on dated 17.03.2021 and 18.03.2021 during visit the committee inspected 22. Nos. of stone crushing units in various cluster. The detailed report of this inspection has already been noted above.*

2. *The inspection of stone crusher zone Charkhi Dadri have been conducted by Monitoring Committee headed by Justice Pritam Pal, Smt. Urvashi Gulati, Rtd. IAS, Sh. Baburam Ex. MS PPCB alongwith District administrative, Charkhi Dadri on dated 23.07.2021 and 24.07.2021. The detailed report of this inspection has already been noted above.*

3. *The Regional office, Bhiwani has requested the 03 Nos. instate namely TERI (The Energy and Resource Institute, Lodhi Road, New Delhi) and NEERI (National Environmental Engineering Research Institute, Delhi Zonal Centre, Naraina, New Delhi and Dr. Vivek Narayan Singh, Head of Department, Environment Protection Division (EPD), Shri Ram Institute for Industrial Research, 19, University road, New Delhi. However, the proposal has been received from TERI and NEERI only & to complete the procedure for allotment of the work of study of apportionment, minimum 03 nos. of quotations are required. Once the procedure is complete the work will be allotted to the institute.*

4. *No new stone crusher of any capacity has been allowed to established in District Charkhi Dadri."*

8. We have considered the report dated 27.09.2021 in pursuance of order dated 02.02.2021. The report does not mention status of compliance of directions in para 7 of the said order requiring stopping of polluting activities beyond carrying capacity and also requiring that only such activity may be allowed which the environment can sustain irrespective of date of setting up of the stone crushers. Needless to say

that mere compliance by individual stone crusher is not enough if the environment does not have capacity to sustain the polluting activity in question. on account of pre-existing pollution load. In such situation, stone crushers can be allowed only if they do not contribute further to the pollution load by taking such mitigation measures, as viable. Standard laid down for an individual units are subject to assimilative capacity of the environment to sustain additional air pollution load as laid down by this Tribunal vide order dated 17.02.2021 in *O.A. No. 1016/2019, Utkarsh Panwar v. CPCB & Ors.*, dealing with the issue of prohibiting/regulating brick kilns in NCR, having regard to the absence of carrying capacity of the environment. Contrary to that, report merely mentions that no new stone crushers have been allowed. Action taken against stone crushers beyond carrying capacity which environment cannot sustain, has not been mentioned. Further, legality of measurement of raw material for the stone crushers needs to be ascertained and remedial action taken. The Committee being constituted may look into the aspect. Thus, in view of absence of carrying capacity and unsustainability of the stone crushers *prima-facie* the stone crushers may be liable to be closed to the extent the same are not sustainable. The list of operating stone crushers also mentions District Bhiwani at many places, apart from Charkhi Dadri, which was initially the subject matter of consideration. Thus, the said District will also, to the extent necessary, have to be covered by the remedial action. The report dated 31.01.2021 relates to the study period of 250 days from 04.03.2020 to 08.11.2020. The relevant table has been quoted earlier and is reproduced below for ready reference:-

> **"***The carrying capacity assessment of ambient air environment, of District Charkhi Dadri as estimated by the Joint Committee based on the available data of Continuous Ambient Air Quality Monitoring Station (CAAQMS) located in the district, for time period of 250 days*

i.e. 04.03.2020 to 08.11.2020 for the predominant air quality parameter i.e. PM_{10}, is as follows:

Particulars	***Values***	***Summer Season***	***Monsoon Season***	***Post Monsoon Season***
Area of District (km^2)	*1370*	*1370*	*1370*	*1370*
Mixing height (km)	*0.691*	*0.745*	*0.672*	*0.643*
Volume of air in the district	*946*	*1021*	*921*	*882*
PM10 (pg/m^3)	*265*	*246*	*177*	*409*
Total Estimated load of particulate matter in ambient air in the district in	***250815***	***251508***	***162671***	***360369***
Assimilative Carrying Capacity (kg)	***94647***	***102073***	***92112***	***88153***
Supportive Carrying Capacity (kg)	***-156168***	***-149435***	***-70558***	***-272216***

9. It is well known fact that from the period from November to February, which has not been taken into account, the air quality is certainly inferior to the rest of the year. In view of negative carrying capacity, only those stone crushers can be permitted which do not add to the pollution load by adopting appropriate technology or methodology enabling functioning without deterioration to the air quality, during the operation of the stone crushers or during the transportation of raw material and finished product.

10. Number of stone crushers to be permitted may have to be suitably reduced to maintain adequate distance inter-se, as per formula suggested in above report of the Expert Committee which is reproduced below:-

> "*(ii)* ***Considering the stone dust settlement behaviour, the inter-se distance between two stone crushing units may be kept as:***
>
> ***$d = (h_i * N. + h2 * p2)/100$***
>
> ***Where, d = inter-se distance between two stone crushing units (in meter)***
>
> ***h_1 & h_2 = height of highest nodes for unit 1 & 2, respectively (in meter)***

Pi& P2 = production capacity for unit 1 & 2, respectively (in MTD)

11. There is also need to implement the recommendations in the report of the Expert of the Committee dated 31.01.2021. Further solution to be considered for permitting operation of stone crushers can be development of a green belt around the periphery of the area where stone crushers are located of the width ranging from 25 meters to 50 meters, wherever viable. Any other pockets of land available may also be considered for afforestation within the crushing zone to improve the micro climate. The District Administration may also undertake paving the roads in and around the crushing area in additional water sprinkling on regular basis in the interest of public health of the citizens affected by the air pollution generated in the process.

12. Let a joint Committee of CPCB, State PCB, District Magistrates Charkhi Dadri and Bhiwani, jurisdictional Conservator of Forest, nominee of IIT Delhi who may be expert on the subject of air pollution and a Pulmonologist nominated by DG Health, Haryana meet within two weeks and ponder over the issue. They may interact with the stake holders including the representatives of the stone crushers, who may be informed about the proceedings before this Tribunal by the State PCB in coordination with any other concerned authorities in an appropriate manner by e-mail or otherwise. The CPCB and the State PCB will be nodal agency for coordination and compliance. Any expenses to be incurred will be borne by the State PCB subject to further orders. The District Magistrate may provide logistics for execution of the order. The report may be furnished within three months by email by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may be also be uploaded on the website of the State PCB for information of all the

affected stone crushers who will be at liberty to file their comments, if any, to the report before this Tribunal within 15 days of uploading of the report.

List for further consideration on 07.04.2022.

A copy of this order be forwarded to the CPCB, State PCB, District Magistrates Charkhi Dadri and Bhiwani, Conservator of Forest, nominee of IIT Delhi and a Phrenologist nominated by DG Health, Haryana by e-mail.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

October 26, 2021
Original Application No. 607/2018
A

Item Nos. 03 to 05 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL

(By Hybrid Mode)

Original Application No. 667/2018

Mahendra Singh Applicant

Versus

State of Haryana & Ors. Respondent(s)

With

Original Application No. 679/2018

Tejpal Applicant

Versus

State of Haryana & Ors. Respondent(s)

With

Original Application No. 599/2019

Bishamber Singh Applicant

Versus

State of Haryana & Ors. Respondent(s)

Date of hearing: 18.01.2023

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Raj Kumar, Advocate

Respondent: Mr. Rahul Khurana, Advocate for the State of Haryana & HSPCB with Mr. Krishan Kumar, Regional Officer, HSPCB
Mr. Aman Bhalla, Advocate for CPCB
Mr. Tarun Gupta, Advocate for Shree Vinayak Stone Crusher

ORDER

1. This order will deal with Original Application Nos. 667/2018, 679/2018 and 599/2019. O.A Nos. 667/2018 and 679/2018 were earlier also being dealt with by a common order as shown by order dated 03.12.2020. O.A. No. 599/2019 was dealt with by a separate order earlier

but vide order date 3.12.2020, it was made clear that directions in O.A. No. 667/2018 will also apply to O.A. No. 599/2019. Issues in all the three matters are interconnected in terms of air and noise pollution due to crushing of stone or other such minerals in same area, in violation of norms and extraction of ground water in the water deficient area of District Mahendragarh, Haryana (dark zone), to the detriment of environment. In first two matters, crushing of stones is involved while in OA No. 599/2019, polluting activity is of grinding of minerals, which may be other than stones.

2. Order dated 03.12.2020 in O.A Nos. 667/2018 and 679/2018 deals with the facts and the background, including the order of the Hon'ble Supreme Court dated 02.11.2020 in *Civil Appeal No. 6368 of 2019* directing this Tribunal to dispose of the matter, preferably within four weeks, leaving open for the parties to argue all points before this Tribunal. The order also contains substantial discussion on the issue. The Tribunal considered the Notification of the State of Haryana laying down siting criteria for the stone crushing activities and environmental norms and proceedings before the Punjab and Haryana High Court on the subject of distance criteria for location of such units. The Tribunal also considered the status of air pollution in the NCR region and its adverse health impact so as to consider prohibition/regulation of activities adding to pollution load to the detriment of public health. Reference was made to the earlier order of the Tribunal dealing with the closing/restricting coal fired brick kilns, having regard to the data of air pollution. It will be appropriate to reproduce certain parts of the said order.

3. We may first reproduce the charts about the laid down air quality standards and nature of health impact of the increased air pollution,

which have been extracted from the judgement of the Hon'ble Supreme Court in *Arjun Gopal & Ors. v. UOI & Ors*[1]:

"***Table 1***

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

Table 2

AQI Category, Pollutants and Health Breakpoints								
AQI category (Range)	**PM_{10} 24-hr**	**$PM_{2.5}$ 24-hr**	**NO_2 24-hr**	**O_3 8-hr**	**CO 8-hr (mg/m^3)**	**SO_2 24-hr**	**NH_3 24-hr**	**Pb 24-hr**
Good (0-50)	**0-50**	**0-30**	**0-40**	**0-50**	**0-1.0**	**0-40**	**0-200**	**0-0.5**
Satisfactory (51-100)	**51-100**	**31-60**	**41-80**	**51-100**	**1.1-2.0**	**41-80**	**201-400**	**0.5-1.0**
Moderately polluted (101-200)	**101-250**	**61-90**	**81-180**	**101-168**	**2.1-10**	**81-380**	**401-800**	**1.1-2.0**
Poor (201-300)	**251-350**	**91-120**	**181-280**	**169-208**	**10-17**	**381-800**	**801-1200**	**2.1-3.0**
Very poor (301-400)	**351-430**	**121-250**	**281-400**	**209-748***	**17-34**	**801-1600**	**1200-1800**	**3.1-3.5**
Severe (401-500)	**430+**	**250+**	**400+**	**748+***	**34+**	**1600+**	**1800+**	**3.5+**

"

4. Report dated 23.07.2019 filed by the joint Committee of the Deputy Commissioner, the District Town and Country Planning department, the Divisional Forest Officer Mahendergarh and the Haryana Pollution Control Board considered in the earlier order is reproduced below for ready reference:-

[1] (2017) 1 SCC 412

"

a. Siting criteria

1. *There are total 158 Nos. of stone crushers; out of these 118 Nos. are installed/operational and remaining 40 Nos. of stone crushers are under installation at various stages after obtaining CTE from HSPCB on the basis of siting norms reports submitted by the Tehsildar and DFO as per Notification 11.05.2016. Out of 118 Nos. of installed/operational stone crushers,* ***46 Nos. of stone crusher are not meeting the siting criteria,*** *as mentioned in Table-2 (Sr. no. 1 to 46). Out of 40 Nos. of stone crushers which are under installation at various stages,* ***26 Nos. of stone crushers are not meeting the siting criteria as per notification dated 11.05.2016 & Notification dated 04.04.2019*** *as mentioned in Table-2(Sr. No. 47 to 72). Brief details of total 72 Nos. non complying stone crushers is described as below in Table-4:-*

Table-4

Sr. No.	***Remarks***	***Nos.***
1.	*Total Non-Complying stone crushers as per siting criteria*	*72*
2.	*Action already taken* *CTE Revoked* *Closed by Board due non compliances under Air Act, 1981* *CTE Revocation under process* *Closure and CTO Revocation under process*	*31*
3.	*Show cause notices issued non complying units identified after DGPS measurement*	*29*
4.	*No Action required at this stage* *Operational stone crushers granted time for shifting (Annexure II &III)* **Already closed by Board described above at Sr. No. 2 =04+01** *Under process stone crusher shifting policy w.r.t. notification 07.11.2017 = 08*	*12*

2. HSPCB has already revoked consent to establish of following 03 Nos. (as mentioned in Table-2, at Sr. No. 70 to 72) stone crushers which are also individual respondents in OA No. 667 of 2018 titled as Mahendra Singh Vs. State of Haryana and Ors. and OA No. 679 of 2018 titled as Tejpal Vs. State of Haryana and Ors. filed before Hon'ble National Green Tribunal respectively:-

i) M/s. DEV SHRI KRISHNA STONE CRUSHER Khewat No. 45, Khatoni No. 53, M.No. 12, Kila No. 25/2 (3-13) M. No. 15, Kila No. 5 min East (7-0) Total 10 Kanal 13 Marla, Village-Karota, Tehsil-Narnaul, Distt. Mahendragarh.

ii) M/s. Unique Stone Crusher, Khewat No. 15, Khatoni No. 15, M. No. 11, Kila no. 11/2(2-15), 20(7-12) & 21/1 (6-9) Total 16 Kanal 16 Marla, Vill-Karota, Narnaul, Distt. Mahendragarh.

iii) *M/s. KSY BUILDCON, Khewat No. 47, Khatoni No. 68, M. No. 9, Kila no. 15/2(3-16), 16(7-19), 24/1/1(0-16), 25/1/1(0-18) Total 13 Kanal, 09 Marla at Vill- Khatoli Jat, Nangal Chaudhary, Distt. Mahendragarh. Copies of CTEs revocation order is attached as Annexure-XIII to XV.*

3. HSPCB has initiated action for closure and revocation of CTE/CTO as applicable against all those 29 stone crushers (s mentioned in Table -2, at Sr. No. 1 to 24 & 68 to 72) whose parameters were not accordance with measurement done earlier through Shazra & also are not meeting siting criteria as per the fresh measurement report with DGPS.

4. HSPCB has also issued show cause notices for closure and revocation of CTE/CTO on 23.07.2019 as applicable under provisions of sub section 4 of section 21 of Air (Prevention and Control of Pollution) Act, 1981 against all other 29 stone crushing units (as mentioned in Tablke-2, at Sr. No. 31 to 42 & 51 to 67) which were found non-complying with the report (submitted by Tehsildar on 27.07.2019) after DGPS measurement and further action shall be taken accordingly.

5. Two stone crushers (as mentioned in Table-2, at Sr. No. 29 to 30) have already been closed & sealed by Board due to non-compliance under Air Act, 1981.

6. Five stone crushers (as mentioned in Table-2, at Sr. No. 25 to 29) have already been granted time for shifting/relocation as per notification 11.05.2016 and Govt. Order 11.06.2019, out of these one stone crusher mentioned in Table -2 at Sr. No. 29 has already been closed & sealed by Board due to non-compliance under Air Act, 1981.

7. Eight stone crushers (as mentioned in Table-2, at Sr. No. 43 to 50) are not meeting siting criteria only by the municipal limits notification dated 07.11.2017 of Urban Local Bodies. If draft Urban Local Bodies Notification, dated 08.03.2019 will be finalised as such, then all these 8 stone crushers will fulfil the siting criteria. Further, decision of Govt. of Haryana regarding policy for shifting such stone crushing units as proposed by HSPCB is yet to be finalised by the Govt. of Haryana.

b. Mechanism for drawl of Water

1. Twenty Nos. of operating stone crushers are not taking treated water from STP of PHED as per detailed list provided by PHED (Annexure-XVI). HSPCB had issued show cause notices to submit the source of water being used and permission from any other permitted source. Only five units have submitted reply which was not found satisfactory. HSPCB has initiated action for closure and

revocation of CTO against all these twenty stone crushers.

2. Eighteen Nos. of stone crushers falling in dark zone have installed illegal bore-well/tube-well in their premises without any permission from the GWC and illegal bore-well/tube-well has been sealed by the GWC, Narnaul as mentioned in Table-3.

3. Joint Committee in coordination with CGWA shall make an assessment of environmental compensation for illegal extraction of ground water by these stone crushers, in accordance with order of this Hon'ble Tribunal dated 30.11.2018 in Harinder Singh & Ors. Vs. Prateek Buildtech (India) Pvt. Ltd. & Ors and order dated 30.04.2019 in Ramkmar Vs. State of Haryana & Ors. (OA No. 1032/2018)."

5. The discussion in the said order is as follows:-

"**8. **Substance of the submissions is that the joint Committee report with regard to violation of siting norms is against the order of the High Court and further decisions of the State**. Though this Tribunal has repeatedly held that even subsequently laid down norms and safeguards will bind already established units to give effect to the principle of sustainable development and there is no vested right of a unit established against any future laying down of safeguards to give effect to the Constitutionally guaranteed citizens right to clean environment[2] However, to avoid conflicting orders and assuming the argument to be correct, compliance of environmental norms in terms of ambient air quality, health impact on the inhabitants and the carrying capacity of the area cannot be wished away. **The only issue which is said to be pending consideration before the High Court is the siting criteria and not the issues of other pollution norms, background concentration of air quality and the carrying capacity in terms of the air quality which is being considered in the present matter by this Tribunal in terms of order dated 24.7.2019 noted earlier. The carrying capacity is a facet of sustainable development which, among others, will require consideration of air quality, inter-se distance and additive impact of operation of the stone crushers on the air quality and water in the light of the 'Precautionary' principle of environmental law to be enforced by this Tribunal under sections 20 and 15 of the NGT Act, 2010.

*9. It is well known that NCR is facing air pollution issues and, in winter months, the problem is further aggravated. Polluting activities, even if otherwise legitimate, are required to be stopped/regulated to avoid adverse health impact on account of air pollution. **Stone crushers add to air pollution.** On that account as per Graded Response Action Plan for Delhi & NCR (GRAP), the stone crushers in NCR have to be automatically closed when the air quality is 'severe'. Relevant portion of the Graded Response Action Plan is as follows:-*

[2] Order dt 14.8.2019 OA 53/2019, Tej Pal v state of UP, prs 5 to 8

"

Severe (ambient PM2.5or PM10concentration value is more than 250 µg/m3 or 430µg/m3 respectively)	*Agency responsible/Implementing Agency*
Close brick kilns, Hot Mix plants, ***Stone Crushers***	*Chairpersons Delhi Pollution Control Committee, State Pollution Control Boards of Haryana, Rajasthan, and Uttar Pradesh*
	Superintendent of Police and Deputy Commissioner of respective districts

"

10. GRAP is self-operating but does not exclude assessment-based restrictions. ***Permissibility of stone crushers depends on the available air quality and impact of operation of such stone crushers on the environment and public health in a particular area****. In this regard, we may notice the observations of the Hon'ble Supreme Court in some matters. In* ***M.C. Mehta v. Union of India, (1992) 3 SCC 256, at page 257,*** *it was observed:*

> *"….Utter disregard to environment has placed Delhi in an unenviable position of being the world's third grubbiest, most polluted and unhealthy city as per a study conducted by the World Health Organisation.* ***Needless to say that every citizen has a right to fresh air and to live in pollution-free environments.***
>
> ***3.*** *For the reasons to be recorded and pronounced at a later stage we order and direct as under:*
>
> *(1)* ***The mechanical stone crushers established/operating in Lal Kuan, Anand Parbat, Rajokri, Tughlakabad and in any other area of the Union territory of Delhi shall stop operating/functioning with effect from August 15, 1992. No stone crusher shall operate in the Union territory of Delhi from August 15, 1992 onward.***
>
> *(2)* ***The mechanical stone crushers established/operating in Suraj Kund, Lakhanpur, Lakkarpur, Kattan, Gurukul, Badkhal, Pallinangla, Saraikhaja, Anangpur and Ballabgarh areas of Haryana shall stop operating/functioning with effect from August 15, 1992. No stone crusher shall operate in the above-said area from August 15, 1992 onward.***

11. Again, in ***M.C. Mehta v. Union of India, (2006) 11 SCC 582, at page 586,*** *it was observed* ***:***

> *"While conducting a study of environmental problems of the Aravalli hills and preparation of action plan for restoration of environmental quality in Gurgaon district,* ***the Central Mine Planning and Design Institute Limited (CMPDI), had inter alia noted that in the Aravalli hills, large number of activities, operations of stone crushers and deforestation***

besides other activities are causing environmental degradation. These mines are usually located in clusters in remote mineral-rich districts/areas where living standards are lower and understanding of people towards environmental impact is also poor*. In the past, the mine operators took no note of environmental damage. In fact, they were not even conscious about it. The attitude of the mining community is to ignore the environmental concerns. In the majority of the cases, the environmental concerns are ignored for making quick profits. The small mines (less than 5 hectares) and the mining of minor minerals which are no doubt small individually but have damaging characteristics when in clusters e.g. the* ***mines of granite, marble, slates, quartzite, etc. (falling under minor minerals) are no less damaging than the others****, especially when the processing is taken into consideration.* ***The mining activities result in disturbance of land surface, altering drainage pattern and land use, besides the pollution problems, which may lead to the environmental problems of air, water and noise pollution and solid waste pollution****."*

12. *In People Right and Social Responsibility Centre v UoI, (2010) 14 SCC 769, it was noted that* ***persons at and close to stone crushers suffer from Silicosis disease against which safeguards are to be adopted.***

13. In Arjun Gopal & Ors. v. UOI & Ors.[3]*, the Hon'ble Supreme Court noted the* ***adverse impact of unsatisfactory air quality on health*** *and air quality grading as follows:*

> ***"5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution category wise. The gradation of AQI and its health impact is extracted below:***
>
> ****…….Table 1 and 2 already reproduced above.*
>
> *15. In Arjun Gopal & Ors. v. UOI & Ors.*[4]*, it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was smoked into an environmental*

[3] (2017) 1 SCC 412
[4] (2017) 1 SCC 412

emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> *"4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m³, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m³ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m³ and with an annual average $PM_{2.5}$ level of 122 µg/m³, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> *5. xxx……xxx……xxx*

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of

pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the

worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

16. *In the context of banning sale of crackers having adverse impact on the air quality, it was held that* ***even if there were several sources of pollution, a particular polluting activity could be prohibited****. No equality could be pleaded in this regard. Right to trade was not absolute and could be restricted for protection of Environment which was a specific Directive Principle of State Policy enforcement of which was a reasonable restriction on fundamental right to trade. The ‘Precautionary Principle’ of environmental law allows prohibition of a polluting activity even in absence of scientific certainty. …….”*

17. *Carrying capacity is a facet of sustainable development. It is inherent in ‘Precautionary Principle’ as well as in ‘Inter-generational Equity’. In MC Mehta v. UOI & Ors., construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity. It was observed that:-*

“Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration.”

18. *In Vellore Citizens' Welfare Forum v. UOI & Ors.*[5]*, it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-*

> ***"**10……. **During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems**. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.**"**

19. *These observations are reiterated in (2006) 6 SCC 371.*[6]

22 to 23 *xxx…… xxx…… xxx*

24. *The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the National Green Tribunal Act, 2010 and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,*[7] *and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.*[8] *Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).*[9]

25. *This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-*

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control*

---

[5] (1996) 5 SCC 647
[6] Para 66 to 76
[7] 2019 SCC online SC 322, Para 43-47
[8] AIR 2020 (SC) 3471, Para 75
[9] (2019) 15 SCC 401

*of **vehicular pollution[10], industrial and construction sector pollution[11], power sector pollution[12] and agricultural sector pollution[13]** and orders of this Tribunal dealing with the said issues[14]. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017[15] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such **as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[16]***

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[17]

*5. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes **stopping entry of trucks, stopping construction activities, odd and***

---

[10] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[11] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[12] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[13] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[14] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[15] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[16] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[17] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc*.*

6. The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles."

7to13..xxx……xxxx……xxx

*14. According to the CPCB, draft framework has been prepared and SA study completed in four States (for 05 cities). Study was under progress in 14 States (for 54 cities), and at proposal stage in 10 States (for 37 cities). Methodology for carrying capacity has been shared with State PCBs/PCCs. Twelve (12) States/UTs have given the details of the carrying capacity and the remaining have yet to take necessary steps. CC/SA studies are pre requisite for meaningful planning to enforce environmental law. This pre-requisite should have been undertaken long ago. Air quality norms have been statutorily laid down under the Air (Prevention and Control of Pollution) Act, 1981 as well as the Environment (Protection) Act, 1986 and such norms are being flagrantly violated, which has been made by the Parliament a criminal offence. If the rule of law has to have meaning and guilty are to be punished, the policies of the State have to be based on scientific studies to contain polluting activities within the scope of Carrying Capacity.****"***

26. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. This was referred in the earlier order of this Tribunal in the present matter. It was further observed that while under the orders of the Hon'ble Supreme Court, ***GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation****.*

27. Thus, in view of report of the CPCB, at this stage ***it is not possible to vacate direction not to permit operation of brick kilns in NCR beyond the carrying capacity found by the CPCB. All applications of the brick kiln owners***

seeking rejection of CPCB report and vacation of interim order against operation of brick kilns, without air quality assimilative capacity permitting such activity will stand rejected subject to further exploring viable options, including change to clean fuel like natural gas. *We are conscious that brick kilns may be necessary. Object of this order is not to stop any legitimate business activity but to enforce the right to breathe fresh air which is right to file. The source apportionment studies, placed on record, show that brick kilns contribute 5-7% PM. Air pollution Control devices to be installed by the polluting sources including* ***the brick kilns need to comply not only the consent standards but are also the Ambient Air Quality norms and available assimilative capacity of the region. If the right to fresh air is not enforced, the consequences of brick kilns beyond carrying capacity of the air quality in the area are disastrous in terms of deaths and air borne diseases. This will be contrary to the mandate of the Constitution and the environmental law, particularly the principle of 'Sustainable Development'. It is well established that deteriorated ambient air quality in terms of PM_{10} and $PM_{2.5}$ affects respiratory system particularly, the lungs which may make individuals more vulnerable to get other related fatal diseases.[18]"***

14. It is seen from above, that there was no carrying capacity in Mahendragarh District to sustain brick kilns. Thus, stone crushers can also not be allowed in absence of carrying capacity in terms of air quality to sustain operation of stone crushers. Precautionary principle has to be applied having regard to impact of air pollution on health. Right of citizens to breathe fresh air cannot be denied and right of operating stone crushers cannot get preference over and above right to life on specious plea that the stone crushers were set up as per siting parameters allowed by the State without study of impact of the carrying capacity. As already noted, the siting norms is only one of the issues and even if this issue is to be ignored for the time being, there has to be carrying capacity in terms of air quality.

15. Accordingly, we direct that the joint Committee with the addition of the CPCB to take further steps in terms of order of this Tribunal dated 24.07.2019, quoted earlier for compliance of environmental norms in the light of the carrying capacity of the area and the health impact of the operation of stone crushers on the inhabitants. The joint Committee may go by the order of the High Court and the State Government as far as siting criteria is concerned but close illegally polluting stone crushers in terms of all other environmental norms, including the air quality, illegal water extraction. The joint Committee may also study the health impact on the inhabitants and take remedial action. The State PCB will be the nodal agency for coordination and compliance. The

[18] https://airqualitynews.com/2020/08/13/the-link-between-air-pollution-and-covid-19/http://www.babushahi.com/full-news.php?id=107487

statutory authorities taking coercive measures may ensure due process of law.

16. ***Let an action taken and status report in the matter be furnished before the next date*** *by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."*

6. The matter was thereafter considered on 15.11.2021 in the light of action taken report filed by the State PCB dated 27.09.2021 which was dealt with as follows:-

"A. Status of Stone Crushing Units

(i) A report mentioning the consent and operating status of the stone crushing units in the District Mahendergarh was filed before the Hon'ble NGT, vide dated 23.07.2019.

(ii) The status of the stone crushing units has further been modified as on date (at the time of reporting), wherein the consent to establish and consent to operate were revoked by the Board and the same is enclosed. (Annexure- I).

(iii) The stone crushing units which were found using ground water without obtaining requisite permission from Central Ground Water Authority (CGWA) have also issued Show Cause Notice for imposing Environmental Compensation (Annexure- II).

(iv) The stone crushing units are mainly operating in different clusters and the detail of the same is given below:

Table-I

Tehsil	*Name of the Clusters/ Villages*	*No. of Stone Crushing Units*
Mahendergarh (34)	*Village Garhi*	*21*
	Village Zerpur	*13*
Narnaul (21)	*Village Kultajpur*	*6*
	Village Lutufpur	*9*
	Village Faizabad	*1*
	Village Mandlana	*1*
	Village Raghunathpura	*1*
	Village Karota	*3*
Nangal Chaudhary (107)	*Village Gangutana*	*19*
	Village Bakhrija	*17*
	Village Begopur	*24*
	Village Dholera	*15*

Village Jainpur	*12*
Village KhatoliAhir	*13*
Village Berundla	*3*
Village Panchnota	*2*
Village KhatoliJat	*1*
Village Bayal	*1*

(*v*) *It is also place in record by the Committee that out of 162 Nos. stone crushing units, the HSPCB has monitored 48 Nos. stone crushers for verification of the compliance prior to order Hon'ble NGT order dated 03.12.2020 and status of the same is also enclosed (Annexure- III).Out of 48 Nos. units it is submitted that only 05 Nos. found non-compliance in regards to installation of nonadequate air pollution control devices and with the prescribed emission standards. The detail is attached with Annexure- III.*

(vi) HSPCB has established 02 Nos. Ambient air Quality Monitoring Stations (Manual) at Nangal Chaudhary and Mahendergarh. The monitoring of PM 2.5 and PM 10 is undertaken as per the guidelines prescribed by CPCB. The Ambient Air monitoring network was commissioned from February, 2020, however sufficient data could not be gathered for its analysis due to pandemic.

B. Health Impact on the inhabitants

(i) The concerned CMO vide letter No. PH/2021/72 dated 16.06.2021 has forwarded Air Borne Disease Report, District Mahendergarh for the period 2011 to 2020 (Annexure- IV).

(ii) The report suggests that the number of cases were 21329 in the year of 2011 which has increase to 42309 in the year of 2019, an increase of 100 % cases in the span of 8 to 9 years.

(iii) The report however has not indicated the cause of air borne Disease as neither has identified any specific reason of increasing the air borne disease.

C. Assessment of Carrying Capacity

(i) This refers to the Table 1, mentioned at Para No. A (iv) and which identifies the three clusters of stone crushing units in the District Mahendergarh. The minimum distance between two clusters is found approx. 5 km and the maximum distance is approx. 40 km.

(ii) The maximum stone crushing units are operating in the Tehsil of Nangal Chaudhary and considered to be within the area of 15 Sq. km. Further, the maximum number of stone crushing units operating in Villages Bakhrija (17), Begopur

(24) and Dholera (15) and therefore becomes the prominent source of air pollution.

(iii) The data of ambient air quality for assessment of carrying capacity are gathered as follows:

Table- II (Stone Crusher Operational)

Pre-Monsoon			
Particulars	***Tehsil-Nangal Choudhary***	***Tehsil-Narnaul***	***Tehsil-Mahendergarh***
Study Area (km^2)	*225*	*49*	*225*
Mixing height (km)	*0.6362*	*0.6362*	*0.6344*
Volume of air in the study area (km^3)	*143*	*31*	*143*
PM10 ($\mu g/m^3$)	*669*	*298*	*Monitoring not undertaken due to non-operation of Stone crushing units*
Total Estimated load of particulate matter in ambient air in the study area during study period (kg)	*95667*	*9238*	
Assimilative Carrying Capacity (kg)	*14300*	*3100*	
Supportive Carrying Capacity (kg)	*-81367*	*-6138*	

Table- III (Stone Crusher Operational)

Post-Monsoon			
Particulars	***Tehsil-Nangal Choudhary***	***Tehsil-Narnaul***	***Tehsil-Mahendergarh***
Study Area (km^2)	*225*	*49*	*225*
Mixing height (km)	*0.4483*	*0.4483*	*0.4483*
Volume of air in the study area (km^3)	*101*	*22*	*101*
PM10 ($\mu g/m^3$)	*427*	*273*	*299*
Total Estimated load of particulate matter in ambient air in the study area during study period (kg)	*43127*	*6006*	*30199*
Assimilative Carrying Capacity (kg)	*10100*	*2200*	*10100*
Supportive Carrying Capacity (kg)	*-33027*	*-3806*	*-20099*

Table- IV (Stone Crusher Non-Operational)

Pre-Monsoon			
Particulars	***Tehsil-Nangal Choudhary***	***Tehsil-Narnaul***	***Tehsil-Mahendergarh***
Study Area (km^2)	*225*	*49*	*225*
Mixing height (km)	*0.555*	*0.555*	*0.6344*
Volume of air in the study area (km^3)	*125*	*27*	*143*
PM10 ($\mu g/m^3$)	*499*	*241*	*493*
Total Estimated load of particulate matter in ambient air in the study area during study period (kg)	*62375*	*6507*	*70499*
Assimilative Carrying Capacity (kg)	*12500*	*2700*	*14300*
Supportive Carrying Capacity (kg)	*-49875*	*-3807*	*-56199*

Table- V (Stone Crusher Non-Operational)

Post-Monsoon			
Particulars	***Tehsil-Nangal Choudhary***	***Tehsil-Narnaul***	***Tehsil-Mahendergarh***
Study Area (km^2)	*225*	*49*	*225*
Mixing height (km)	*0.463*	*0.463*	*0.463*
Volume of air in the study area (km^3)	*104*	*23*	*104*
PM10 ($\mu g/m^3$)	*380*	*220*	*411*
Total Estimated load of particulate matter in ambient air in the study area during study period (kg)	*39520*	*5060*	*42744*
Assimilative Carrying Capacity (kg)	*10400*	*2300*	*10400*
Supportive Carrying Capacity (kg)	*-29120*	*-2760*	*-32344*

Note:- *As there is no Sound Detection and Ranging (SODAR) station in district Mohindergarh, so atmospheric mixing height of Delhi (i.e. SODAR station located at CPCB, East Arjun Nagar, New Delhi) is considered for calculation.*

(iv) The above data have been prepared basis on the Ambient Air Quality Monitored by HSPCB on 18 locations on dated 05.03.2021 to 08.03.2021 (Pre-Monsoon) and 24.08.2021 to 27.08.2021 (Post Monsoon) covering the cluster, the village phirni and distance from the stone crushing units. The data

revel that the supporting carrying capacity in all the Tehsils of District Mahendergarh found to be negative. This implies that the total pollution generation due to industrial and domestic activities including transportation (auto emission and road dust etc.) is over the assimilative carrying capacity of the study region.

D. Recommendation

The following recommendations are made considering the status of stone crushing units and assessment of carrying capacity.

a *No new stone crushing units of any capacity shall further be allowed to establish & operate in the region including any expansion of the existing units.*

b. *The stone crushing units which were reported not confirming to the notified siting criteria shall remain close and be shifted as per the Notification dated 11.05.2016 and amended 04.04.2019.*

c. ***The stone crushing units shall provide water sprinkling system and cover the conveyer the belt to ensure minimum dust generation from their operation for further improvement of air quality. It is also recommended that the units shall provide telescoping chute at the level of loading/un-loading of the finished crushed material to avoid any suspension of the same.***

d. ***The stone crushing unit may provide concrete/pacca road to assess the crushing and transport area and provide adequate water sprinkling arrangement so as to minimise the dust formation.***

e. *The Department of Health shall undertake regular survey of the workers and nearby inhabitants to ascertain the impact on inhabitants especially due to operation of stone crushing units besides other air polluting activities.*

f. *A detailed study needs to be undertaken for ascertaining the number and capacity of stone crushing units that can be allowed to operate so as to bring the ambient air quality of the region within the notified standard. A source apportionment study may suffix the need.***"**

7. On behalf of some of the affected units undertaking mineral grinding or stone crushing, including the Association of Crushers Owners and Employees, three separate written submissions have been filed on 08.11.2021. Two sets of written submissions in OA No. 667/2018 are by the stone crushers and are identical. Written submissions by mineral grinding units in OA No. 599/2019 are also in substance similar except that such minerals are smaller in size than stones. The submissions are based on the opinion of a retired Director of MoEF&CC consulted by the industry. The objections relate to methodology of working out the carrying capacity. **We have duly considered the said submissions and do not find any substance therein. The opinion states that mixing height data of Delhi has been taken which is 120 kms away from Mahendragarh. The carrying capacity has been assessed on the**

data of March and August at different locations. Stone crushers are not the only contributors to air pollution. We find that data of Mahendragarh has been separately taken. The opinion relied upon does not show any other data for Mahendragarh to establish that there is carrying capacity. Apart from criticizing the report, if the consultant is of the opinion that there is carrying capacity, the same should be shown with the support of the data compiled, if any, otherwise the opinion is without any tangible basis. As regards the submission of the mining grinding industries, only objection is that size of the minerals grinded is smaller than the stones. This objection has no substance in view of data of air pollution in the concerned area. Smallness of size of the mineral does not by itself rule out air pollution. As regards fulfilment of norms by individual units, the same cannot be seen in isolation, unless it can be shown that no addition is made to the existing excessive pollution load. Stand of the State PCB does not show assimilative air capacity of the area to sustain further contribution of pollution by the mineral grinding units. In any case whether mineral grinding units do not cause any pollution can be directed to be specifically looked into. Further, the PPs have not indicated source of water in absence of which the objection that water is being illegally extracted in the dark zone cannot be brushed aside.

8. **In view of above the report and showing negative carrying capacity not only non-complying but also other polluting units may have to be closed unless it is ensured that there are adequate safeguards enabling operation of stone crushers without adding to the pollution load. In respect of units grinding minerals other than stones, same approach has to be adopted if they add to the existing pollution load. Safeguards can be maintaining distance from habitation and educational/health care institutions, inter se distance, limiting the number to sustainable level, afforestation/development of a green belt around the periphery of the area upto 25 meters from location of stone crushers and in any pockets of land available nearby to improve the micro climate and to act as barrier against air pollution. The District Administration may also undertake paving the roads in and around the crushing area in additional water sprinkling on regular basis in the interest of public health of the citizens affected by the air pollution generated in the process.**

9. **Let a six-member joint Committee of CPCB, State PCB, District Magistrate, Mahindragarh, jurisdictional Conservator of Forest, nominee of IIT Delhi with expertise on the subject of air pollution and a Pulmonologist, nominated by DG Health, Haryana meet within two weeks and ponder over the issue. The CPCB and the State PCB will be nodal agency for coordination and compliance. They may interact with the stake holders, including the representatives of the stone crushers, who may be informed about proceedings before this Tribunal by the State PCB, in coordination with any other concerned authorities, in an appropriate manner by e-mail or otherwise. Any expenses to be incurred will be borne by the State PCB, subject to further**

orders. The District Magistrate may provide logistics for execution of the order. The Committee may give a report about the number of stone crushers and mineral grinding units which can be allowed and subject to what conditions, having regard to air pollution load and adverse impact on public health. The report may be furnished within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may also be uploaded on the website of the State PCB for information of all the affected stone crushers who will be at liberty to file their comments, if any, to the report before this Tribunal within 15 days of uploading of the report.

7. We note with regret that no report in terms of order dated 15.11.2021 was filed within the stipulated period of three months from the said order and only on 08.07.2022, after more than seven months, an interim status report was filed mentioning the allocation of work to different departments. Thereafter, on 08.11.2022, further status report was filed seeking more time for collecting the data. Finally, report dated 16.01.2023 has been filed after more than one year of the last hearing. Such delay in a sensitive matter of this nature where serious violations have been found has only helped the violators and damaged public interest and environment. The report mentions following actions:

> *"1.* ***Study of Health Impact:-*** *The Civil Surgeon, Health Department, Narnaul has organized health camps in Mahendergarh at 70 crushers sites and 11 adjacent villages to study the effect of dust pollution on workers and villagers, focusing on respiratory diseases, Anaemia, Tuberculosis and Diabetes. The health camps were organised from 24.06.2022 to 02.07.2022. The report finds that* ***03% people have abnormal spirometry findings and 0.7 % have abnormal chest X-ray suggestive of pneumoconiosis, possibly due to dust pollution. It suggested that workers engaged in stone crushing activities, within and outside the plants, to use masks & eye protection measures*** *etc. The heaths impact study report, dated 06.07.2022 is enclosed* ***Annexure- 3****.*
>
> *2.* ***Verification of Green Belt:*** *- **The Notification, dated 11.05.2016 has specified that "all stone crushing units shall provide a green belt along the periphery having avenue plantation of two rows after approval of plantation plan by the Divisional Forest Officer concerned". It was discussed in meeting that all concerned Stone crushing unit who has submitted plantation plant & the same will be verify thereafter through conducting physical visits.***

The verification report is due for submission at the earliest.

3. ***Use of Treated sewage:-*** *The Public Health Engineering Department has reported that treated sewage has been utilized by individual stone crushers by lifting it from Sewage Treatment Plants following an agreement with PHED, Narnaul. The department at Narnaul has further intimated status of units using treated sewage by stone crushing units for dust suppression and the treated sewage was drawn from STP located at Rewari Road, Narnaul. The report is enclosed as* ***Annexure- 4****.*

4. ***Development of Emission Inventory:-*** *As per the above order issued in OA for the preparation of the emission inventory of the 18-villages. The identification of the different sources was done during the reconnaissance tour of the study region. The road dust sampling was also done at 26-locations which were then experimentally analyzed in the laboratory for estimating the silt loading. A door-to-door household survey comprising of 137 houses was done in the 18 villages. Also, petrol pump survey of over 200 vehicles was also done for the study. The limited available data related to transportation of materials was obtained from Department of Mines and Geology, Haryana on 29.12.2022 and same was forwarded to IIT, Delhi for preparation of final report on the same. The IIT, Delhi has intimated that the report is under finalization and expected to be over by 15.01.2023 (****Annexure-5****).*

5. ***Illegal Extraction of Ground Water:-*** *An action has already been initiated in the past against a total of 18 stone crushing units. The show cause notices were issued on 06.04.2021 by the then authority i.e. by Central Ground Water Authority empowered to District Magistrate/Deputy Commissioner. The matter was also discussed with the members of the Committee as the Haryana Water Resource Authority is now constituted, and therefore Deputy Commissioner, Mahendragarh at Narnaul has forwarded all such matters to the Haryana Water Resources Authority recovery of Environment Compensation imposed on 18 stone crushers, found extracting groundwater without necessary permission. The Memo No. 7914/MA, dated 04.01.2022 is enclosed (****Annexure- 6****).*

6. ***Recharge of Ground water table: -*** *Haryana Irrigation and Water Resources Department, Narnaul and Panchayat & Development Department, Haryana have made following efforts to conserve the groundwater table in the District Mahendragarh.*

    1.) *There are 02 seasonal rivers flowing through district Mahendragarh i.e. Dohan River and Krishnawati River but due to scanty rainfall in the region, the rivers remain dry. Haryana Irrigation and Water Resources Department, Narnaul has executed a project to recharge the groundwater table by utilizing excess water available in the rainy season in there canals by connecting at 20 various*

*points of river with canal. List of the points is enclosed. (**Annexure- 7**). A total of 183 new ponds were made under the project and also connected to canals by providing concrete pipes for recharging.*

2.) *A total of 75 ponds (accumulated wastewater generated in the village) were identified and under renovation by the Panchayat and Development Department, Haryana in the district of Mahendragarh. List of the ponds is enclosed. (**Annexure- 8**)*

3.) *"Mission Mahendragarh Apna Jal" MMAJ had voluntarily doing job of water saving and plantation with public evolvement, and estimated 100 Crore liters of water has been sent towards ground as to let it stand in talaiyas.*

7. ***Monitoring and Compliance by SPCB:-***

1). *With regards to monitoring of Ambient Air Quality, at 03 different locations, the SPCB has installed two Ambient air Quality Monitoring Stations (Manual) i.e.* ***one at Nangal Chaudhary and other at STP, Mahendragarh to fulfill the criteria Ambient Air Monitoring. In addition, one Continuous Ambient Air Quality Monitoring Station has also been installed by SPCB at Mini Secretariat, Narnaul****, following the norms prescribed by CPCB in this regard. The data (February to November, 2022) captured by Continuous Ambient Air Quality Monitoring Station from is enclosed* ***Annexure- 9****.*

2). *The status of the stone crushing units has been updated and submitted as follows:-* ***The SPCB has taken actions such as closure, prosecution and imposition of Environment Compensation. Total, 13 stone crushers found non-complying the provisions under Air (Prevention and Control of Pollution) Act 1981, were Closed by the Board, other 31 Nos. CTO refused / revoked and found dismantled. An environmental compensation amounting to the tune of INR. 1,60, 50,000 was imposed on 08 stone crushers. The assessment, imposing and recovery of environment compensation on the remaining unit are under process****. The prosecution action has been filed in Special Environment Court, Faridabad against 04 units found operating without units which were found operating violating various provisions of Air (Prevention and Control of Pollution) Act of 1981 and for remaining are under observations. List of Defaulting units is enclosed as* ***Annexure- 10****.*

3). *The status of the mineral grinding units has been updated and submitted as follows:- The SPCB has taken actions such as closure, prosecution and imposition of Environment Compensation.* ***Total 09 mineral grinding units found non-complying, were closed by the Board. Apart from closure action, Environment Compensation***

amounting of Rs. 1,76,37,500/- has been imposed on 08 Nos. mineral grinding units. *The assessment, imposing and recovery of environment compensation on remaining 01 No unit is under process. The prosecution action has been filed in Special Environment Court, Faridabad against 08 Nos. units which were found operating violating various provisions of Air (Prevention and Control of Pollution) Act of 1981 & Guidelines dated 02.04.2012. List of Defaulting units is enclosed as* ***Annexure- 11****.*

4) *The status of the mine has been modified/updated as on date (at the time of reporting), wherein action taken by the Board against the defaulting units found violating the environmental norms were found and Environment Compensation imposed Rs. 3.0 Crore by the Hon'ble NGT vide order dated 11.11.2022 titled as Original Application No. 10/2021 titled as M/s Sanjay Kumar Vs. Union of India and same has been deposited with District Magistrate on dated 15.12.2022 (Copy is enclosed as* ***Annexure- 12****)*

5). *Further,* ***draft Notification, dated 11.11.2022 regarding stone crushers is also under consideration and a copy of the same was issued by Environment Department, Govt. of Haryana vide schedule-II on prescribing emission norms and pollution control measures required for stone crushing units the same is enclosed. (Annexure- 13) Wherein it was proposed that additional air pollution control measures by stone crushing units like laying of tiles in the entire area of the unit, fully covering their conveyors and installing fogger machines in their units, within a period of one year of issuance of the Notification.***

At present following recommendations were made:-

1) *All Stone Crusher units will ensure to provide adequate green belt around the plant and DFO should physical ensure whether they are adequate or not? And accordingly, HSPCB will initiate further necessary action against the non-compliance units.*

2) *All stone crusher unit should strictly comply with directions issued by Environment Department, Govt. of Haryana, vide Stone crusher notification 11.05.2016 and amended from time to time and all mineral grinding unit shall comply guidelines dated 02.04.2012 issued by the HSPCB.*

After receiving IIT Delhi report, needful shall be done and further course of action shall be decided and taken by joint committee constituted within 02 months time period.

*Keeping in view of above, it is requested the Hon'ble NGT may kindly allow additional time upto March, 2023 to Committee to file its comprehensive report in compliance with its order.***"**

8. It is disappointing to note flagrant violation of law and attempt of authorities to cover up the same in violation of earlier orders of this Tribunal. It is difficult to understand reason for such blatant attempt on the part of concerned officers to help violators, who need to be dealt with as per law for sustainable development and protection of environment and public health, ignoring economic interest of violators. Inspite of negative carrying capacity of the area in terms of air quality, large number of stone crushers are being permitted to continue. Air quality monitoring stations at Secretariat of Narnaul and STP of Mahindergarh have no relevance for determining air quality of the area where stone crushers are functioning. Giving irrelevant data from such stations only helps violators to take false plea that air quality in the area is good while data from area where stone crushers may show different picture. There is nothing to show that requisite green belts have been developed nor action has been taken against such blatant violations.

9. Dealing with similar situations of stone crushers illegally operating in adjoining Charkhi Dadri District of Haryana, the Tribunal by separate order passed today, observed:

> "
>
> **10. In the light of above discussion, we direct remedial action for recovery of compensation for past violations, prohibiting illegally operating stone crushers till compliance and to the extent of carrying capacity.**
>
> **11. To capture Robust data to the area, CPCB may install at least 5 more CAAQMS at suitable locations. It will be open to CPCB to install more, if found necessary. Pending setting up of CAAQMS, manual stations may be installed. The number of operating stone crushers be suitably reduced as directed earlier so as to be within the carrying capacity, maintaining appropriate *inter-se* distance as may be suggested by CPCB. Consistent with order dated 26.10.2021, from November to February, no stone crushing unit be allowed to operate in the area unless the air quality index is moderate and above i.e. below 200.**
>
> **12. We also fix interim compensation at the rate of Rs. 20 Lakhs against each of the stone crushers operating in the area**

on 'Polluter Pays' principle. Compensation will cover the period from 5 years prior to filing of this Application and till date. The amount is being fixed at floor level on conservative basis even if particular stone crushers may have operated for shorter period. This will apply to all 343 identified stone crushers as mentioned in para 5 of the report of the joint Committee dated 17.01.2023. The amount may be collected by the State PCB by coercive action on failure of deposit within one month. The amount be used for restoration of environment in the area. Final compensation be fixed by joint Committee of District Magistrate, Charkhi Dadri, Member Secretary, State PCB, CPCB, Forest Department and DFO. CPCB and State PCB will jointly act as nodal agency for coordination and compliance. The Committee may put all the stone crushers to notice of this order and if any stone crusher is aggrieved by order of this Tribunal may be at liberty to move this Tribunal. The units which have been identified as non-compliant may be closed forthwith. The units which are not identified but are operating in violation of norms may also be proceeded against for closure till compliance forthwith. The numbers of units which are to be allowed to operate should be fixed having regard to the carrying capacity. The exercise may be overseen by ACS Environment, Haryana.

13. Action taken report with compliance status as on 30.04.2023 may be filed by 15.05.2023.

List for further consideration on 22.05.2023.

Member Secretary, State PCB and District Magistrate, Charkhi Dadri may remain present in person by Video Conferencing on the next date."

10. Following the above, we direct that remedial action for recovery of compensation for past violations, prohibiting illegally operating stone crushers till compliance and to the extent of carrying capacity. To capture Robust data to the area, CPCB may install at least 5 more CAAQMS at suitable locations. It will be open to CPCB to install more, if found necessary. Pending setting up of CAAQMS, manual stations may be installed. The number of operating stone crushers be suitably reduced as directed earlier so as to be within the carrying capacity, maintaining appropriate *inter-se* distance as may be suggested by CPCB. Consistent with order dated 26.10.2021, from November to February, no stone crushing unit be allowed to operate in the area unless the air quality index is moderate and above i.e. below 200. We also fix interim compensation at

the rate of Rs. 20 Lakhs against each of the stone crushers operating in the area on 'Polluter Pays' principle. Compensation will cover the period from 5 years prior to filing of this Application and till date. The amount is being fixed at floor level on conservative basis even if particular stone crushers may have operated for shorter period. The amount may be collected by the State PCB by coercive action on failure of deposit within one month. The amount be used for restoration of environment in the area. Final compensation be fixed by joint Committee of District Magistrate, Mohindergarh, Member Secretary, State PCB, CPCB, Forest Department and DFO. CPCB and State PCB will jointly act as nodal agency for coordination and compliance. The Committee may put all the stone crushers to notice of this order and if any stone crusher is aggrieved by order of this Tribunal may be at liberty to move this Tribunal. The units which have been identified as non-compliant may be closed forthwith. The units which are not identified but are operating in violation of norms may also be proceeded against for closure till compliance forthwith. The numbers of units which are to be allowed to operate should be fixed having regard to the carrying capacity. The exercise may be overseen by ACS Environment, Haryana. Action taken report with compliance status as on 30.04.2023 may be filed by 15.05.2023.

List for further consideration on 22.05.2023.

Member Secretary, State PCB and District Magistrate, Mohindergarh may remain present in person by Video Conferencing on the next date.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

January 18, 2023
Original Application No. 667/2018 and connected matters.
AVT

Item Nos. 04 & 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Hybrid Mode)

Appeal No. 39/2022
(I.A. No. 01/2023 & I.A. No. 24/2023)

Deepak Kumar & Anr. Appellant(s)

Versus

State of Uttarakhand & Ors. Respondent(s)

WITH

Original Application No. 702/2022
(I.A. No. 229/2022)

Deepak Kumar & Anr. Applicant(s)

Versus

State of Uttarakhand & Ors. Respondent(s)

Date of hearing: 30.01.2023

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Appellant/Applicant: Mr. Ajit Sharma, Advocate for Appellants/Applicants

Respondents: Mr. S.K. Patnaik, Member Secretary, Mr. Rajender Singh, A.S.O with Mr. Mukesh Verma, Advocate for UKPCB
Mr. Rahul Verma, AAG for the State of Uttarakhand
Mr. Sanjay Upadhyay, Advocate for M/s Balaji Stone Crusher

ORDER

Introduction – case of the Petitioner

1. This order will deal with Appeal No. 39/2022 and Original Application No. 702/2022. Common issue in both matters relates to violation of environmental norms in setting up and operation of M/s Balaji

Stone Crusher, the project proponent (PP) at Khasra No. 1125 Ka and Ga, village Baluwala, Pargana Pachhwadoon, Tehsil Vikasnagar, District Dehradun, Uttrakhand in eco sensitive Doon Valley area.

2. While the Appeal is against order of the SEIAA, Uttarakhand dated 12.08.2021 granting EC for establishment of the stone crusher plant without considering impact on environment, particularly its location on the bed of Sheetla river, the OA seeks quashing of Notification dated 06.01.2020 issued by MoEF&CC, order dated 15.01.2021 passed by the Uttarakhand State Pollution Control Board by which screening plants have been recategorized from 'red' to 'orange' category and siting criteria as per notifications of the Uttarakhand Government under the provisions of Mines and Minerals Act 1957 - Uttarakhand Stone Crusher, Screening Plant, Mobile Stone Crusher, Pulveriser Plant, Hot Mix Plant, Readymix Plant Anugya Niti, 2020 (2020 policy), replaced by Uttarakhand Stone Crusher, Screening Plant, Mobile Stone Crusher, Pulveriser Plant, Hot Mix Plant, Readymix Plant Anugya Niti, 2021 (2021 policy) with consequential directions against operation of stone crushers by virtue of said provisions.

3. Broadly case of the appellant/applicant (hereinafter petitioner) is that the Hon'ble Supreme Court vide judgment dated 30.8.1988 in *Rural Litigation & Entitlement Kendra v. State of U.P & Ors.,* (1989 Supp 1 SCC 504 dealt with the eco sensitiveness of the Doon Valley area and devastating effect of mining on its fragile ecology and prohibited mining therein, considering the stand of expert committees and the MoEF. Following the said judgment, the MoEF issued Notification dated 01.02.1989 declaring the area as eco sensitive zone under the EP Act and prohibiting and regulating activities therein. This had the effect of not permitting stone crushing activity. Inspite of this, without undertaking any scientific or expert assessment of the environmental impact on the Doon

valley area, the said notification has been amended on 6.1.2020 which has the effect of permitting stone crushing activity against the spirit of judgment of Hon'ble Supreme Court and against the concept of sustainable development. Challenge is also to CPCB order dated 07.03.2016 under Section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 changing stone crushing activity from red, which is prohibited in Doon valley area, to orange category.

4. EC has been challenged inter alia on the ground that it was granted even before license to operate the stone crusher and without conducting any environment impact assessment as required in terms of EIA notification dated 14.9.2006 read with notifications dated 1.2.1989 and 6.1.2020. There is no permission for extraction of ground water while the EC notes that water requirement will be met from bore-well. In Form-I, the application for EC, the project activity is stated to be 'building and construction project' under Entry 8(a) of the Schedule to the EIA Notification dated 14.09.2006 while the EC mentions the project to be for stone crusher. EC is for 1.433 hectares while the stone crusher is on the area of 3.043 hectares. Director, Geology and Mining is father of Anuj Patrick, the project proponent (PP) and thus the EC/permission is vitiated by bias and conflict of interest.

Preliminary orders dated 27.9.2022 and 28.9.2022

5. Vide order dated 27.09.2022, considering the case of the appellant in the appeal, the Tribunal constituted a joint Committee of CPCB, State PCB and District Magistrate, Dehradun to ascertain the factual position with reference to the averments in the appeal. Vide order dated 28.09.2022, OA was directed to be listed with Appeal No. 39/2022.

Report of the joint Committee dated 17.1.2023

6. In pursuance of above, report of the joint Committee dated 17.01.2023 has been filed by the State PCB to the effect that the stone crusher was not complying with the air pollution control norms for which action was being taken. In the annexed inspection report dated 07.12.2022, it is *inter alia* stated that the unit has not provided green belt as per State Policy, 2021. However, the stone crusher is not in the flood plain of the river. **At the same time, the report refers to Revenue Department report that Khasra No. 1731 and 1732 is entered in record as submerged in river**. Recommendations in the report are as follows:-

> ***"Recommendations:***
> *It is evident from above observations,* ***stone crusher is not observed completely complying with the stipulated conditions of permission granted by Industrial Development Section, Govt. of Uttarakhand as well as conditions stipulated in Uttarakhand stone crusher, screening plant, mobile stone crusher, mobile screening plant, ready-mix plant State policy 2021****.The stone crusher may impose Environmental Compensation by SPCB and directed to comply with following at the earliest:*
>
> *a) The unit should properly provide covered processing area for control of fugitive emission*
> *b) The units should provide ducting and scrubbing system in cover shed to arrest dust as per State Policy,202l.*
> *c) The unit should provide pucca drain for wastewater conveyance to settling tank.*
> *d) The unit should provide proper overflow system in settling tank*
> *e) The unit should provide proper water sprinklers with sufficient pressure as per state policy 2021.*
> *f) The unit should install interlock system for air pollution control device and process*
> *g) The unit should expedite to construct brick wall of sufficient height. The unit should provide adequate green belt as per State policy 2021.Till the adequate growth of plants, the unit may provide other alterative arrangement for fugitive emission control.*
> *h) The unit should provide complete metaled road as per State policy 2021.*
> *i) The unit should maintain proper log book of fresh water consumption.****"***

Reply of the PP

7. The PP has filed reply opposing the appeal *inter alia* on the ground of limitation. It is stated that the area being in eco-sensitive zone as per Notification dated 01.02.1989, requisite EC has been granted on 12.08.2021. Appeal has been filed on 27.08.2022, beyond the statutory period of limitation which is 60 days and which can be extended by 30 days further. O.A No. 702/2022 is also barred by limitation under Section 14(3) of NGT Act which is six month from the date of cause of action. On merits, it is stated that EC has been rightly granted and the conditions are being followed. Stone crusher is rightly treated as 'orange' category as per CPCB classification dated 07.03.2016. Notification dated 01.02.1989 has been amended on 13.12.2007 and 06.01.2020 permitting orange category activities which include stone crushers. The site is at distance of 600 meters from the non perennial river which is permissible as per 2020 and 2021 policies of the State. There is no illegality in extraction of groundwater upto 10 cum/day for small industries in view of Department of Water Resources, River Development and Ganga Rejuvenation Guidelines to Regulate and Control Ground Water Extraction, 2020. It is drawing less than the prescribed quantity of water. It is using green mesh/net on the boundary walls so that no particles from the unit can move outside, waste water treatment unit, and undertaking trees plantation and is thus compliant with the EC conditions and all laid down environmental norms.

Rejoinder of the Petitioners

8. In rejoinder, the petitioners have stated that the appeal is within limitation in view of order of the Hon'ble Supreme Court in "*In Re: Cognizance for Extension of Limitation (Suo Moto Writ Petition(C) No. 3/2020*)" extending limitation due to covid for 90 days from 01.03.2022. Appeal was filed vide filing no. 0701110009262022 within 60 days from

1.3.2022 on 30.05.2022. It had defects. Removing defects, appeal was filed on 27.08.2022. Thus, delay is only in curing defect which may be condoned, to which there is no legal bar. The unit does not meet siting criteria of one km from the river as per 2020 policy which applies as EC is prior to 11.11.2021 when 2021 policy commenced, reducing the distance to 500 meters. Infact distance is 0 from the river as confirmed by the report of the revenue department referred to in the report of the joint committee. Stone crusher has been set up at a site different from the one for which the EC is granted. PP is also undertaking illegal mining as huge pits have come up in the river visible in the Google Images dated 20.11.2022. There are pathways from the pits to the crusher which are also visible in the said image. EC does not take into account air quality of the area and impact of stone crusher which adds to air pollution, as acknowledged in the order of this Tribunal 26.10.2021 in O.A No. 607/2018, *Vinod Kumar Jangra Vs. State of Haryana*. Pollution carrying capacity of the area has not been assessed. The distance has been wrongly claimed to be 600 meters and wrongly taken as 350 mtr but even then the unit is within prohibited zone from Sheetla river. Sand washing plant has been set up within the crusher site which consumes more water than permitted limit, in violation of EC conditions. As per Google map image dated 20.11.2022, washed material is dumped on Sheetla river bed adjoining the site. Such plant requires more than 10 Cum of water per day. Mitigation measures have not been taken as per EC conditions which requires 50% of the project area to be converted into green belt. The said condition is as follows:-

> **"***23. 50 percent of the total project site area shall be converted into green belt. The green belt shall not include kitchen garden, flower pots and grasses/herbs in the area. It shall comprise of tree stand of aesthetic/fruit/timber value. Quality planting material shall be used during plantation as per standards of State Forest Department. The species should include criterion of fruit bearing and fast growth.***"**

9. As per order of this Tribunal dated 07.12.2022 in O.A No. 699/2022, *Sanjay Kumar vs. UOI* distinction in perineal and non-perineal rivers has been held to be illegal. Observations of the Tribunal are as follows:-

> ***"****In view of above, we hold that* ***distinction of perennial and nonperennial for locating stone crushers or other such plants for maintaining distance is hit by the principle of 'Sustainable Development' under Section 20 read with Section 15 of the NGT Act, 2010 and is illegal. Accordingly, we direct the State of Uttarakhand to revisit its policy/regime to do away with such distinction for protection of all streams, water courses/rivers. This will also apply to all existing establishments****."***

Questions for consideration

10. We have heard learned counsel for the parties and given due consideration to the matter. Main questions for consideration are:

i. Whether the Appeal is within limitation

ii. Whether the unit of the PP at present location is permissible in absence of siting criteria in terms of notification dated 6.1.2020 and not meeting siting criteria under mining law laid down by the State, being within prohibited distance from Sheetla river, as reported by the Revenue Department

iii. Whether the stone crushers are wrongly categorised as orange by CPCB instead of red and can be allowed to be set up in Doon Valley eco sensitive zone, even without siting criteria by MoEF in terms of notification dated 6.1.2020

iv. Whether larger questions of validity of validity of MoEF notification dated 6.1.2020 and Stone Crusher Policy, 2021 issued by Uttarakhand Government and other issues raised in OA against stone crushers in Doon Valley eco sensitive zone are to be gone into by the Tribunal

v. Order to be passed in facts and circumstances of the present case

Consideration and findings

Re : (i) Limitation

11. As per order of the Hon'ble Supreme Court dated 10.01.2022, *In Re: Cognizance for Extension of Limitation,* Suo Moto Writ Petition (C) No. 3/2020, 90 days limitation has been extended from 1.3.2022 i.e. till May 30, 2022. The record shows that the appeal was filed on 27.08.2022. But defective appeal was filed on 30.05.2022 within limitation, as per filing no. 0701110009262022. Thus, if date of appeal originally filed on 30.5.2022 is taken into account, delay is only in removing defects and not in filing. Accepting prayer for condonation in removing defects and filing appeal without defects on 27.8.2022, we treat the appeal to be within limitation in the interest of justice. We do not agree that such course is beyond jurisdiction of this Tribunal under rule 24 of NGT procedure Rules 2011.

12. The OA raises issue not merely of EC but also non compliance of EC conditions and siting criteria. Under section 15(3) of NGT Act, limitation is 5 years from cause of action.

13. Thus, objection of limitation is rejected. We proceed to deal with the matter on merits.

Re: (ii) Permissibility of the unit at current location

14. As per notification dated 01.02.1989, under Section 3 of the Environment (Protection) Act, 1986 (EP Act), issued in the wake of judgment of the Hon'ble Supreme Court in Rural Litigation and Entitlement Kendra, supra, only specified activities are permissible subject to aid down restrictions. Mining and stone crushing activities are not permitted as they fall in red category and are not in the annexure listing permissible activities. Vide Notification dated 13.12.2007, under Section 5 of the EP Act, it was directed that even permitted activities will have to

follow impact assessment procedure laid down in EIA Notification dated 14.09.2006, even if they do not fall in the EIA Notification as such. CPCB vide order dated 07.03.2016 under Section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 modified earlier categorisation and placed stone crushing activity in orange category. Thereafter, vide notification of MoEF dated 06.01.2020, earlier Notification dated 01.02.1989 was amended replacing Annexure to notification dated 1.2.1989 listing permissible activities in terms of CPCB order dated 07.03.2016 under Section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air Water (Prevention and Control of Pollution) Act, 1981 for harmonization of classification of industries under 'red', 'orange', 'green' and 'white' categories. It may be noted that though CPCB categorisation is general, the same has been made applicable to eco sensitive zone for which, according to the petitioners, no particular study has been conducted. Thus, stone crushing is taken as orange category and in view of general categorisation by CPCB taken as permissible in eco sensitive zone also as per notification dated 6.1.2020. The said notification puts restrictions and makes the amendment subject to compliance of siting criteria approved by the 'competent authority' as shown by the operative part of the said notification as follows:

> *"In the said notification, for clauses (i), (ii), (iii), (iv), (v) and ANNEXURE, the following shall be substituted, namely:-*
>
> *"(i)* ***Location/siting of industrial units*** *- It has to be as per modified directions issued by the Central Pollution Control Board (CPCB) vide letter No. B-29012/ESS(CPA)/2015-16, dated the 7h March, 2016 under section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 regarding harmonization of classification of industrial sectors under red/orange/green/white categories and as may be amended from time to time by the CPCB and the Ministry of Environment, Forest and Climate Change.*

(ii) ***Mining*** *- Approval of the Union Ministry of Environment, Forest and Climate Change must be obtained before starting any mining activity.*

(iii) ***Tourism*** *- It should as per Tourism Development Plan (TDP), to be prepared by the State Department Tourism and duly approved by the Union Ministry of Environment, Forest and Climate Change.*

(iv) ***Grazing*** *- As per the plan to be prepared by the State Government and duly approved by the Union Ministry of Environment, Forest and Climate Change.*

(v) ***Land Use*** *- As per Master Plan of development and Land Use Plan of the entire area, to be prepared by the State Government and approved by the Union Ministry of Environment, Forest and Climate Change.*

Note:

(a) ***Red categories of industries shall not be permitted in Doon Valley;***

(b) *The total number of fuel burning industries that shall be permitted in the Doon Valley shall be limited by 8 tonnes per day of Sulphur Dioxide from all sources. (This corresponds to 400 tonnes per day Coal with 1 % Sulphur);*

(c) ***Siting of Industrial areas shall be based on the prescribed criterion and with prior approval of Competent Authority;***

(d) *Existing orange categories industries, which are now in the red categories of industries shall be continued, however, no expansion shall be allowed."*

15. For purposes of this order, we are not going into the question of validity of amendment dated 6.1.2020 and proceed on the basis that stone crushing is permissible activity subject to compliance of notification dated 6.1.2020. However, no criteria has been laid down for such activity by the 'competent authority' in terms of the said notification.

16. Under section 6(2)(e) of the EP Act and Rule 5(3)(a) of the EP Rules, such authority is Central Government. The said provision is reproduced below:

"6. Rules to Regulate environmental pollution.

(1) The Central Government may, by notification in the Official Gazette, make rules in respect of all or any of the matters referred to in section 3.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:--

(a) to (d) xx..... xx.....xx

(e) ***the prohibition and restrictions on the location of industries and the carrying on of processes and operations in different areas****;"*

xxx.....xxx.....xxx

"5. ***Prohibitions and restrictions on the location of industries and the carrying on processes and operations in different areas–***

(1) xxx.....xxx.....xxx

(2) xxx.....xxx.....xxx

(3) (a) ***Whenever it appears to the Central Government that it is expedient to impose prohibition or restrictions on the locations of an industry or the carrying on of processes and operations in an area, it may, by notification in the Official Gazette and in such other manner as the Central government may deem necessary from time to time, give notice of its intention to do so****."*

17. Under rule 3, standards of emission from stone crushing units are laid down as per Entry 37 of Schedule I to the EP Rules but no siting criteria has been laid down by it so far. In absence thereof, it is doubtful that stone crushing activity can be taken as permitted in terms of notification dated 6.1.2020. Siting criteria laid down by the State Government under the provisions of the Mines and Minerals Act cannot be taken as substitute for criteria to be prescribed with reference to EP Act and the Rules as State is not competent authority to do so. Even as per the said criteria laid down by the State under Mining law, on the date of grant of EC as per 2020 policy, distance from river has to be one km for perennial river. For non perennial, such distance is 500 meters. Said distinction has been struck down by this Tribunal and longer distance has thus to be

taken as prescribed distance. Further, as per 2021 policy dated 11.11.2021, such distance has been further reduced as follows:

"

Sl. No.	***Place***	***Minimum Distance of Stone Crusher and Screening Plant***
1.	*Government Forest*	*100 meter*
2.	*(A) From the bank of Ganga River District Haridwar*	*1 Km.*
	(B) From the bank of perennial river in other plains	***500 meter***
	(C) From the bank of non-Perennial river	***50 meter***
5.	*Religious places (Temple, Mosque, Gurudwara & Church etc.)*	*300 meter*
6.	*School, Educational Institute, Hospital, Nursing Home etc.*	*300 meter*
7.	*Distance from Population*	*300 meter*

"

18. Vide order dated 07.12.2022 in OA No. 699/2022, *Sanjay Kumar vs. Union of India & Ors.*, this Tribunal considered the issue of validity of classification of streams into perennial and non-perennial for siting criteria for stone crushers. Referring to the said criteria not being consistent with Section 24 of the Water Act and 'River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016' dated 7.10.2016 issued by MoEF&CC under Section 3 of the EP Act and also earlier order of this Tribunal dated 29.10.2018 in OA No. 358/2016, *Bhag Singh vs. Union of India & Ors.*, the Tribunal held that distinction of perennial and non-perennial for location of stone crushers was against the sustainable development principle. **It was further held that permitting such establishments within 50 meters of the river will be inconsistent with the need for protection of flood plain zones** as held by the Tribunal vide order dated 15.12.2020 in O.A. No. 22/2020(EZ), *Dilip Kumar Samantaray vs. State of Odisha Board & Ors.* No activity is permissible within 100 meters from the river which is taken as flood plain zone till it is demarcated. Nature of activity permissible beyond 100 meters depends on such activity and its impact on environment. As per report of revenue department,

quoted in the report of the joint Committee, part of the site is in *doob Kshetra,* the sub-merged area of the river and remaining is contiguous and is thus within flood plain zones. Thus, there is no factual basis in the stand of the PP that there is a distance of 600 meters from the river. Certificate produced by the PP to the contrary cannot change this clear factual position on the ground nor defeat the environment law or considerations which have to override any perceived individual's right. View of the joint Committee that location of the stone crusher is not within prohibited zone is clearly erroneous for same reason. So is record of Irrigation Department relied upon by PP. It is well known that environmental issues are governed by reverse burden. PP is to establish that its unit is not within prohibited zone and does not damage environment which it has failed to establish.

19. Thus, we conclude that the unit of the PP cannot be allowed to be located at present site. EC has been granted without any consideration of this aspect and cannot be sustained. Firstly, on facts unit is at 0 distance from river. Secondly, the Central Government being competent authority has to lay down siting norms and without such laid down criteria, hazardous activity of stone crusher cannot be allowed on river bed as per notification dated 6.1.2020. Thirdly, norms under Mining Act are not sustainable so as to permit stone crusher within 50 meter of river bed. Fourthly, applicable siting norm even as per State policy has to be taken in the present case to be one km as on date of EC when 2020 policy applied and for perennial river one km distance was prescribed which according to judgment of the Tribunal is applicable to non perennial rivers also. Precautionary principle has to apply in eco sensitive area for hazardous activity close to river where potential for damage to the environment is higher. Prescribed distance has to be beyond doubt and not taken as conclusive from irrigation or other record which is contradicted by Revenue

record. Thus, EC has to be quashed on this ground alone. It is not necessary to go into questions of non compliance of EC conditions which are also established for which action initiated may continue as per law. Appeal succeeds.

RE: (iii) & (iv) Larger question of permissibility of stone crushers in eco sensitive doon valley area

20. Judgement of Hon'ble Supreme Court in Rural Litigation and Entitlement Kendra, supra, shows that considering eco sensitivity of Doon Valley area, mining was held to be unsustainable and even existing mines were directed to be closed. Even MoEF took the stand that mining is not sustainable in the area. It was in this background that notification dated 1.2.1989 was issued which did not permit stone crushing activity. We may only refer to observations in paras 22, 39 and 40 from the said judgment:

> *"22.* ***We have already indicated that several expert Committees appointed by this Court have opined generally against continuing the mining activity in the Valley. The Second Working Group found in as late as 1987 that limited mining in the ongoing mines was not congenial to ecological and environmental discipline.*** *This Court by its order on October 19, 1987[1], called upon the Union of India: (SCC p. 492, para 9)*
>
> > *"..... to place before the Court on affidavit the minimum total requirement of this grade of limestone for manufacture of quality steel and defence armaments. The affidavit should also specify as to how much of high grade ore is being imported into the country and as to whether other indigenous sources are available to meet such requirement. This Court would also require an affidavit from responsible authorities of the Union of India as to whether keeping the principles of ecology, environmental protection and safeguards and anti-pollution measures, it is in the interest of the Society that the requirements should be met by import or by tapping other alternate indigenous sources or mining activity in this area should be permitted to a limited extent. The Court expects the Union of India to balance these two aspects and place on record its stand not as a party to the litigation but as a protector of the environment in discharge of its statutory and social obligation for the purpose of consideration of the Court .....*
>
> *The two affidavits filed on behalf of the Union of India have been dealt with elsewhere in the judgment and it would be sufficient for the*

[1] *(AIR 1987 SC 2426)*

instant aspect to extract from the affidavit of Mr. Seshan, Secretary to the Government in the Ministry of Environment and Forests, where he has stated :

> *"5.1 Union of India submits that from the point of view of protection of the environment in the unique Doon Valley, it would be desirable that lime stone mining operations in the Valley are stopped completely."*

Mr. Nariman questioned the value of this statement in view of the indication in the affidavit that it was the department's submission to the Court. We do not think that the Ministry Secretary's affidavit can be brushed aside that way. Read in the background of the directions in the Order of October 19, 1987, and in the sequence of the first affidavit not having been accepted by the Court as compliance, we must assume that Mr. Seshan has disclosed the stand of the Union of India with full authority and with the intention of binding the Union of India by his statement.

xxx ……xxx……xxx

39. In our order dated October 19, 1987, we had categorically indicated that mining in this area has to be stopped but instead of outright closing down total mining operations we were of the view that mining activity may have to be permitted to the extent it was necessary in the interest of defence of the country as also by way of the safe-guarding of the foreign exchange position. Pursuant to our direction in the said order[2] the Union of India filed an affidavit on November 18, 1987, through Dr. S. Maudgal, Director in the Department of Environment, Forests & Wildlife in the Ministry of Environment and Forests. That affidavit inter alia stated:

xxx ……xxx……xxx

40. Adverting to the question as to whether mining activity in this area should be permitted to a limited extent, keeping the principles of ecology in view, the affidavit stated:

> ***"The Union Government has all along taken the stand that the Doon Valley is a fragile eco-system and is endowed by nature with perennial water streams, lush green forests and scenic beauty. All these factors have contributed to Mussoorie being called the queen of hill stations and Dehradun becoming an important place of tourist attraction as well as centre of education. The unscientific and uncontrolled limestone quarrying operations spread over the entire 40 km. belt on the Mussoorie slopes however, endangered the delicate ecological balance resulting in ugly scars, excessive debris flow, drying up of water streams and perennial streams and rivulets and deforestation.***
>
> *Taking note of the disastrous ecological consequences, the technical group constituted by the State and Union Governments since 1979 have consistently recommended only*

[2] *(AIR 1987 SC 2426)*

controlled mining in this area. The Technical Expert Committee constituted by the Honourable Supreme Court under the Chairmanship of Shri D.N. Bhargav examined all the operating quarries and came to the conclusion that all of them, to a larger of smaller extent, have violated the statutory provisions relating to mines. Conditions in some of the mines were considered to be so bad that 20 of these were closed immediately in 1983. The Committee, under the Chairmanship of Shri D. Bandy-opadhyaya examined the Mining and Environmental Management Plans prepared by parties and came to the unanimous conclusions that none of these plans are satisfactory. ***Therefore, the Bandyopadhyaya Committee strongly recommended that none of the mines reviewed by it should be allowed to operate. It is relevant to reiterate here that closure of these mines has been recommended by the Bandyopadhyaya Committee not just on the ground that they are located within the Mussoorie city limits but after due consideration of the environmental implications, status of preparedness of mining and Environmental Management Plans and capability of the lessee to under-take mining operations on a scientific basis so that the damage to life and property, apart from environmental degradation, is avoided. None of the mines already closed is, therefore, fit to be considered for operation.***

It is the view of Government that to prevent any further degradation of the ecology and environment in the area and to allow for rejuvenation, it is essential that limestone mining operations, if they are to continue, should be on a limited scale and completely regulated to ensure that they are done in an entirely scientific manner consistent with the imperatives of preservation and restoration of the ecology and environment in this area. In order to meet the essential requirements of steel industry, it would be necessary to maintain supply of low silica limestone from the Dehradun Mussoorie area. The State Government of U.P. also has brought to our notice that certain other vital industrial and agricultural operations are dependent on limestone supplies from this area. In view of these considerations, it is felt that limestone mining on a limited scale may have to continue under strict regulation."

This affidavit of Dr. Maudgal was not accepted by this Court as it did not fulfil the requirements of the directions given in this Court's order dated October 19, 1987. ***Then came another affidavit dated February 24, 1988, by Shri T.N. Seshan, Secretary in the Ministry of Environment and Forests.*** *This affidavit indicated that 90 per cent of the low silica high grade limestone was supplied by the Rajasthan mines to the Steel Authority of India Ltd. and 10 per cent of supplies came from the Dehradun quarries. Tata Iron and Steel Company at Jamshedpur, however, received a sizeable supply from the Dehradun quarries. According to this affidavit, in 1986, the total production of high grade limestone in the Dehradun-Mussoorie area was 6.02 lakh tonnes. The affidavit indicated availability of such limestone in several other parts of the country. In regard to import of limestone and foreign exchange components, this affidavit indicated that as low silica high grade limestone is available from indigenous*

sources, import thereof could be dispensed with. In paragraph 5 of this affidavit, the question as to whether keeping in view the principles of ecology, mining activity in the Dehradun-Mussoorie area could be permitted to a limited extent, perhaps as pleaded in the earlier affidavit, has been dealt with. This affidavit stated:

> *"5.2 Now that high grade low silica limestone is also available in the extensive deposits covering large areas in the State of Rajasthan which can meet the requirements of the steel industry which also includes Defence requirements,* ***there is justification for disconstinuance of the existing mining operation in the Dehradun-Mussoorie area and, in fact, complete closure of the said mines in this area.****"*

It is fact that while in the first affidavit, controlled and limited mining was suggested, in the second affidavit filed after a gap of about three months total stoppage of mining activity in this area has been stressed. *Counsel appearing on behalf of the State of Uttar Pradesh and UPSMDC offered serious criticism against this changed stance and we were called upon to reject the second affidavit also. We do not find any justification in this plea for rejection of the affidavit. This Court in its order of October 19, 1987, had in clear terms indicated what aspects were exactly required to be answered by the affidavit of the Union of India. Since the first affidavit did not answer those points it was rejected and a further affidavit was directed to be filed.* ***There can be no two opinions that both the affidavits pleaded for banning of mining; but the first affidavit suggested controlled and limited mining in view of the demands while the second affidavit, on consideration of the fact that alternate sources were available for supply of the limestone of the desired quality, asked for total stoppage of mining operations.*** *As we have already indicated in another part of this judgment, awareness of the environmental problem has been gradually increasing and though in the first affidavit, the Union of India had expressed its view that limited and controlled mining could be permitted, on a reconsideration of the matter and taking into account the relevant aspects for reaching its conclusion****, the Union of India has come to adopt the view that there should be no mining in this area****. We can well gather why the UPSMDC would feel aggrieved by the second affidavit but so far as the State of Uttar Pradesh is concerned, we do not see any justification in its critical stand against the second affidavit on the plea that the stand accepted in the first affidavit has been given a go by. Maintenance of the environment and ecological balance is the obligation of the State and the Central Governments and unless there was any real objection to the opinion of the Union of India as to continuing or closing down of mining activity, it should have been taken in the proper light and the little modified stand adopted in the second affidavit should have been welcomed."*

21. It is surprising that mining is being allowed in doon valley area inspite of clear stand of the MoEF&CC before the Hon'ble Supreme Court that no such mining can be allowed which stand was accepted and

directions issued by the Hon'ble Supreme Court. Stone crushing is as hazardous as Mining and setting up of stone crushers in eco sensitive zone has potential to enable illegal mining (for raw material) unless stringent safeguards, particularly about location of unit away from the source of mineral are followed. In this background, question whether notification dated 6.1.2020 meets the mandate of sustainable development will need to be seriously considered for giving effect to the mandate of Hon'ble Supreme Court judgment as well as protection of fragile environment of eco sensitive doon valley area. The OA be listed separately on 01.03.2023. The applicant may serve a set of papers on MoEF&CC, CPCB, State PCB, State of Uttarakhand and SEIAA, Uttarakhand to enable them to furnish their response, if any, before the next date by email and file an affidavit of service within one week. The response may specifically explain how in violation of judgment of the Hon'ble Supreme Court mining permissions are being granted in doon valley area.

Re: (v) Order in facts of this case

22. In view of above discussion and finding under head Re (ii), Appeal No. 36/2022 has to be allowed. Impugned EC is quashed. M/s Balaji Stone Crusher is liable to be closed in absence of valid EC. The State PCB and District Magistrate, Dehradun may accordingly take further steps in the matter. OA be separately listed to consider larger questions.

23. We have also noted that SEIAA, Uttarakhand has granted EC for mining on 31.5.2014 at Village Jasso Wala, Tehsil Vikas Nagar, District Dehradun. Though there is no specific challenge to the same, we direct SEIAA, Uttarakhand to revisit the same in the light of above order. The State PCB may also revisit consents given by it under the Water Act and the Air Act on the same ground.

24. I.A. No. 24/2023 is for waiver of cost imposed vide order dated 20.01.2023 is allowed having regard to facts and circumstances explained. IA No. 1/2023 filed by the PP for recall of order dated 27.9.2022 is dismissed being without merit.

A copy of this order be forwarded to MoEF&CC, CPCB, Uttarakhand State PCB, State of Uttarakhand, SEIAA, Uttarakhand and District Magistrate, Dehradun by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

January 30, 2023
Appeal No. 39/2022
(I.A. No. 01/2023 & I.A. No. 24/2023)
With Original Application No. 702/2022
(I.A. No. 229/2022)
AB+DV

Item Nos.11&12&13 Court No.1

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
(THROUGH PHYSICAL HEARING WITH HYBRID MODE)

Original Application No.23/2017/EZ

Syed Arshad Nasar Applicant(s)

Versus

Union of India & Ors. Respondent(s)

With

Original Application No.140/2023/EZ
(Earlier O.A. No.373/2019/PB)

Pradeep Kumar Singh Applicant(s)

Versus

State of Jharkhand Respondent(s)

With

Original Application No.150/2023/EZ
(Earlier O.A. No.776/2018/PB)

Ramchandra Chaurasia Applicant(s)

Versus

State of Jharkhand Respondent(s)

Date of hearing: 14.02.2025

CORAM: HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant(s) : Ms. Paushali Banerjee, Adv.

For Respondent(s) : Ms. Aishwarya Rajyashree, Adv. for State (in Virtual Mode),
Mr. Ashok Prasad, Adv. for Jharkhand BDB,
Mr. Kumar Anurag Singh, Adv. (in Virtual Mode) a/w
Mr. Dev Aaryan, Adv. (in Virtual Mode) and
Mr. Surendra Kumar, Adv. for JSPCB
Mr. Mukesh Kumar, Adv. for CPCB (in Virtual Mode)

ORDER

1. Ms. Paushali Banerjee, learned Counsel is present on behalf of the Applicant. (in O.A. No.23/2017/EZ).

2. Supplementary affidavit dated 12.02.2024 has been filed on behalf of the Jharkhand State Pollution Control Board; the same is taken on record.

3. Heard learned Counsel for the parties.

(The final order of this case shall be uploaded in the NGT Website by separate sheets of paper)

.....
B. Amit Sthalekar, JM

.....
Dr. Arun Kumar Verma, EM

February 14, 2025,
Original Application No.23/2017/EZ
With
Original Application No.140/2023/EZ
(Earlier O.A. No.373/2019/PB)
With
Original Application No.150/2023/EZ
(Earlier O.A. No.776/2018/PB)
SKB

Item Nos.11&12&13 Court No.1

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
(THROUGH PHYSICAL HEARING WITH HYBRID MODE)

Original Application No.23/2017/EZ

In the matter of:

Syed Arshad Nasar
Social Activist,
C/o, Star Battery L. C. Road,
Post Office and District – Sahebganj,
Pin Code – 816109;

.... Applicant(s)

Versus

1. **Union of India,**
   Service through the Secretary,
   Ministry of Road, Transport and Highways,
   Transport Bhawan,
   1, Parliament Street,
   New Delhi – 110001;

2. **Ministry of Environment, Forest and Climate Change,**
   Through the Secretary,
   Indira Paryabaran Bhawan,
   Aliganj, Jorbagh,
   New Delhi – 110003;

3. **Central Pollution Control Board,**
   Through Member Secretary,
   Paribesh Bhawan,
   CBD-cum-Office Complex,
   East Arjun Nagar,
   Delhi – 110032;

4. **Government of Jharkhand,**
   Through Chief Secretary,
   1st Floor, Project Building Dhurwa,
   Kanke Road,
   Ranchi – 834004,
   Jharkhand;

5. **Jharkhand Bio-Diversity Board,**
   Through Member Secretary,
   Block-D, Van Bhawan Campus,
   Doranda,
   Ranchi – 834002;

6. **Jharkhand State Pollution Control Board,**
   Through Member Secretary,
   Town Administration Building HEC,
   Dhruwa Road,
   Ranchi – 834004;

7. District Land and Land Reforms Officer,
Transit Building,
Near Old Parisadan,
Sakora, Sahebganj – 816109;

8. Mines and Geology Department,
Government of Jharkhand,
Through Principal Secretary,
Nepal House, Doranda,
Ranchi, Jharkhand – 834002

.... Respondent(s)

With

Original Application No.140/2023/EZ
(Earlier O.A. No.373/2019/PB)

Pradeep Kumar Singh — Applicant(s)

Versus

State of Jharkhand — Respondent(s)

With

Original Application No.150/2023/EZ
(Earlier O.A. No.776/2018/PB)

Ramchandra Chaurasia — Applicant(s)

Versus

State of Jharkhand — Respondent(s)

Date of hearing: 14.02.2025

CORAM: HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant(s) : Ms. Paushali Banerjee, Adv.

For Respondent(s) : Ms. Aishwarya Rajyashree, Adv. for State (in Virtual Mode),
Mr. Ashok Prasad, Adv. for Jharkhand BDB,
Mr. Kumar Anurag Singh, Adv. (in Virtual Mode) a/w
Mr. Dev Aaryan, Adv. (in Virtual Mode) and
Mr. Surendra Kumar, Adv. for JSPCB
Mr. Mukesh Kumar, Adv. for CPCB (in Virtual Mode)

ORDER

1. Original Application No.23/2017/EZ has been filed by the Applicant seeking compensation and restitution of environment of the indigenous communities in the light of severe damage caused by stone quarrying and crushing activities.

2. It is stated that Rajmahal Hills are stated to be ranges of the Vindhya Mountains situated on the southern bank of the River Ganga in Sahebganj District (Santhal Parganas) Jharkhand to the boundary of Bhirbhum, West Bengal. It is stated that the Rajmahal Hills have unique geological features with bewildering biodiversity and symbolic interrelation between the flora and fauna of the region along with tribes living in the area who largely comprise of Santhal Tribal Group residing in the area for generations. It is further stated that Santhal Tribes and Pahariya people are residing in the area which has a rich growth of vegetation comprising Sal, Mahua, Arjuna White Teak, Bamboo, Mango, Jackfruit Tamarind, Guava, Neem, Peepal, Amla, Ashok, Jamun and other trees and is a also rich habitat of wild animals, reptiles, elephants, leopards and bear etc.

3. It is alleged that a bridge is proposed to be constructed by the Ministry of Central Land Transportation, Government of India, on Ganga River between Sahebganj and Manihari in Sahebganjn District, Jharkhand. It is also alleged that the construction of the proposed bridge will endanger the Rajmahal Hills including the lives of the Pahariya, Adivasi and Santhal Community as also deeply affect the flora and fauna of the area.

4. Original Application No.140/2023 (Earlier O.A. No.373/2019/PB), Pradeep Kumar Singh Vs. State of Jharkhand and Original Application No.150/2023/EZ (Earlier O.A. No.776/2018/PB), Ramchandra Chaurasia Vs. State of Jharkhand, raise similar questions as in Original Application No.23/2017/EZ and, therefore, all the three cases are being taken up together by the Principal Bench of the National Green Tribunal. Subsequently, by an order

dated 21.08.2023, the aforesaid three original applications were transferred to the Eastern Zone Bench, Kolkata.

5. Affidavit dated 13.09.2023 has been filed by the Jharkhand State Pollution Control Board. Along with this affidavit, copy of an Inspection Report has also been filed.

6. With regard to each of the Stone Crusher Units the Committee has made recommendations. As per status submitted by the Joint Committee, 121 Stone Crusher, 74 Stone Mines and 7 Stone Mines with Crusher Units have been granted Consent to Operate (CTO) by the State Pollution Control Board.

7. With reference to the order of the NGT, Principal Bench, permitting Stone Crusher and Stone Mine Units in accordance with the allowable crushing capacity of the grid, it is stated that the allowable crushing capacity with respect to the Units operating in the Negative Carrying Capacity Grids (i.e. Grid 1, 3, 4 & 7) have been achieved by reducing the number of such Units either by demolishing or sealing the Crusher Units. The details have been given in para-6 of the affidavit which is as under:-

Grid Wise Status of Crushers					
Grid ID	***Stone Crushing Capacity (TPD)***	***Allowable Crushing Capacity (TPD)***	***Present Capacity (TPD)***	***Number of Crusher***	***Working Crusher***
1	*11162*	*6760*	*6198.8*	*61*	*35*
3	*8319*	*6663*	*5373.08*	*22*	*11*
4	*6980*	*6742*	*5580*	*05*	*02*
7	*9582*	*5283*	*1020.44*	*29*	*06*

Grid Wise Status of Crushers					
Grid ID	***Mining Crushing Capacity (TPD)***	***Allowable Mining Capacity (TPD)***	***Present Capacity (TPD)***	***Number of Mines***	***Working Mines***

1	*5382*	*5357*	*280*	*10*	*01*
3	*6201*	*6183*	*3447*	*09*	*05*
4	*2656*	*2655*	*2386*	*05*	*04*
7	*1135*	*1128*	*600*	*02*	*01*

8. It is stated that the six locations of Air Ambient Quality (AAQ) Monitoring Stations in Sahebganj was selected covering the areas of (i) Mahadeoganj, (ii) Jokmari, (iii) Marikuti, (iv) Mirzachowki, (v) Sakrigali and (vi) Barharwa and AAQ Monitoring was carried out during 27th – 29th, 2023. AAQ parameters for Sulfur Dioxide (SO_2) and Nitrogen Oxides (NO_X) were found to be low at all the six monitored locations and these measurements met the prescribed Air Quality Standards which typically have a limit of 80 micrograms per cubic meters (µg/m^3) each for SO_2 and NO_X. The value of Respirable Suspended Particulate Matter (RSPM) was observed slightly beyond the limit of 100 µg/m^3 prescribed by the CPCB at the location Marikuti and Sakrigali. The Joint Committee therefore, made the following observations and recommendations which read as under:-

"5.0 Over all observations:-

(i) It was observed that very few nos. of stone crusher and mines units was found operational. But most of the stone crusher and stone mining units were found closed due to following reasons:-

- *Non-availability of raw materials for the stone crusher units.*
- *Explosive supply to the mining sector stopped as per the District Magistrate's order during the District Task Force meeting on 07.07.2023.*

- *The majority of local residents working in the crusher and mining sectors shift their focus to agricultural activities due to the agricultural season.*

(ii) During the inspection, it was observed that nearly all stone crusher units had a boundary wall, fixed-type sprinklers, tree plantations, paved Internal roads, and the crusher components such as screens, conveyor belts, and the crushing section were covered with tin sheets. Additionally, bag houses and PM_{10} analyzers were present where applicable.

(iii) During the inspection, it was observed that plantation has been carried out in the stone mining and crusher area; however, it needs to be properly maintained.

(iv) During the inspection of the CTS Industries Ltd. (Mahadeoganj) and DILIP BUILDCON LIMITED UNIT 1 & 2, it was observed that the PTZ camera was not found on the unit premises. The unit representative clarified that the PTZ camera has been sent for repairs.

(v) Due to the non-operational status of stone crusher and mining units, most of the units have not provided the relevant documents on-site.

(vi) It was observed that stone mining unit M/S BLACK STONE WORKS, part. V.P Khudania, mauza- Deshpokharia has taken a commendable step towards environmental sustainability by installing a solar plant. The solar plant is being utilized for the operation of PM_{10} analyzer and lighting purposes at site. This initiative showcases the unit's commitment to reducing its carbon footprint conventional energy sources.

(vii) During the inspection, it was noticed that the stone crusher unit M/s Dilip Buildcon Pvt. Ltd. has not properly installed the bag house section point to effectively control fugitive emissions generated from the

crushing section. In this regard, a show cause notice has been issued to the unit vide Jharkhand State Pollution Control Board (JSPCB) Regional Office Letter No. 344 dated 12.07.2023.

(viii)During the inspection, it was observed that the crusher screen, crushing section (primary section) and conveyor belts of the stone crusher unit M/S DADA JEETU BUILDCON Pvt. Ltd. were covered with green agro net but not adequately covered with tin sheets. Additionally, crusher unit was found closed and sealed by the District Task Force Committee, Sahebganj.

(ix) It was observed that in the negative supporting carrying capacity grid - 01, 03, 04, and 07 have a present crushing capacity that is within the allowable crushing capacity.

(x) The air Quality data monitored on 27th & 28th, 2023, it was observed that the value of SO_2 & NO_X were within the standard limits at all six monitored locations. However, the RSPM values at locations (iii) Marikuti, main road and (iv) Sakrigali were observed to be slightly higher than the standard limit (100 µg/m3) prescribed by CPCB.

6.0 Recommendations:

1. *Proper house-keeping shall be maintained.*
2. *The stone dust generated from the crushers and mine shall be managed properly.*
3. *The trucks as well as the wagons should be properly covered during transportation of the stone chips.*
4. *The haul roads/roads within the mines/industry premises, which used for the transportation of the products from the stone crushers or mines shall be appropriately maintained to reduce fugitive emission.*

5. *Stone crushers that are not placed in close section should be placed in a covered section with proper pollution control equipment.*

6. *Conveyor belts that are yet to be covered /enclosed shall be covered to avoid fugitive emission.*

7. *Stone crushers and mines, where Pan-Tilt-Zoom (PTZ) Cameras are yet to be installed shall do so to detect fugitive emissions and usage of Diesel Generator Sets. Feed of the cameras shall be shared with the JSPCB.*

8. *Operational capacity of Stone crusher units shall be correlated with the monthly electricity bills of the respective stone crusher unit.*

9. *Proper plantation shall be performed surrounding the crushers and mines. A common nursery may be set up to cater the need of sapling for plantation.*

10. *Online ambient air quality monitoring stations are also proposed to be installed along the road sides and residential area to measure the PM level.*

11. *Solar plant of appropriate capacity shall be installed to meet the electricity requirement of crushers and mines specifically to operate the CAAQMS and Water Sprinkling system.*

12. *All the contaminated stone crushers and mines sites shall be reclaimed and proper retaining walls shall be created all around them to ensure that no surface runoff from these sites leaches out and contaminates nearby water bodies. Necessary steps should also be taken to prevent the entry of animals as well.*

13. *The stone crushers and mines shall submit an appropriate action plan for the utilization and safe*

disposal of stone dust and other waste products generated by their activities."

9. The Chief Secretary, Government of Jharkhand, has filed affidavit dated 30.11.2023.

10. We have seen the recommendation of the Committee and the Action Taken Report.

At **Sl. No. I (1)** it is stated that 178 Units have covered the conveyor belt and Screen;

At **Sl. No. I (2)** it is stated that 36 Stone Crusher Units are having capacity of more than 100 TPH, out of which 12 Units have ordered for Bag house.

At **Sl. No. I (3)** it is stated that JSPCB has given time till 31.03.2023 to the Stone Crusher Units to install Bag House.

At **Sl. No. II** it is stated that 112 Units have installed fixed type water sprinklers; Out of how many, have not been disclosed.

At **Sl. No. III (1)** it is stated that 73 applications of Consent to Operate (CTO) has been rejected by the JSPCB due to noncompliance of the conditions of CTO.

At **Sl. No. III (2)** it is stated that three Stone Crusher Units were demolished by the District Administration. It has not been disclosed as to how many Stone Crusher Units are operating in total and licenses have been issued to how many, and how many are operating without licenses. We also find that Stone Crusher Units which are operating without Bag House have been given time till 31.03.2023 to install Bag House.

11. Along with the affidavit dated 13.09.2023 filed by the Jharkhand State Pollution Control Board, Annexure-'D' has also been filed which is the Minutes of Meeting held under the chairmanship of

the Chief Secretary, Government of Jharkhand. Para 4 of the Minutes of the Meeting reads as under: -

> *"4) The Member Secretary, JSPCB briefed that the Environmental Compensation of the 203 defaulting Stone Mines/Crushers was computed and notices to each Unit separately were issued vide different letters on 12/04/2023 amounting to a total of INR 1,01,26,55,460.00/-. Out of the 203 Units, 120 Units have submitted their representation before the Board for reconsideration of the amount of imposed Environmental Compensation and 11 Units have filed a Writ Petition before the Hon'ble High Court of Jharkhand. Environmental Compensation of the 08 Units amounting to INR 4,02,69,531.00/- were revised and the total revised amount of the 08 Units were computed as INR 1,03,73,874.00/- and an amount of INR 97,25,624.00/- has been collected by the Board. The Environmental Compensation of the rest Units are being analysed and are under process."*

12. Annexure-'D' further discloses that 164 Stone Crushers, 87 Stone Mines and 12 Stone Mines with Crusher are having valid Consent to Operate (CTO) as on 25.11.2023. It is also mentioned that PTZ cameras have been installed; Boundary wall has been completed; tree plantation has been done and fixed type water sprinklers has been installed by the 176 Units.

13. It is also mentioned that the Jharkhand State Pollution Control Board has transferred Rs.6.00 crore (Rupees Six crores only) to the Deputy Commissioner, Sahebganj for installation of CAAQMS in negative Carrying Capacity Grids and CCTV cameras for monitoring. Four CAAQMS have been installed by the District Administration in Mirzachouki, Mahadeoganj, Demba & Sakrigali, 34 FIRs have been lodged, Rs.978.00 lakh have been recovered as fine from the defaulters, 97 vehicles (JCB/Poklane etc.) have been

seized, 558 vehicles have been confiscated from the Court of the Deputy Commissioner-cum-District Magistrate, Sahebganj and 22 Crushers were sealed or demolished by the District Mining Task Force.

14. In para 7 of the Annexure-'D', it is stated that 38 Stone Crushers are having capacity of more than 100 TPH out of which 20 Units are having valid CTO, which have installed the Bag House and 3 units having capacity of less than 100 TPH have also installed Bag House. This means that out of 38 Stone Crushers, 18 Units do not have Consent to Operate (CTO) and have not installed Bag House. The picture is not clear.

15. Since the Report of the Committee did not present the clear picture, the Respondents were directed to file further affidavit.

16. The Respondent No.2, Ministry of Environment, Forests and Climate Change, has filed affidavit explaining the procedure for grant of Environmental Clearance in terms of EIA Notification, 2006 as amended vide Notification dated 15.01.2016.

17. The Central Pollution Control Board has filed affidavit and with regard to most of the allegations made in the Original Application, it is stated that the same do not require any comments.

18. The Respondent No.5 has filed affidavit stating that from the allegations made in the Original Application no cause of action has been made out against the Respondent No.5.

19. The affidavit filed by the Jharkhand State Pollution Control Board states that Consent to Operate (CTO) has been granted by the Board to 156 Stone Crusher Units and 110 Stone Mines and 74 defaulters/illegal Units have been identified by the Board and closure notices have been issued to all illegal Units.

20. Thereafter, in the affidavit dated 06.11.2017, it is stated that Consent to Establish (CTE) has been granted to 28 Stone Crusher Units and 22 Stone Mine Units. It is also stated that Consent to Operate (CTO) has been granted to 89 Stone Crusher Units and 39 Stone Mine Units. It is further stated that the Regional Officer, Dumka vide order dated 03.11.2017 has submitted an additional list of 30 Crusher Units in the District of Sahebganj which have been issued closure notice.

21. The Deputy Commissioner, Sahebganj, has filed supplementary counter-affidavit stating that as per records there are 143 Stone Crushers Units and 114 Mine Units having statutory clearances. It is also stated that the Respondent has acted seriously and closed down and sealed Stone Crusher Units which lack statutory clearances and the mineral present at the site has also been seized and necessary action for realization of royalty and criminal prosecution is in progress.

22. A supplementary Report has been filed by the Jharkhand State Pollution Control Board dated 29.01.2021 on the factual aspects and action taken by the Jharkhand State Pollution Control Board in the light of the order of the Tribunal dated 23.09.2020. The Report reads as under:-

> *"xxxx xxxx xxxx*
> *1. A progressive Emission Inventory Assimilative Carrying Report has been prepared by the Center for Environment and Energy Development, New Delhi (CEED). The CPCB's Exceedance Factor (EF) method has been applied based on the average annual concentration of the* $PM_{2.5}$ *was 84* μg/m^3*, followed by 80* μg/m^3 *in 2016, 76* μg/m^3 *in 2017, 69.1* μg/m^3 *in 2018 and 64* μg/m^3 *in 2019. The report has suggested the various preventive measures to be adopted in*

the Sahebganj district to reduce $PM_{2.5}$ level to achieve the clean air standard of 40 $\mu g/m^3$ keeping in mind the annual concentration of $PM_{2.5}$ in year 2019. It has been targeted to reduce $PM_{2.5}$ level up to 38% to ensure clean air in the district.

2. No fresh CTE is being accorded in the Sahebganj district from last 1.5 years (approx.).

3. In the meanwhile, after the last order of the Hon'ble Tribunal, 170 Units (Mines/Crusher) has been inspected by the Board. A third and final show cause has been issued to the non-complying Units with a condition that if they don't comply with the conditions of the CTO/EC (as applicable) then a closure direction will be issued to them with immediate effect and Environmental Compensation will be levied.

4. To curb down the pollution and to ensure the compliances of the directions issued by Hon'ble NGT, a Monitoring Committee has been notified vide Notification no.3001 dated 30.09.2020 by the Forest Environment & Climate Change Dept., Govt. of Jharkhand under the chairmanship of the Secretary, Urban Development & Housing Department.

5. A total of Seventeen stone crushing units has been issued a show cause notice in light of the report of the Deputy Commissioner, Sahebganj and if found non compliant then closure direction would be issued.

6. The District Mining Task Force, Sahebganj including Regional Officer, Dumka, JSPCB as a member, have conducted rigorous inspections against all the units involved in illegal mining, storage and transportation. However, FIR against 125 defaulters have been lodged by the Task Force from Jan – 2019 till Dec – 2020.

7. The Deputy Commissioner, Sahebganj has directed the Executive Engineer, Electric Supply Circle, Sahebganj not to provide electrical connectivity to the Stone Crushers which are not having valid CTO and Dealers Licence (Mining). Moreover

he has also provided a list o Sixty Nine such Units which were illegal and has directed to disconnect their electric supply."

23. An Action Taken Report dated 30.01.2023 has been filed by the Director of Mines and Geology which reads as under:-

Sl. No.	***Recommendations of the Expert Committee***	***Action Taken***
I.	*In the case of stone crushers, the crushing units (both primary & secondary) should be placed in a covered section and the crushing units having capacity more than 100 TPH, shall be provided with bag house as emission control system.*	*1. 178 Units has covered the conveyor belt and Screen.* *2. 36 Stone Crusher Units are having capacity more than 100 TPH, out of which 12 Units have ordered for Bag House.* *3. JSPCB has given time till 31st March, 2023 to the stone crusher units to install Bag House.*
II.	*The crushers shall install scientifically designed adequate number of sprinklers with requisite hydraulic pressure and shall ensure that the sprinklers remained in operation during crushing period.*	*112 Units have installed fixed type water sprinklers.*
III.	*JSPCB along with district administration shall ensure that crushers are not in operation without having requisite*	*1. In total 73 applications of Consent to Operate (CTO) has been rejected by the JSPCB due to non-compliance of the conditions of CTO.* *2. Three stone crusher units were demolished by the District*

	pollution control measures through strict vigilance. Priority may be given for the grids where negative supporting carrying capacity has been observed.	*Administration.*
IV.	*Conveyor belts should be covered/enclosed to avoid fugitive emission, without side gaps, in enclosure and belts.*	*178 Units has covered the conveyor belt and Screen.*
V.	*The crushed stones or finished products should be stored in a silo, or the finished goods should be kept lower than the height of wind-breaking walls. Strong structural base and framing should be provided for wind-breaking walls to withstand strong wind conditions. The height of the stockpile should always be kept lower than the height of the wind-breaking wall. The wall can be erected radially with a screen as center point. In addition, proper sprinkling arrangement should be provided all around the stockpiles.*	*1. 131 Units have kept the height of the crusher less than the height of the wind breaking wall.* *2. 112 Units have installed fixed type water sprinklers.*

VI.	*The haul road/roads within the mines/industry premises used for the transportation of the products from the stone crushers or mines shall be paved and sufficient number of sprinklers be in operation. The concerned crushers shall be responsible for installation and O & M.*	*1. 93 stone crusher units have made their internal road pucca.* *2. 112 Units have installed fixed type water sprinklers.*
VII.	*Cleaning of crushing units and railway goods shed shall be performed with only mechanical means on regular basis.*	*1. All the Crusher Units have been issued directions for keeping their premises clean.* *2. The Sr. DCM, Malda in the meeting dated 25/01/2023 informed that all the 10 goods shed are cleaned manually at present and they will initiate the process for making it mechanical.*
VIII.	*JSPCB shall direct the concerned agencies to maintain the national highways and other metaled roads to reduce fugitive emission.*	*1. The Regional Officer, NHAI, Ranchi vide email dated 27/01/2023 has submitted the Action Taken Report, the details of which is as follows:-* *a) Regular sprinkling of water is being carried by the contractors with the help of truck/tractor mounted sprinklers.* *b) Mixing of bitumen is carried out in closed chambers in the Contractor's Camp which is located far away from the habituated area and the existing road.*

		c) Projects of NHAI namely 4 Laning of Mirzachowki – Farakka section of NH-80 (Pkg-1) and 4 Laning of Ganga bridge is under construction. *2. The Road Construction Department (RCD), Government of Jharkhand has submitted its report dated 27/01/2023, the details of which is as follows:-* *a) A stretch of 423.927 km of Major and Other District Roads lies with the RCD out of which:* ➢ *Single Lane – 7.9 km* ➢ *Intermediate Lane – 221.652 km* ➢ *Double Lane – 94.375 km* ➢ *IRQP done – 53.65 km* ➢ *Tender invited for reconstruction – 26.7 km* ➢ *S/R done – 6.5 km* ➢ *Under process of tender under IRQP – 19.43 km* ➢ *Ordinary repairing being done – 72.355 km* ➢ *Under good condition – 34.65 km* ➢ *Proposal submitted for IRQP – 16.13 km* ➢ *New constructed road – 48.527 km*

		➢ *Reconstruction being done – 34.33 km stretch has been* ➢ *Transferred from REO and under tender process – 51.155 km* ➢ *IRQP being done – 60.50 km*
IX.	*The stone dusts from the stone crushing/mines are dumped in the nearby area causing may be utilized for construction activities of the 4-lane highway and Ganga Bridge in the area and filling up the ponds/mine voids which were created during the stone mining or reclamation of the stone mines.*	*The Regional Officer, NHAI, Ranchi vide email dated 27/01/2023 has informed that projects of NHAI namely 4 Laning of Mirzachowki – Farakka section of NH-80 (Pkg-1) and 4 Laning of Gange bridge is under construction. In these projects fly ash from NTPC Kahalgaon has been used around 3.16 lakh cumec and 5 lakh cumec stone dust has been utilized till date.*
X.	*A proper green belt is to be developed surrounding the crushers.*	*1. 131 Units have developed green belt.*
XI.	*Ten railway sidings and eight railway goods sheds are important source of pollution as they deal with 14,25,000 tonnes of materials (Stone Chips, Ballast and Bolder) per month (Table 11). Therefore, the railway sidings are recommended to be*	*1. The Senior Divisional Commercial Manager, Eastern Railway, Malda vide Pollution/NOC/2022-23 dated 27/01/2023 has informed that mitigation measures in accordance with Railway Board's Policy have been initiated/planed which inter-alias includes water mist canon, green belt, dust screen guard etc.* *2. JSPCB has issued directions under section 33 (A) of the Water*

	covered/enclosed with Galvanized Iron (G.I.)/Mild Steel (M.S.) sheets with proper pollution control system to avoid fugitive emissions. Proper housekeeping should also be maintained.	*(Prevention & Control of Pollution) Act, 1974 and under section 31 (A) of the Air (Prevention & Control of Pollution) Act, 1981 vide Board's Ref. No.B – 207 dated 27/01/2023 to the Divisional Railway Manager, Eastern Railway, Malda for ensuring that the compliance of all the Joint Committee related to the Goods Shed/Railway Siding and other mitigation measures for control of fugitive emissions should be completed by 31st March, 2023.* *3. JSPCB has issued directions under section 33 (A) of the Water (Prevention & Control of Pollution) act, 1974 and under section 31 (A) of the Air (Prevention & Control of Pollution) Act, 1981 vide Board's Ref. No. B – 209 dated 27/01/2023 to the Divisional Railway Manger, Eastern Railway, Malda to ensure that the Railway Sidings/Goods Sheds in the Sahebganj district should only be operated after obtaining the valid CTO from the Board.*
XII.	*The loading/unloading points of the wagons shall be covered if possible or shall be equipped with scientifically designed sprinklers with adequate hydraulic pressure. The sprinklers should be in adequate number to maintain a water curtain along the loading/unloading points.*	
XIII.	*The waste generated from the railway goods sheds/siding shall be collected and segregated for proper disposal*	
XIV.	*Since the railway sidings are located near the clusters (Table 12), which may impact on human health, these shall be relocated to some safer distance.*	

XV.	*The trucks, as well as the wagons, should be properly covered while transporting the stone chips.*	*1. The Senior Divisional Commercial Manager, Eastern Railway, Malda vide his Letter No. Com/Goods/M/ Pollution/NOC/2022-23 dated 27/01/2023 has informed that stone chips indents are already being placed for covered wagons.* *2. The District Trasport Officer, Sahebganj vide his letter no.81 dated 28/01/2023 has informed that the vehicles transporting the stone are directed to transport only after covering with tarpaulin sheets. Those 471 Vehicles which were found non-complying to the above directions they were fined under section 190 (2) of MV Act. A total fine of INR 12,88,000/- (INR Twelve Lakhs Eighty-Eight Thousand only) has been recovered from July, 2021 till December, 2022.*
XVI.	*Pan-tilt-zoom or PTZ cameras must be installed at all the stone crusher units at appropriate locations to detect fugitive emissions. Feed of the PTZ cameras shall be shared with the JSPCB.*	*1. The DC Sahebganj in the meeting dated 25/01/2023 has informed that the PTZ cameras have been installed at the five check posts in the district and is being monitored by the District Administration.* *2. One crusher unit has installed the PTZ camera.* *3. JSPCB has requested the Director General, National Informatics Center, Govt. of India, New Delhi vide Board's Ref. No. B – 202 dated 27/01/2023 to create a platform at an earliest, so that the feed of the PTZ cameras installed by the stone*

		crushing units should be shared with the JSPCB.
XVII.	*The operating capacity of the Stone crusher units may be verified with the monthly electricity bills of the respective unit.*	*The DMO, Sahebganj informed in the meeting dated 25/01/2023 that on trial basis they have started to verify the monthly electricity bills with the production capacity, but it is a very time-consuming process. So, it may be done on random basis.*
XVIII.	*The units using DG set as power source may only be allowed to operate when the unit is having valid authorization as per Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016.*	*1. 41 Units have applied for Authorization out of which 29 applications were rejected and 12 applications are under process with JSPCB.* *2. JSPCB has issued direction under section 5 of the Environment (Protection) Act, 1986 to the Director, Jharkhand Bijli Vitran Nigam Limited, Dept. of Energy, Govt. of Jharkhand and the Chief Electrical Inspector, Dept. of Energy, Govt. of Jharkhand vide Board's Ref. No. B – 203 dated 27/01/2023 for the following:-* *a) To grant licence/certificate/permit to the units using DG Set as power source in Sahebganj district only after they produce Authorization under HOWM Rules, 2016 granted/issued by the Jharkhand State Pollution Control Board.* *b) To direct the Units which have been issued licence/ certificate/ permit to apply for Authorization under HOWM Authorization granted/*

		issued by the Jharkhand State Pollution Control Board in a timeframe.
XIX.	*Random drone surveillance on the bank of river Ganga may be done to prevent illegal dumping of debris generated during stone mining, crushing or allied activities.*	*DC, Sahebganj in the meeting dated 25/01/2023 has informed that there are 2 drones in the district (i.e. one each in Sahebganj and Rajmahal subdivision).* *It was further informed that the illegal dumping along the banks of river Ganga has been completely checked by the district administration.*
XX.	*Online and manual ambient air quality monitoring stations may be installed in the grids where negative carrying capacity is observed to monitor atleast for measurement of PM_{10}, $PM_{2.5}$ and NO_X JSPCB may be responsible for operation of these stations however, the expenses incurred for the same may be recovered from the respective stone crushers and mines.*	*1. 35 units (Mines & Crushers) have installed PM_{10} Analyser.* *2. The MS, JSPCB informed in the meeting dated 25/01/2023 that the tender document for supply and installation of online ambient air quality monitoring stations is under process.*
XXI.	*The environment management status shall be updated as well as verification of the adequacy of the*	*1. JSPCB has issued direction under section 33 (A) of the Water (Prevention & Control of Pollution) Act, 1974 and under section 31 (A) of the Air (Prevention & Control of Pollution)*

<table>
<tr><td></td><td>pollution control devises installed in all the stone mines/ crushing units operating in the region shall be done by JSPCB & DC Sahebganj.</td><td>Act, 1981 vide Board's Ref. No. B – 206, dated 27/01/2023 to the Deputy Commissioner, Sahebganj to call the frequent periodic meeting of the District Level Environment Committee for monitoring of the activities related to stone mines and crushers and for ensuring compliance of the recommendations of the Expert and Joint Committee which were accepted by the Hon'ble Tribunal.

2. The monitoring sheet for updating the implementation status of the Emission Control System of the stone crushers and stone mines operating in the region has been prepared and is being monitored by the Regional Officer, JSPCB, Dumka.</td></tr>
<tr><td>XXII.</td><td>JSPCB may impose Environmental Compensation (EC) for violators based on methodology as described in para 5.0 till the cost of restoration to the extent of damage including the deterrent element is assessed.</td><td>The details of Environmental Compensation imposed by JSPCB from Nov. 2019 till Dec. 2022 is as below:-

<table>
<tr><td>S. N.</td><td>Details</td><td>Figure</td><td></td></tr>
<tr><td></td><td></td><td>Mines</td><td>Crushers</td></tr>
<tr><td>1.</td><td>No. of Units on which EC is imposed</td><td>60</td><td>165</td></tr>
<tr><td>2.</td><td>Amount of EC imposed.</td><td>2,55,00,000</td><td>4,59,24,000</td></tr>
<tr><td>3.</td><td>No. of Units which deposited EC</td><td>31</td><td>90</td></tr>
<tr><td>4.</td><td>Amount</td><td>1,27,50,000</td><td>2,52,84,000</td></tr>
</table>
</td></tr>
</table>

				of EC deposited	
			5.	*No. of Units which not deposited EC*	*29*	*75*
			6.	*Amount of EC not deposited*	*1,27,50,000*	*2,06,40,000*
XXIII.	*The cost of restoration of the actual damage and apportionment assessment may be carried out by technical institutes through JSPCB following the mechanism already developed by CPCB and circulated to all SPCBs/PCC following the direction of Hon'ble NGT in the matter of O.A. No.739/2018. The copy of the mechanism for "Assessment of Damage to Air Quality", "Damage Assessment of Health Issues" and "Agricultural Production Loss" w.r.t. Stone Crushers" is given in Appendix 11.*	*1. Representative of IIT, (ISM), Dhanbad informed in the meeting dated 25/01/2023 that due to the academic assignments and by considering the availability and load on the faculty members it may not be possible to carry-out the said assignment.* *2. JSPCB has requested the Director, Birsa Institute of Technology, Sindri vide JSPCB's Ref. No. B – 200, dated 27/01/2023 to carry out the cost of restoration of the actual damage and appointment assessment in line with the recommendation of the committee.* *3. The Director, Birsa Institute of Technology, Sindri has accepted the work assigned to them and has sent the acceptance for the above said work to the Board vide their Letter No. BIT/D/13/23, dated 28/01/2023.*		
XXIV.	*A Comprehensive Environment Management plan may be prepared, for the*	*1. Representative of IIT (ISM), Dhanbad informed in the meeting dated 25/01/2023 that due to the academic assignments and by*			

	areas where the stone mines and crushers are located, through the expert institutes like Indian Institute of Technology India School of Mines (IITISM), Dhanbad or any other reputed agency.	*considering the availability and load on the faculty members it may not be possible to carry-out the said assignment.* *2. JSPCB has requested the Director, Birsa Institute of Technology, Sindri vide JSPCB's Ref. No. B – 199, dated 27/01/2023 to prepare the 'Comprehensive Environment Management Plan' for the areas where the stone mines and crushers are located.* *3. The Director, Birsa Institute of Technology, Sindri has accepted the work assigned to them and has sent the acceptance for the above said work to the Board vides their Letter No.BIT/13/23, dated 28/01/2023.*
Sl. No.	***Recommendations of the Joint Committee***	***Action Taken***
1.	*All stone crushers/ stone mines must be provided with display board of adequate size (preferably not less than 1 m x 1 m), mentioning the following details:-* *a) Name of the crusher/ Mines with Capacity* *b) Address and exact location of area with latitude and longitude of all corner points.*	*153 Stone Crusher and 76 Stone Mine Units have provided the Display Board.*

	c) Name of the Proprietor with contact no. *d) Status of regulatory compliance status with Validity (CTE, CTO, HWA)* *e) Status of Electricity Power Supply.*	
2.	*All the crushers in the area running without valid CTE/CTO to be treated as illegal and be demolished. Taking lesson from earlier demolition by dismantling the conveyer system & disconnection of power supply that such crusher start operating after sometime as reported, it is proposed that whenever any crusher is demolished for running without CTE, the whole foundation to be demolished & all the major machineries of the crushers (i.e. primary crusher, secondary crusher, screen, hopper, loader, DG set, etc.) should be seized.*	*1. Eighteen (18) crusher units were sealed on 07/08/2022 by the members of District Task Force.* *2. Seven (07) Crusher Units were demolished in Sep. 2022 by the District Task Force.* *3. Three (03) stone crusher units were demolished by the District Administration.* *4. The members of the District Task Force (Mining), Sahebganj has filed FIR's seizure of vehicles, sealed the Units etc. The summary of the Action Taken Report is as below:-* *a) Action Taken from January 2020 till December 2020 – 47 Nos.* *b) Action Taken from January 2021 till December 2021 – 18 Nos.* *c) Action Taken from January 2022 till December 2022 – 68 Nos.*

3.	*The crusher having valid CTE, but running without valid CTO should be sealed with ensuring disconnection of power supply/seize of DG set.*	*The Senior Manager (Technical), electricity Supply Division, Sahebganj vide his letter No. 193 dated 28/01/2023 has informed that the electricity connection of 60 consumers has been disconnected after expiry of CTO and Dealers License. Moreover, 26 connections have been permanently disconnected.*
4.	*All the units using DG sets as power source must have valid authorization as per rule [Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016].*	*Same as S.N. 'XVIII' of the Expert Committee.*
5.	*Taking into account the scarcity of water in the area (where villagers use Zaria Nallah water for drinking, bathing and other domestic purpose) poor conditions effective emission control system it is proposed that stone crushers with capacity greater than 100 TPH must be provided with bag filters as emission control system for primary crusher, secondary crusher &*	*Same as S.N. 'I' of the Expert Committee.*

	screen in a time bound manner (preferably in 6 month).	
6.	*Proposed railway siding near the school should be developed keeping safe distance from the school to prevent the children from getting affected by silicosis/respiratory problem.*	*JSPCB has issued directions under section 33 (A) of the Water (Prevention & Control of Pollution) Act, 1974 and under section 31 (A) of the Air (Prevention & Control of Pollution) Act, 1981 vide Board's Ref. No. B-208, dated 27/01/2023 to the Divisional Railway Manager, Eastern Railway, Malda to ensure that the Sakrigali Goods Shed should be operated in night time only after obtaining the valid CTO from the Board. Moreover, necessary steps should be taken to shift the above said Goods Shed in time bound manner.*
7.	*All stone crushers operating using DG set must get valid authorization from Jharkhand State Pollution Control Board as per Rule.*	*Same as S.N. 'XVIII' of the Expert Committee.*
8.	*Overloading in loaded vehicle carrying stone/ fines should be avoided to prevent spillage on the road. The crushing of these spillage under the wheels results in high load of PM_{10}/ $PM_{2.5}$. Minimum free board of minimum 6 inch should be left*	*The District Transport Officer, Sahebganj vide his letter no.81 dated 28/01/2023 has informed as below:-* *a) That the vehicles transporting the stone are directed to transport only after covering with tarpaulin sheets. Those 471 Vehicles which were found non-complying to the above directions were penalized under section 190 (2) of MV Act. A total fine*

	keeping in mind the undulating road condition. The materials should be properly covered to prevent escape of fines under negative draft.	*of INR 12,88,000/- (INR Twelve Lakhs Eight-Eight Thousand only) has been recovered from July 2021 till December 2022.* *b) That the vehicles used for transportation of stone are directed not to transport while in overloading. The 167 vehicles which were found non-complying to the above directions were penalized under Section 194 (1) of MV Act. A total fine of INR 45,82,900/- (INR Forty-Five Lakhs Eighty-Two Thousand Nine Hundred only) has been collected from April 2022 to December 2022.*
9.	*Haul roads should be properly maintained. Sprinklers should be installed to suppress the dust.*	*1. 93 stone crusher units have made their internal road pucca.* *2. 112 Units have installed fixed type water sprinklers.*
10.	*Plantation should be done in both side of the road. Green belt should also be improved in each cluster as well.*	*1. 131 Units have developed green belt.* *2. The Regional Officer, NHAI, Ranchi vide email dated 27/01/2023 has informed that, it is expected that 85% of the road (Mirzachowki – Farakka section of NH-80) is likely to be completed by 31 March 2024 and the plantation will be taken up during monsoon 2024.*

24. A further supplementary Action Taken Report has been filed by the Director of Mines and Geology which reads as under:-

> *"**1. BACKGROUND***
>
> *As per the decision taken in the 3rd meeting of the Monitoring Committee held on 07/02/2023, the site visit and review*

meeting with the district officials of Sahebganj was to be scheduled in the 3rd or 4th week of February, 2023.

2. SITE VISIT

In compliance to the abovementioned decision taken in the 3rd meeting of the monitoring Committee held on 07/02/2023 as site visit of Stone Crusher / Stone Mine/ Railway Siding at Sahebganj was carried out on 20/02/2023 with the following members:

a) Sri L. Khiangte, Additional Chief Secretary, Forest Environment and Climate Change Department, Government of Jharkhand – cum – Chairman, Monitoring Committee.

b) Sri Aboobacker Siddique P, Secretary, Mines and Geology Department, Government of Jharkhand.

c) Sri Yatindra Kumar Das, Member Secretary, Jharkhand State Pollution Control Board.

d) Sri Ram Niwas Yadav, Deputy Commissioner – cum – Chairman, District Environment Committee (DEC), Sahebganj.

e) Sri Kumar Manibhushan, Consulting Executive, JSPCB.

f) Sri Ritesh Raj Tigga, OSD to Mines Commissioner, Mines and Geology Department, Government of Jharkhand.

g) Inspector of Factories, Sahebganj Circle, Sahebganj (Representative of Chief Inspector of Factories, Jharkhand).

2.1 FIELD INSPECTION

a) Sahebganj (Malgodown) Railway Siding, Sahebganj.

- *When the site was visited the loading and unloading of the goods was not taking place. When enquired, Sri Sujit Kumar, Assistant Divisional Railway Manager (ADRM), Malda Division, Eastern Railways stated that on an average about 35 – 40 rakes are being loaded from the said railway siding in a month.*

- *It was informed by the ADRM that at present the railway siding is not having valid CTO. However, the railways have applied for the same and it is pending with the JSPCB. In response to the same the Regional Officer, JSPCB Regional Office – cum – Laboratory, Dumka informed that as the Railway Sidings fall under the Green category of industries and the combined CTE and CTO is issued for such type of industry. After, the expiry of the Combined consent renewal CTO is issued. It was informed that the Combined Consent application of the Sahebganj Goods Shed was rejected in September, 2022. After that the Unit did not apply for Consent. The complete details w.r.t. the rejected application of the Unit will be provided later. The status of all railway siding situated in Sahebganj district as provided by the Regional Officer, JSPCB Regional Office – cum – Laboratory, Dumka is attached as Annexure-I.*

- *The Member Secretary, JSPCB informed that in exercise of the powers vested under section 33 (A) of the Water (Prevention & Control of Pollution) Act, 1974 and under section 31 (A) of the Air (Prevention & Control of Pollution) Act, 1981 the DRM, Malda Division, Eastern Railways was directed to ensure that the Railway Sidings/Goods Sheds in the Sahebganj district should be operated only after obtaining the valid CTO from the Board vide Board's Ref. No.B-209, dated 27/01/2023.*

- *No Boundary Wall/Wind Breaking wall found at the site.*

- *Stone Chips were found dumped on the platform with labourers (Approx. 20 in nos.) waiting for loading in the railway wagons.*

- *Two rakes were found at the site, when enquired it was informed by the railways representative that stone*

chips are being loaded in one rake and the unloading of cement bags was being done in the other rake.

- *Saplings were planted in one corner of the railway siding and the railways representative informed that it is planned to plant saplings in three rows all along the boundary of the railway siding.*

- *Housekeeping of the railway siding was not proper.*

- *Haul (Approach) road was kutcha and neither sprinklers were installed nor was sprinkling being done with vehicle mounted sprinklers.*

- *A vehicle mounted mist sprinkler was there at the railway siding, the railway representative stated that the mist sprinkler is used when loading and unloading of the stone chips is being done.*

- *It was informed by the railway representative that a proposal of 11.5 Crores for 10 railway sidings for permanent boundary/wind breaking wall of atleast 20 ft. height all along the railway siding, three tier plantation all along the boundary wall with de-silting pit, garland drain all along the boundary wall with de-silting pit and Rain Water Harvesting System (RWHS) has been sent in November 2022 to the Railway Board for 2023-24 and these works will commence as soon as the approvals and sanctions are obtained.*

- *It was also informed that fixed type water sprinklers/foggers on all roads and sidings to control fugitive emission and installation of PM_{10} Analyzers have been sanctioned and it is expected to be Operational by April, 2023.*

Directions issued:-

1) To provide the scaled layout plan of all the railway sidings clearly indicating the proposed boundary/wind

breaking wall, site of installation of PM_{10} Analyzers, installation point of fixed water sprinklers, three tier plantations, garland drains and desilting pits, RWHS with their dimensions, timeline for completion along with the budgetary provisions for the same and submit it to the Deputy Commissioner – cum – Chairman, District Environment Committee, Sahebganj.

2) To construct the pucca haul (approach) road and maintain proper housekeeping.

3) To use water sprinklers on the haul (approach) road.

4) MS, JSPCB and DC, Sahebganj to ensure that the directions issued by the JSPCB vide Ref. No.B-209, dated 27/01/2023 for ensuring that the Railway Sidings/Goods Shed in the Sahebganj district should be operated only after obtaining the valid CTO from the Board should be enforced strictly.

b) M/s Dilip Buildcon Limited (Crusher Plant), Ambadiha, Sahebganj.

- *When the site was visited the crushing activities was going on.*

- *It was informed by Sri Bhanu Pratap Singh, Project Manager that the Unit has installed an artificial sand making machine with capacity of 70 TPH. It was further informed that the stone dust of < 10mm size is directly fed into the machine and it separates the particles of 8mm – 4.75mm which is called as the artificial sand and its percentage is about 90-93% of the stone dust and rejects the particles of size less than 4.75mm which is 7-10% of the stone dust and is being used for filler material in road construction projects or mine filling.*

- *Sri Bhanu Pratap Singh, Project Manager further informed that this technology has been certified by the*

IIT, Kharagpur and NHAI has also allowed this to be used in its project and the complete Unit has been established for using this artificial sand in the Ganga Bridge Project which is being taken up by the Company.

- *Framed Boundary Wall/Wind Breaking Wall of almost 10 ft. height were found at the site.*
- *Stone Chips were found in the campus.*
- *Plantation was found around the periphery of the crusher.*
- *Housekeeping of the unit's premises was proper.*
- *Haul (Approach) road was pucca.*
- *A mist sprinkler was installed at site and was found operational.*
- *Static sprinklers were found installed at site and along the internal road and were operational.*
- *Conveyor belts, crushing section and screen were found covered.*
- *PM_{10} Analyzer was found installed at site and was operational.*

Directions issued:-

1) To increase the plantation density in open areas and do three tier plantations along the boundary and ensure maintenance of plants.

2) To keep the height of the finished goods lower than the height of boundary wall/wind breaking walls.

c) Shri Shyam Stone Works (Stone Crusher), Marikuti, Sahebganj.

- *When the site was visited the crushing actives was going on.*
- *Permanent Boundary Wal/ Wind Breaking Wall made of bricks of 12 ft. height of approx. 1600 feet was found at the site.*
- *Sone Chips were found in the campus.*
- *New plantation was found around the periphery of the crusher.*
- *Housekeeping of the unit's premises was proper.*
- *Haul (Approach) road was pucca.*
- *A mist sprinkler was installed at site and was found operational.*
- *Static sprinklers (15 in nos.) were found installed at site and long the internal road and were operational.*
- *Conveyer belts, crushing section and screen were found covered.*
- *PM_{10} Analyzer was found installed at wrong place at site.*
- *Bag filter was in the process of being installed.*
- *A separate Hazardous West storage room was found constructed inside the Unit's premise*

Directions issued:-

1) *To shift the PM_{10} Analyzer at appropriate site as per the CPCB guidelines.*
2) *To increase the planation density in open areas and do three tier plantations along the boundary and ensure maintenance.*

3) *To keep the height of the finished goods lower than the height of boundary wall/ windbreaking walls.*

d) M/s Black Stone Works (Stone Mines), Deshpokhariya and Amjhori, Sahebganj.

- *When the site was visited the mining activities was not going on.*
- *Boundary demarcation was found at the site.*
- *Stone boulders were found in the mine premises.*
- *New planation was found around the periphery of the mines.*
- *Haul (Approach) road was kutcha.*
- *Vehicle mounted water sprinkler was found at site.*
- *Mining in bench pattern was found from one side.*
- *No fixed type water sprinkler was found.*

Direction Issued:-

1) *To increase the plantation density and do three tier plantations along the boundary.*
2) *To do the mining as per the bench pattern as given in the Approved Plan.*
3) *To install fixed type water sprinklers along haul road and dusty areas.*

e) Mirzachouke Goods Shed, Sahebganj.

- *When the site was visited the loading and unloading of the goods was not taking place. When enquired, the railway representative stated that on an average about 35 – 40 rakes are being loaded from the side railway siding in a month.*

- *It was informed by the railway representative that at present the railway siding in not having valid CTO. However, the railways have applied for the same and it is pending with the JSPCB. In response to the same the Regional Officer, JSPCH Regional Office-cum-Laboratory, Dumka informed that the combined consent was issued to the Unit vide JSPCB Ref. No. JSPCB/HO/RNC/CTE/CTO-8386613/2022/2 dated 19.04.2022 which was valid upto 30.06.2022. However, the Unit was to apply for renewal of the consent 120 days prior to the date of expiry of the consent. No renewal application of the Unit has been received by the Board till date.*

- *The Member Secretary, JSPCB informed that in exercise of the powers vested under Section 33(A) of the Water (Prevention & Control of Pollution) Act, 1981 the DRM, Malda Division, Eastern Railways was directed to ensure that the Railway Sidings/Goods Sheds in the Sahebganj district should be operated only after obtaining the valid CTO from the Board vide Board's Ref. No. B-209, DATED 27/01/2023.*

- *No Boundary Wall/Wind Breaking Wall found at the site.*

- *Housekeeping of the railway siding was not proper.*

- *Haul (Approach) Road was kutcha.*

- *Stone Chips were found dumped along the siding on both sides in the stretch of approx. 250m length. However, loading and unloading sctio0n were not taking place.*

- *One rake was found at the site, when enquired it was informed by the railways representative that stone chips are being loaded in the rake.*

- *It was informed by the railway representative that a proposal of 11.5 Crores for 10 railways sidings for permanent boundary/ wind breaking wall of at least 20 ft height all along the railway siding, three tier plantation all along the boundary wall with de-silting pit, garland drain all along the boundary wall with de-silting pit and Rain Water Harvesting System (RWHS) has been sent in November 2022 to the Railway Board for 2023-24 and these works will commence as soon as the approvals and sanctions are obtained.*

- *It was also informed that fixed type water sprinklers /foggers on all roads and sidings to control fugitive emission and installation of PM_{10} Analyzers have been sanctioned and it is expected to be Operational by April, 2023.*

Directions issued:-

1) *To provide the scaled layout plan of all the railway sidings clearly indicating the proposed boundary/wind breaking wall, site of installation of PM_{10} Analyzers, installation point of fixed water sprinklers, three tier plantations, garland drains and desilting pits, RWHS with their dimensions, timeline for completion along with the budgetary provision for the same and submit it to the Deputy Commissioner-cum-Chairman, District Environment Committee, Sahebganj.*

2) *MS, JSPCB and DC, Sahebganj to ensure that the directions issued by the JSPCB vide Ref. No. B-209 dated 27/01/2023 for ensuring that the Railway Sidings/Goods Shed in the Sahebganj District should be operated only after obtaining the valid CTO from the Board and enforce the same strictly.*

3) *To construct the pucca haul (approach) road and maintain proper housekeeping.*

4) *To use Mist sprinkler while loading of goods.*

5) *To use water sprinklers on the Haul (approach) road.*

f) M/s Star Stone Works (Stone Crusher), Marikuti, Sahebganj.

- *When the site was visited the crushing activities was not going on.*
- *The Munishi present at the site informed and produced the copy of CTO issued by the JSPCH vide Res. No. JSPCB / HO / RNC /CTO -11554034 / 2022 /301, Dated: 2022-03-14 valid till 31/12/2023.*
- *Proper Boundary Wall/ Wind Breaking Wall were not found at the site. The corroded Iron Sheets needed repair /replacement.*
- *Some stone chips were found in the campus.*
- *New plantation (approx. 50 in nos.) was found along the boundary of the crusher almost half of which were found dead.*
- *Housekeeping of the unit's premises was not proper.*
- *Haul (Approach) road was pucca.*
- *Static sprinklers were neither found installed at site not along the internal road.*
- *Conveyor belts, crushing section and screen were not found properly covered.*

Directions issued:-

1) The Unit was sealed on the spot by the concerned Circle Officer, Mandro due to the non-compliance observed by the inspection team

2) To increase the plantation density in open areas and do three tier plantations along the boundary.

3) To do the compliance as per the conditions of CTO and to follow the recommendations of the Expert and Joint Committee.

g) Other observations

- *On way to Mirzachouki Railway Siding the Committee visited two sites where the illegal crushers were demolished.*

3. REVIEW MEETING

A Review Meeting in the Chairmanship of the Additional Chief Secretary, Forest, Environment and Climate Change Department, Government of Jharkhand – cum – Chairman, Monitoring Committee was held in the Conference Hall of the Collectorate Building, Sahebganj with the officials of the Sahebganj District Administration and the various stakeholders. The Minutes of the said Review Meeting is attached as Annexure-II."

25. Compliance affidavit dated 11.03.2024 has been filed by Jharkhand State Pollution Control Board. The facts stated therein are as under:-

"a) Total number of stone crushers in Sahebganj district is 371; Out of this 371 Units, 157 Units are having valid Consent to Operate (CTO); Out of this 157 Units, 156 Units are operational and Closure direction has been issued to the 01 (One) Unit by the Board. Whereas, 214 Units are not having valid CTO and all 214 Units are non-operational/closed, out of which closure direction has been issued to the 41 Units by the Board.

b) There are 38 Units which have to install Bag house as per the recommendation of the Expert Committee as constituted by the Hon'ble NGT. Out of 38 Units, 27 Units have installed

the bag house; Out of this 27 Units, 24 Units are having valid CTO and are operational and 03 Units are not having valid CTO and are non-operational. Out of the 38 Units, 11 Units have not installed bag house; Out of this 11 Units, 03 Units have been demolished and 08 Units are not having valid CTO and are non-operational. Moreover, bag house has been installed by the 03 Units having capacity less than 100 TPH.

c) Total number of stone mines in Sahebganj district is 134; Out of this 134 Units, 85 Units are having valid Consent to Operate (CTO); Out of this 85 Units, 81 Units are operational and Closure direction has been issued to the 04 Unit by the Board. Whereas, 49 Stone Mines are not having valid CTO and all 49 Mines are non-operational/closed, out of which closure direction has been issued to the 08 Mines by the Board.

d) Total number of stone mines with crusher in Sahebganj district is 23; Out of this 23 Units, 11 Units are having valid Consent to Operate (CTO) and are operational. Whereas, 12 stone mines with crusher are not having valid CTO and all 12 stone mines with crusher are non-operational/closed, out of which closure direction has been issued to the 05 stone mines crusher by the Board."

26. It is stated that the Jharkhand State Pollution Control Board has imposed Environmental Compensation on 203 defaulting Stone Mines/Stone Crushers computed at Rs.101,26,55,460.00 (Rupees One Hundred One Crore Twenty-Six Lakhs Fifty-Five Thousand Four Hundred Sixty only) and notices have been issued to each of the Units. It is also stated that out of the 203 Units, 6 Units have deposited the complete amount of Environmental Compensation amounting to total Rs.1,36,91,407.00/- (Rupees One Crore Thirty-Six Lakhs Ninety-One Thousand Four Hundred Seven only).

27. It is also stated that out of 203 Units, 8 Units have deposited the revised amount of Environmental Compensation totaling Rs.1,22,96,874.00/- (Rupees One Crore Twenty-Two Lakhs Ninety-Six Thousand Eight Hundred Seventy-Four only). It is further stated that out of 203 Units, 72 Units have submitted their representation before the Board and after considering their representation the Environmental Compensation has been finalized amounting to Rs.7,58,31,718.00/- (Rupees Seven Crore Fifty-Eight Lakhs Thirty-One Thousand Seven Hundred Eighteen only) with a direction to the violators to deposit the same within 15 days of issuance of the letter.

28. It is next stated that out of 203 Units, 33 Units have submitted their representation before the Board which after consideration has not been found tenable and these Units have been directed to deposit the previously imposed Environmental Compensation amounting to a total of Rs.25,64,49,218.00/- (Rupees Twenty-Five Crore Sixty-Four Lakhs Forty-Nine Thousand Two Hundred Eighteen only). It is stated that out of 203 Units, 84 Units were issued reminder for deposition of Environmental Compensation amounting to Rs.32,08,19,319.00/- (Rupees Thirty-Two Crore Eight Lakhs Nineteen Thousand Three Hundred Nineteen only) and they were directed to deposit the same within 15 days. The details of the penalty amount and Compensation determined against each of the violators have been filed as Annexure which need not be reproduced here so as not to burdened the judgment.

29. A further affidavit dated 09.12.2024 has been filed by the Jharkhand State Pollution Control Board with regard to realization of the computed/revised Environmental Compensation against the

erring Units in Sahebganj District. It is stated that the Units have been categorized into the following list:-

> *"(A) List of 07 (Seven) Units who deposited the total original amount of Environmental Compensation.*
>
> *(B) List of 12 (Twelve) Units whose revised amount of Environmental Compensation computed as zero.*
>
> *(C) List of 61 (Sixty-One) Units who deposited the revised re-computed amount of Environmental Compensation.*
>
> *(D) List of 40 (Forty) Units who deposited the* ***partial*** *amount of Environmental Compensation.*
>
> *(E) List of 83 (Eighty-Three) Units who have not at all deposited any amount of imposed Environmental Compensation."*

30. It is further stated that by way of last chance the violating Units were directed vide order dated 03.12.2024, published in local newspapers on 05.12.2024, who have deposited only partial amount of imposed Environmental Compensation, to deposit the remaining amount within one month failing which closure order would be passed against them. It is stated that notice was further issued on 03.12.2024, published in local newspapers dated 06.12.2024, in respect of 83 Units falling in Category-E who have not deposited Environmental Compensation at all directing them to deposit the same within 7 days failing which closure order would be passed against them.

31. In para-9 of the affidavit, a table has been filed showing the computation of Environmental Compensation, Revised E.C., E.C. Realized and balance amount of E.C. which reads as under:-

Sl. No.	***Category List/ Parameter***	***No. of Units***	***Total amount of EC in Rs.***	***Revised E.C.***	***E.C. Realized***	***Balance amount of EC***
1.	***A**-Deposited imposed E.C.*	*07*	*1,68,32,032*	*Not revised*	*1,68,32,032*	*Nil*
2.	***B**-Revised EC calculated as zero*	*12*	*3,26,32,810*	*ZERO*	*ZERO*	*Nil*
3.	***C**-Units which Deposited revised amount of EC*	*61*	*--*	*5,84,36,814*	*6,22,29,077*	*Nil*
4.	*D-Units which deposited Partial amount of EC*	*40*	*--*	*23,00,52,802*	*2,08,52,937*	*20,91,99,865*
5.	***E-Units not deposited any E.C.***	*83*	*--*	*23,25,57,599*	*Nil*	*23,25,57,599*
	Total		***1,01,26,55,460***	***52,10,47,216***	***9,99,14,046***	***42,11,33,170***

32. The Jharkhand State Pollution Control Board has filed further affidavit dated 12.02.2025 stating that Environmental Compensation was calculated against the violating Crusher Units as per the recommendations made in the Report of the Committee submitted by the CPCB; the Industrial Sectors have been categorized into Red, Orange, Green & White Category based on Pollution Index Ranges of 60-100, 41-59, 21-40 and <20 respectively. Categorized Pollution Index Value (PI) of the Industrial Category has been given in the table which reads as under:-

Sl. No.	***Industrial Category***	***Pollution Index***	***Average P1***
1.	*Red*	*60-100*	*80*
2.	*Orange*	*41-59*	*50*

3.	*Green*	*21-40*	*30*
4.	*White*	*< 20*	*10*

33. Based on the Revised Classification of Industrial Sectors under the various categories, the PI for Stone Crushers is taken as 50.

34. Supplementary affidavit dated 13.02.2025 has been filed by the Jharkhand State Pollution Control Board giving a table classifying the Units into the five listed categories, namely, A, B, C, D & E which is as under:-

List	***Basis of Categorization***	***No. of Units***
A	*Units who deposited the total original amount of Environmental Compensation*	***07***
B	*Units whose revised amount of Environmental Compensation was computed as* ***Zero***	***12***
C	*Units who deposited the revised re-computed amount of Environmental Compensation*	***61***
D	*units who deposited the* ***partial*** *amount of Environmental Compensation*	***40***
E	*Units who have* ***not*** *at all deposited any amount of imposed Environmental Compensation*	***83***

35. It is stated that from the above list, it emerges that the Units falling under List-D are 40 Units, who are partial defaulters and Units falling under List-E are the main defaulting Units so far as depositing of Environmental Compensation is concerned. It is also stated that accordingly 40 Units listed under Category-D who have deposited only partial amount of Environmental Compensation have been issued further notice dated 03.12.2024 published in daily newspaper giving one month time to deposit the remaining Environmental Compensation and 83 Units listed under Category-E

have also been issued notices dated 03.12.2024 published in daily newspaper giving Seven (7) days' time to deposit the outstanding amount of Environmental Compensation. It is further stated that pursuant to the Public Notice dated 03.12.2024, the List-E comprising of 83 erring Units was re-scrutinized and it was found that the name of four (4) Units were repeated twice and, therefore, their duplicity was eliminated and List-E has now been reduced to 79 Units. It is stated that out of the 79 Units under List-E Closure Notice dated 11.02.2025 has been issued to 70 erring Units for not depositing Environmental Compensation.

36. Out of remaining Nine (9) Units of List-E, Seven (7) Units have made partial payment of Environmental Compensation and accordingly closure order against these Seven (7) Units were kept on hold. Further remaining Two (2) Units have deposited full amount of Environmental Compensation due against them as indicated in the table filed in para-7 of the affidavit which reads as under:-

Initial no. of Units in List-E	*No. of Units eliminated due to duplicity*	*Remaining Units in List-E*	*No. of Units issued Closure Order*	*No. of Units partially deposited E.C.*	*No. of Units fully deposited E.C.*
1	2	3	4	5	6
83	04	79	70	07	02

37. Consequently, it is stated that Seven (7) Units shown in Column No.5 get shifted and added to List-D and two (2) Units shown in Column No.6 get shifted and added to List-C. It is also stated that the District Stone Merchant Association, Sahebganj, has submitted a representation to the Board requesting for extension of time for depositing balance amount of the Environmental Compensation.

38. Considering the facts disclosed in the affidavits of the Jharkhand State Pollution Control Board, we direct that even in cases where partial payment of Environmental Compensation has been made by the defaulting Units, the closure order could not have been kept in abeyance unless and until the full and final payment of Environmental Compensation had been deposited and liability discharged by the defaulting Units.

39. We, therefore, dispose these Original Applications with a direction to the Jharkhand State Pollution Control Board to take immediate steps for restoring the closure order against Units which are either full defaulters or which are partial defaulters with regard to depositing of Environmental Compensation and the closure order will remain enforce till full and final payment of Environmental Compensation is not made by the defaulting Units. The State Pollution Control Board shall also, before allowing operation activities by Stone Crushers and Mines, inspect the sites and satisfy itself with regard to environmental compliances by the violators.

40. I.As. if any, stand disposed of.

41. There shall be no order as to costs.

.....
B. Amit Sthalekar, JM

.....
Dr. Arun Kumar Verma, EM

February 14, 2025,
Original Application No.23/2017/EZ
With Original Application No.140/2023/EZ
(Earlier O.A. No.373/2019/PB)
With Original Application No.150/2023/EZ
(Earlier O.A. No.776/2018/PB)
MN

Item No.2:

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No.30 of 2021 (SZ)
(Through Video Conference)

IN THE MATTER OF:

Dharmesh Shah ...Applicant(s)

Versus

Union of India
Through the Secretary, Ministry of Environment,
Forests & Climate Change, New Delhi and Ors.

...Respondent(s)

For Applicant(s): Mr. Ritwick Dutta along with
Mr. Saurabh Sharma.

For Respondent(s): Mrs. Me. Saraswathy for R1.
Mr. T.N.C. Kaushik for R2.
Mr. A.R. Sakthivel for R3.
Mr. S. Arjun Sruesh for R4.

Judgment Pronounced on: 30th September, 2021.

CORAM:

HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE Dr. K. SATYAGOPAL, EXPERT MEMBER

ORDER

Judgment pronounced through Video Conference. The Original Application is disposed of with directions vide separate Judgment. Pending interlocutory application, if any, shall stand disposed of.

Sd/-
.....J.M.
(Justice K. Ramakrishnan)

Sd/-
.....E.M.
(Dr. K. Satyagopal)

O. A. No.30/2021 (SZ)
30th September, 2021. Mn.

Item No.2:

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No.30 of 2021 (SZ)

(Through Video Conference)

IN THE MATTER OF:

Dharmesh Shah
No.92, Thiruvalluvar Nagar,
3rd Street, Besant Nagar,
Chennai – 600 090.

...Applicant(s)

Versus

1) Union of India
Through the Secretary,
Ministry of Environment, Forests & Climate Change,
Indira Paryavaran Bhawan, New Delhi.

2) Central Pollution Control Board,
Through the Chairman,
Parivesh Bhavan, East Arjun Nagar,
Delhi – 110 032.

3) Central Electricity Authority,
Through the Chairperson,
Sewa Bhawan, R.K. Puram.
Sector – 1, New Delhi – 110 066.

4) NLC India Limited
Through the General Manager,
1st Floor, No.8, Mayor Sathyamurthy Road,
FSD, Egmore Complex of FCI,
Chetpet, Chennai – 600 031.

...Respondent(s)

For Applicant(s): Mr. Ritwick Dutta along with
Mr. Saurabh Sharma.

For Respondent(s): Mrs. Me. Saraswathy for R1.
Mr. T.N.C. Kaushik for R2.
Mr. A.R. Sakthivel for R3.
Mr. S. Arjun Sruesh for R4.

Judgment Reserved on: 27th September, 2021.

Judgment Pronounced on: 30th September, 2021.

CORAM:

HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE Dr. K. SATYAGOPAL, EXPERT MEMBER

Whether the Judgement is allowed to be published on the Internet – Yes/No

Whether the Judgement is to be published in the All India NGT Reporter – Yes/No

JUDGMENT

Delivered by Justice K. Ramakrishnan, Judicial Member.

1. The Applicant filed this application seeking for framing of proper guidelines in respect of decommissioning of Thermal Power Plant units owned and operated by the 4th respondent/NLC India Limited viz., Unit No. 3 of 50 MW, Unit No. 5 of 50 MW, Unit No. 6 of 50 MW, Unit No. 2, 4 & 8 (2x50MW+ 100MW) of Neyveli Thermal Power Station-I, NLC India located at Neyveli, Tamil Nadu.

2. According to the applicant, there are no proper guidelines provided by the Government in respect of decommissioning of such units which include safe management, handling and disposal of hazardous substances found thereupon, as well as the dismantling, reclamation and/or disposal of scrapped thermal power plant sites and structures including machinery, buildings, ash ponds, etc situated thereon. The proposed decommissioning units are part of Neyveli Thermal Power Station-I ('TPS-I'), which had commissioned in 1962. The 600 MW Neyveli Thermal Power Station-I in

which the first unit was synchronized on 23.05.1962 and the last unit on 21.02.1970 and it consists of six units of 50 MW each and three units of 100 MW each. Due to the aging of the equipments / high pressure parts, the Board of Directors of the 4th respondent accorded approval for decommissioning the units Neyveli TPS-I.

3. Further, according to the applicant, he is not against the decommissioning of various units of the power plants which were old and at the decommissioning stage, but the substantial environment impact on account of the same will be much more, if it is not properly handled, it is likely to affect soil, water and air in the area surrounding the units which are supposed to be decommissioned, owing to the hazardous nature of certain substances used during their operation.

4. They are expected to intimate the 3rd respondent / Central Electricity Authority (CEA) to ensure that the thermal power plant unit sought to be decommissioned is deleted from the All India Installed Capacity database. No other procedure or protocol has been prescribed by the relevant authorities regarding the decommissioning of such units. Typical coal fired thermal power plants have three main sections (i) the coal combustion, (ii) the boiler or steam generation and (iii) the smoke stack. Interspersed among these sections, are numerous pipes, boilers, turbines, pumps, valves, transformers and transmission lines. In order to keep these physical components operational, several hazardous substances such as Asbestos, Arsenic, Lead and Polychlorinated Biphenyls (PCBs) are used for heat retention, lubrication, wear and tear prevention etc. Such hazardous substances are known to cause severe ailments in human beings including but not limited to brain damage, kidney failure, etc. as well as other fatal diseases such as Asbestosis.

5. In the interest of environment as well as health of the citizens, it is important that the respondents have to follow the international best practices for decommissioning of power plants. In case no such practice is followed, it is essential that the 1st respondent/Ministry of Environment, Forest, and Climate Change (MoEF&CC) and 2nd respondent/Central Pollution Control Board (CPCB) have to frame and mandate guidelines on the decommissioning of thermal power plants, including but not limited to, a proper protocol for remediation and handling of hazardous substances on erstwhile power plant sites as well as the demolition, dismantling, reclamation and/or disposal of machinery, equipment, electrical fixtures, buildings, etc. situated on decommissioned thermal power plants sites.

6. The applicant also mentioned that Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 mandates that it is the responsibility of the occupier of the thermal power plant to ensure safe disposal of hazardous substances either directly used for the process of thermal power generation or ancillary thereto. The applicant also relied on the decisions reported in **Vellore Citizens Welfare Forum Vs. Union of India and Ors.[1], Indian Council for Enviro-Legal Action and Ors. Vs. Union of India and Ors.[2]** and **M.C. Mehta Vs. Kamal Nath and Ors**.[3]**,** for the proposition by applying the "*Polluter Pays Principle*" as well as the "*Precautionary Principle*" reiterated the responsibility of the cost of restoration being sole responsibility of the polluting industry/company.

7. The applicant also relied on certain articles by certain experts regarding the impact of decommissioning of thermal power plants and the necessity for

---

[1] **(1996) 5 SCC 647**
[2] **(1996) 3 SCC 212**
[3] **(1997) 1 SCC 388**

providing safeguard / protocol to be followed by such units in the interest of protection of environment.

8. So, the applicant filed this application seeking the following reliefs:-

> *(i) Direct the CPCB/ SPCB to ensure that the process of decommissioning is done following internationally accepted scientific methods and process which is able to prevent the contamination of water, air and soil and ensure that no harm to human health and ecosystem takes place*
>
> *(ii) Direct the Respondents to place on record the process that required to be followed for decommissioning of power*
>
> *(iii) Direct that in the absence of proper scientific procedure, the CPCB should develop and ensure implementation of the scientific process for decommissioning of power plants*
>
> *(iv) Direct that a Committee be formed comprising of Experts in the subject matter to oversee the decommissioning process and ensure that the same is in accordance with internationally accepted best practices."*

9. The 3rd respondent/Central Electricity Authority has filed a reply affidavit contending that the application is not maintainable. The setting up of a power plant does not require any licence. The decision for retirement/ decommissioning/ shutting down of the power generating units has to be taken by the Generating Utility itself based on their own techno-economic and environmental considerations. The Board of Directors of NLC India Limited has accorded approval to phase out Neyveli TPS-I from March 2020 to September 2020. Accordingly, NLC India Limited had requested the Central Electricity Authority (CEA) for decommissioning of the capacity of Unit No.1 as on 31.03.2020, Unit No.2 as on 20.06.2020, Unit

No.3 as on 22.07.2020, Unit No.4 as on 23.06.2020, Unit No.5 as on 28.09.2020, Unit No.6 as on 30.09.2020, Unit No.8 as on 06.06.2020 and Unit No.9 as on 31.03.2020 respectively. Based on their decision, the capacity of the said units was deleted from the database of All India Installed Capacity of Central Electricity Authority records and same was informed to NLC India Limited. They have nothing to do with the decommissioning and it is for the 4th respondent to take all necessary precautions which they are expected to take while decommissioning the unit. So, they prayed for accepting their contention and pass appropriate orders which this Tribunal deemed fit and render justice in the public interest.

10. The 4th respondent/ NLC India Limited has filed their reply affidavit contending that the application is not maintainable. The 4th respondent is a Central Public Sector Undertaking (CPSU) and a limited company incorporated in the year 1956. It is categorised as a Navratna Company and falls under the administrative control of the Ministry of Coal, Government of India. The 4th respondent operates four opencast Lignite mines, five Lignite-based thermal power stations and one Coal-based thermal power plant. The Coal-based thermal power plant is operated on a joint venture basis. It is pertinent to mention that apart from the aforesaid thermal power plants, the 4th respondent is also actively setting up renewable energy-based power plants such as wind and solar based plants. The 4th respondent unit was set up by the Government of India to ensure that the electricity demands of the State of Tamil Nadu and the neighbouring States such as Andhra Pradesh, Karnataka, Kerala, Telangana and Union Territory of Puducherry are met. The first of the Thermal Power Plants to be installed and operated by the 4th respondent was the TPS I and it comprised of the following 9 units:

Unit Nos.	Capacity of Unit	Date of Commencement of operation
1	50 MW	23/05/1962
2	50 MW	23/01/1963
3	50 MW	11/06/1963
4	50 MW	27/10/1963
5	50 MW	29/04/1964
6	50 MW	24/08/1965
7	100 MW	28/03/1967
8	100 MW	12/02/1969
9	100 MW	21/02/1970

11. During the operation of TPS I, other power plants were also installed, commissioned and put into operation by the 4th respondent. The 4th respondent operated all its power plants and mines in accordance with the law and after following all environmental related safeguards. Due to the age of the units in TPS I, the 4th respondent decided to retire the nine units of said TPS-I for techno-economic and environmental reasons. In specific terms, the units of the TPS-I was decommissioned on the following dates:

Unit Nos.	Date of decommissioning
1	31/03/2020
2	20/06/2020
3	22/07/2020
4	23/06/2020
5	28/09/2020
6	30/09/2020
7	22/09/2018
8	06/06/2020
9	31/03/2020

12. Pursuant to the 4th respondent's decision to decommission the units of the TPS I, in a phased manner, and the final decommissioning thereof, the 4th respondent informed the 3rd respondent/Central Electricity Authority of India of the same vide various communications which were also acknowledged by them. As on date, all nine units of TPS I have been

decommissioned or have been phased out and remain inoperative. A tender will be issued for the dismantling of the plant and it is further submitted that the tender conditions would include various safeguards to be taken by the contractor to adhere to all environmental related norms and dismantle the units in the manner that is safe to the environment. In this regard, 4th respondent, through its environmental cell comprising of skilled environmental engineers and personnel, shall assess the units for the purpose of assessing the various standard operating procedures or safeguards to be adopted. While dismantling the units of TPS-I, the 4th respondents would encounter hazardous waste such as asbestos sheets on the temporary sheds, thermal insulation material containing asbestos provided in the valves and heater flanges, oil sludge (both furnace and diesel oil) which remain in the oil tanks, e-waste such as Switches etc. and polychlorinated biphenyls (PCB) in the oil transformers located within the units. The 4th respondent would also encounter bottom ash or dyke ash in the dyke ash pond of TPS-I. The aforementioned hazardous waste and the dyke ash that the 4th respondent would encounter would be disposed strictly in accordance with the law and in an environmentally sound manner and upon following all applicable laws, including the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. With regard to the mercury thermometers, the same has been handed over for the purpose of utilisation by the other functional units of the 4th respondent. So, the question of mercury wastage from the thermometers or causing any harm or damage to the environment does not arise. In so far as the mercury in vapor lamps, the same would be disposed in accordance with the 2016 Rules. The Asbestos sheets that are used for roofing certain temporary sheds, thermal insulation materials

containing asbestos used in the valves and flanges of heaters would be dismantled and disposed in accordance with 2016 rules. The gloves and curtains are being utilised by other functioning units of the 4th respondent. Pursuant to the stoppage of the units in TPS I, there is bound to be oil sludge in the oil tanks which would also require safe disposal. Further, there would also be some e-waste that remains during the process of dismantling the units. The polychlorinated biphenyl (PCB) is an additive to transformer oil. Transformer oil is used as a coolant and insulating medium in power transformers. Transformer oil with PCB would remain in such transformers pursuant to the decommissioning of the TPS -I. It is pertinent to state that the 1st respondent vide Order No. S.0 1327 (E) dated 06.04.2016, has issued the "Regulation of Polychlorinated Biphenyls Order, 2016' *(PCB Order). U*nder the said Order, it is mandated that the occupier shall not simply drain the PCB onto land or the effluent treatment plant, but, ought to be disposed as per the provisions of the 2008 Rules (presently, the 2016 Rules). The 4th respondent had identified the transformers that contain polychlorinated biphenyl (PCB) by engaging the services of Central Power Research Institute. The 4th respondent shall take steps to engage the services of recognised agencies to carry out the de-chlorination of the transformer oil and they shall proceed to dispose polychlorinated biphenyl (PCB) in accordance with the 2016 Rules and the PCB Order. The 4th respondent will seek the permission or clearance of the Second Respondent to dispose the dyke or bottom ash, in accordance with the law, after following the necessary safeguards. The 2016 Rules provides for disposal of hazardous waste such as asbestos, mercury and oil sludge through recognised operators of common facilities or authorised disposal facilities which would treat, store and dispose the hazardous waste as

those mentioned above. If there is a possibility of handing the waste mentioned above to an authorised actual user or re-user in terms of the 2016 Rules that possibility also will be explored by the 4th respondent. They will identify the authorised agents or entities from the pollution control boards, concerned for this purpose. They will take all necessary steps and ensure safe and environmentally sound measures while disposing the hazardous waste and dyke ash using the scientific technology for this purpose strictly in accordance with the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016. They further contended that they shall adhere to any direction issued by this Hon'ble Tribunal or any further Standard Operating Procedure or guidelines to be issued by the other respondents with regard to disposal of the hazardous waste while dismantling the units of the TPS-I. So, they prayed for passing appropriate orders after considering the contentions raised by them.

13. As per order dated 23.03.2021, this Tribunal had directed the Ministry of Environment, Forests & Climate Change (MoEF&CC), Central Electricity Authority and Central Pollution Control Board (CPCB) to constitute a Joint Committee of their own to evolve a policy or guideline as to how decommissioning of power plant units have to be carried out, prior to the decommissioning of power plants and if guidelines already exists, then the committee can submit a report of the guidelines detailing how it is carried out to protect the environment and if not, evolve a guideline including the manner of creating mechanism to supervise as to how it is being properly implemented by the power plant and the remaining area.

14. On the basis of the directions issued by this Tribunal, the Central Pollution Control Board (CPCB) had filed their report dated 22.07.2021 regarding the

Environmental Guidelines for Decommissioning a Coal/Lignite-Fired Power Plant (Draft) e-filed on 22.07.2021 and received on 24.07.2021 which reads as follows:-

> *"**Environmental Guidelines for Decommissioning a Coal/Lignite-Fired Power Plant (Draft)***
>
> ***1.0 Introduction***
>
> *Power plants are decommissioned after competition of their useful life, which varies generally from 30 to 45 year in India. Environmental regulations have had, and will continue to have, a profound influence on the design of new and operation of existing power plants. Thus, the decision regarding decommissioning is primarily driven by plant operability, plant operation and maintenance costs, cost/benefit analysis, projected stricter environmental regulations, projected power demands, modular configuration of units, public support, etc.*
>
> *Plant efficiency, operability, and new environmental standards, are resulting in more and more utilities choosing to decommission certain plants.*
>
> *In last 5 years, 94 units of 9908 MW capacity have retired and another 14 units of 1988 MW capacity have been identified for retirement in near future.*
>
> *Therefore, addressing environmental issues related to decommissioning a power plant properly is a primary concern of environmentalist and regulatory bodies.*
>
> ***NGT Order***
>
> *Hon'ble National Green Tribunal (South Bench) in the matter O.A. No. 30 of 2021, Dharmesh Shah Versus Union of India and Others, vide order dated 23.03.2021 directed that:*
>
> *"the Ministry of Environment Forests and Climate Change (MoEF&CC), Central Electricity Authority (CEA) and Central Pollution Control Board (CPCB) to constitute a joint committee of their own and evolve a policy or guideline as to how the decommissioning of Thermal Power Plant unit has to be carried out, prior to decommissioning of a thermal Power Plant and if guidelines, already exists, then the committee can submit a report of the guidelines detailing how it is carried out to protect environment and if not evolve a guideline including manner of creating mechanism to supervise as to how it is being properly implemented by the power plant and mining area".*

Joint Committee

In compliance to the above order, a joint committee of Mr. Sundeep, Director, MoEF&CC, Mr. Sunil Kumar Jain, Director, Central Electricity Authority, and Dr. S.K. Paliwal, Additional Director, Central Pollution Control Board was constituted. Further vide letter dated 16.06.2021, CEA nominated Mr. K.B. Jagtap, Director (TE&TD Division) in place of Mr. Sunil Kumar Jain, Director, Central Electricity Authority.

2.0 Preliminary Planning, Options and Strategy

The extent of decommissioning and cleanup is also determined by the planned future use of the plant site. Predetermining the future use of the site can help reducing the costs of dismantling and cleanup if buildings and infrastructure are to be retained, properly choosing the environmental remediation methods to meet specific needs, the cleanup standards to be attained may be less stringent. Power generating companies usually approach decommissioning by considering the following:

I. Maintain the site at present condition with minimal cleanup to meet environmental compliance and ensure safety (i.e., remove chemicals and oils, restrict access, etc.)

II. Perform minimal dismantling and demolition in addition to maintaining the site under control conditions to meet environmental compliance and ensure safety (i.e. remove saleable and salvageable equipment, remove safety hazards, etc.)

III. Dismantle to the degree required to meet specific needs of a planned reuse of the site (i.e. remove internals of powerhouse or other buildings so that those structures can be remodeled inside and reused; remove some exterior structures or systems, such as coal handling systems, clean up coal yard, retaining foundations; meet environmental standards regarding cleanups; etc.)

IV. Full decommissioning (i.e. dismantle all equipment; demolish all buildings and structures; clean up entire site, including wet and dry disposal areas, coal yards, etc. as per required environmental standards.)

Once a decommissioning strategy is selected, the company shall identify the agency to carry out all dismantling, demolition, and clean-up tasks. The following approaches may be taken:

- *The utility manages the project and performs all dismantling, demolition, and clean-up tasks.*
- *The utility manages the project but contracts the decommissioning tasks to contractors.*

 The utility contracts decommissioning as a turn-key operation.

3.0 Environmental Regulations and Permissions

3.1 EMP and EIA

Prior to initiating decommissioning, the plant shall prepare an Environmental Management Plan (EMP) and also carry out an Environmental Impact Assessment (EIA) for the decommissioning process. Post closure EMP should be got approved from the regulatory body Laws on environmental and safety issues, as well as community concerns should be taken into account and necessary permission taken prior to initiating the decommission process.

3.2 Environmental Regulations

Compliance with environmental statutes must be maintained throughout demolition and remediation. The provisions under the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution Act, 1981 and the Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 (HWM Rules 2016), Construction and demolition Waste Management Rules, 2016, the rules/notifications regarding management and utilization of combustion residue/ash and local regulation must be met.

3.3 Occupational Safety and Health Administration (OSHA)

Prior to permitting demolition operations, an engineering survey of the structure must be made by a competent person. The Building & Other Construction Workers (Regulations of Employment and Conditions of Service) Act, 1996 regulates buildings' demolition in Section 40. Also, The Factory Act, 1948 and regulations therein should be followed at all times for training, planning, personal protective equipment, markings, tools, electrical equipment, scaffolds, hoisting equipment, excavation, blasting, etc. A dedicated in-house team or a competent contractor who is familiar with these requirements should be entrusted this task.

3.4 Permissions

Existing permissions/consents must be modified, revised, or new permits obtained for demolition and remediation process. The permitting process may include maintaining or revising the old permits/consents/authorization or issuing a new permits/consents/authorization under provisions of the Water

(Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution Act, 1981, the Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 (HWM Rules 2016) and Construction and Demolition Waste (Management) Rules, 2016.

The conditions of permits/consents/authorization applicable to a plant will depend on the various aspects. Plants located in the middle of a coal field or in an urban areas may have additional environmental concerns that must be considered during decommissioning and that are not common to the general plants.

Compliance must also be maintained regarding any permit conditions that have postclosure requirements, such as for ash ponds, hazardous waste storage, or chemical cleaning. Necessary approvals/permits should be obtained from State Environment Department and SPCB before actual commissioning commences.

3.4.1 Water (Prevention and Control of Pollution) act, 1974

Shutdown of operations will result in the reduction or cessation of wastewater discharges to receiving waterbodies. However, storm water discharges may continue during and/or after the demolition and remediation of the plant. Some of these discharges may even need to be re-routed. The Consent To Operate (CTO) must be revised to account for any changes in discharges of wastewater or storm water. For remediation of the coal storage yard or other similar areas where substantial area is disturbed, a storm water permit must be obtained from regulatory officials. Other suitable condition for water and soil protection / remediation may be included in Consent.

3.4.2 Air (Prevention and Control of Pollution) Act, 1981

Decommissioning activities can result in visible emissions from demolition of buildings and disturbance of the soil. Any changes due to expected visible emissions should be communicated to regulators, and changes in permission or new applications should be made.

3.4.3 Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016

Decommissioning/dismantling activities will result in generation of metal scrap, construction and demolition materials, waste oil and oil sludge, and hazardous waste like asbestos bearing sheets, PCBs, mercury thermometers etc. as well as e- waste, which need to be collected, transported, and disposed as per the provisions stipulated

under HWM Rules, 2016.

Risk Management Plans (RMPs) should be reviewed when onsite storage of chemicals ceases. RMPs must be updated and resubmitted before changes are made at the site.

4.0 Waste Management

During operation of the plant, water treatment wastes, waste oils, oily refuse, wastewater treatment wastes, degreasers, solvents, blowdown/metal-cleaning, building sump wastes, and general refuse materials, and ash are mainly generated as wastes. These wastes are either treated and/or disposed onsite in permitted facilities, and others are or sent offsite for recycle/disposal as per Consent-to- Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act1981, respectively. Waste oil and oil sludge are disposed as per HWM Rules, 2016. Coal-fired power plants typically maintain inventories of various types of chemicals and materials essential to the operation of the plant. Prior to ceasing the plant operations, plans should minimize onsite inventories, either through use or transfer to other facilities.

Due to decommissioning and dismantling of the plant in addition to ash, other materials and wastes like metal scrap, and hazardous waste like waste oil, oil sludge, asbestos bearing sheets, PCBs, mercury thermometers etc. and e- waste need to be managed in environment friendly manner. If decommissioning involves demolition then the construction and demolition waste shall be disposed off in an environment friendly manner as per the Construction and Demolition Waste (Management) Rules, 2016.

4.1 Ash Management

Fly ash, boiler ash and boiler slag are not characterized as hazardous waste under Schedule I of HWM Rules, 2016.These wastes have instead been identified as "high volume low effect wastes.

Fly ash and bottom ash is generally disposed into ash ponds or utilized for some gainful purposes by cement industries, brick making or ash dyke raising etc. as per CTO and as per provisions of the fly ash utilization notification 1999, as amended in 2003, 2009 and 2016. Some plants may have permits/consents for dry stacking of bottom ash or both bottom ash & fly ash.

4.1.1 Closure of ash ponds and ash impoundments

Closure of ash ponds (surface impoundments) probably will be the most challenging tasks to undertaken during a decommissioning process. Permitted solid waste landfills or surface impoundments should

be closed as per the post closure plans approved by SPCB. Many of the plants being decommissioned are very old. Some of these permitted facilities may not be designed for proper containment per the latest regulations (i.e., clay or synthetic liners) and will require coordination with the SPCB to determine proper closure.

Surface impoundments permitted under Consent order during operation phase may not have a specified post-closure plan on record with the pertinent regulatory office and may require separate permission for closure. Surface impoundments may be included in the revised / new Consent order and regulated under solid waste regulations until after operation of the impoundment has ceased for a specified number of days.

4.1.2 Capping of ash ponds and impoundments

Closure of most surface impoundments of the power plant will require drainage, placement of an impermeable cap, and topping with soil and a vegetative cover until full compliance with ash utilization notification is achieved. Proper placement of the cover and specified slopes will be required. The type and depth of cover required may vary based on the waste disposed in the impoundment.

The caps for the impoundments will require continued maintenance to maintain the site contours, vegetative cover, and drainage. Such impoundments will require the installation and monitoring of groundwater wells.

4.2 Construction and Demolition Waste Management

During dismantling the plant buildings, chimney, overhead tanks, cooling towers, ETP and other civil facilities, large amount of debris will be generated which is categorized as Construction and Demolition waste. The C&D waste to be generated needs to be managed in an environment friendly manner as per Construction and Demolition Waste (Management) Rules, 2016. Improper demolition, collection, transportation and disposal of C & D waste may generate dust and noise and cause air pollution. Because the volume of waste to be disposed may be drastically increased with a plant's decommissioning, the CTO should be reviewed for possible amendments required regarding changes in amounts and types of wastes.

Plant authorities/agency involved in dismantling of plant must adhere to the provisions of Rules and shall take all preventive measures. The C & D waste shall be disposed of through waste processing facility having authorization as per Rules from the concerned SPCB.

The general conditions / procedures for control of air pollution as prescribed in environmental clearance for construction activities should be imposed as Consent condition for carrying out dismantling

activities.

4.3 Hazardous Waste Disposal

Inventory of hazardous waste, waste oil, oil sludge, asbestos containing sheets, PCBs and mercury thermal meters shall be prepared. These wastes shall be transported and disposed in accordance to the provision of HWM Rules, 2016.

A plants may have surface impoundments for metal-cleaning wastes, boiler blow down or makeup water treatment sludge. Such temporary storage must be closed as per the approved post-closure plan under HWM rules 2016.

4.3.1 Asbestos

The removal of asbestos-containing material (ACM) in older plants will involve significant expense and require completion before workers can safely begin equipment salvage and demolition activities. ACM abatement work should begin with a survey of ACM at the plant site to estimate the scope of the task. Authorization under HWM Rules 2016 will be required before removal of asbestos, good recordkeeping, and proper disposal techniques. ACM is difficult to identify in a survey, and some locations where ACM was used often are not discovered until the demolition process has begun. Therefore, contracts for second party ACM abatement should be carefully written and reviewed.

4.3.2 PCBs and Toxic Metals

Old plants will have instrumentation/equipment containing, polychlorinated biphenyls (PCBs) at regulated concentrations.PCB is an additive to transformer oil. Transformer oil is used as coolant and insulating medium in power transformers. Transformer oil with PCB is remained in transformers. The PCBs should be removed and disposed, or the equipment containing PCBs should be disposed as per HWM Rules 2016.

In addition, PCBs may also be present in electrical cables, wiring, fire retardant coatings, hydraulics, relays and controls inside the control room, and various items of switch yard equipment. All equipment or cables containing PCBs or toxic metals must be managed per regulations specified by the HWM Rules 2016.

Similarly, mercury containing light bulbs and florescent lighting should also be removed and disposed through authorized hazardous waste recycling facility under HWM Rules 2016 and under intimation of concerned SPCB.

4.3.3 E-Waste Disposal

During dismantling, E-Wastes like switches, desktops, electric

and electronic panels need to be disposed/recycled as per the E-Waste (Management) Rules, 2016. Proper authorization for management of E-Waste need to be taken as per Rule 13 of the E-Waste (Management) Rules, 2016.

4.3.4 Chemicals and Materials Removal and Disposal

During dismantlement, other chemicals and materials should be removed and disposed or recycled. Any laboratory chemicals or inventories of chemicals, which cannot be completely used before shutdown, should be sent for reuse at other company facilities, sold, or disposed properly. Freon, batteries, and residual oil, used lubricants, fuel, metal-cleaning chemicals etc. should be reused, recycled, or disposed of with proper authorization from SPCB under HWM Rules 2016.

If a plant has Underground Storage Tanks (USTs), the plant should already be registered with regulatory officials. Removal of the USTs should be performed in accordance with UST regulations.

5.0 Monitoring

Decommissioning and dismantling activities waste transportation/disposal shall be supervised by with a dedicated team of the concerned power plant headed by officer of the level of General Manger. The process shall be monitored by SPCB through periodic inspections.

Notes:

1. These draft guidelines are based on the knowledge and expertise available with the Committee members with limited consultation with stakeholders. Wider consultation with major stakeholders will be undertaken before its finalization and issuance.

2. As regards any captive mines associated with the power plant to be decommissioned, Indian Bureau of Mines (IBM) has already have guidelines for preparation of Mine Closure Plan. Waste Management"

15. After receipt of the same, this Tribunal had directed the applicant to file objections (if any) to the draft guideline provided, so that, that can also be considered while disposing the matter.

16. Accordingly, the applicant made his suggestions to the draft guidelines provided which reads as follows:-

"SUBMISSION ON BEHALF OF THE APPLICANT TO THE DRAFT GUIDELINES PREPARED BY CPCB DATED 23-09-2021

1. That pursuant to the direction of this Hon'ble Tribunal, the Central Pollution Control Board has prepared a draft Guidelines titled "Environmental Guidelines for Decommissioning a Coal/ Lignite Power Plant, July, 2021'. The specific direction dated 23.3.221 were as follows:

"the Ministry of Environment Forests and Climate Change (MoEF&CC), Central Electricity Authority (CEA) and Central Pollution Control Board (CPCB) to constitute a joint committee of their own and evolve a policy or guideline as to how the decommissioning of Thermal Power Plant unit has to be carried out, prior to decommissioning of a thermal Power Plant and if guidelines, already exists, then the committee can submit a report of the guidelines detailing how it is carried out to protect environment and if not evolve a guideline including manner of creating mechanism to supervise as to how it is being properly implemented by the power plant and mining area".

2. That the Draft Guidelines, July 2021 correctly identifies the need for such a Guidelines in the following manner:

In last 5 years, 94 units of 9908 MW capacity have retired and another 14 units of 1988 MW capacity have been identified for retirement in near future. Therefore, addressing environmental issues related to decommissioning a power plant properly is a primary concern of environmentalist and regulatory bodies.

3. The Applicant submits that though the Draft Guidelines are a significant development as opposed to the present situation where no guidelines exists: however, the Draft Guidelines lack the details as well as compliance with the specific direction of the Hon'ble Tribunal that the guidelines must deal with the manner in which it will be supervised.

4. As a preliminary matter, it should be noted that some of the text in the draft guidelines is copied verbatim from a 2004 industry-funded report by the US based Electric Power Research Institute (EPRI), entitled Decommissioning Handbook for Coal-Fired Power Plants. 1 For example, the entirety of Section 2.0 of the draft is copied with only slight modification from pages 2-1 through 2-3 of the EPRI report.

5. While the draft guidelines may provide some benefit by helping TPP operators plan the decommissioning process, it is no substitute for enforceable requirements for the process. Many aspects of

environmental remediation involved in TPP decommissioning will be covered by existing environmental laws and standards, MOEFC&C should adopt enforceable requirements regarding the process for decommissioning, including development of a preliminary Environmental Assessment (EA) that is subject to regulatory approval; and development of a decommissioning plan that is subject to regulatory approval, which takes into account the future use of the site, the data from the EA, and public input.

6. The following are the comments on Draft Guidelines.

Para 3.1 in guidelines: The document recommends carrying out an EIA and EMP prior to the decommissioning process. However, there are no TORs for the preparation of these documents. The guidance should include TORs on the EIA and EMP and also provide clarity on the provision of law under which these studies are to be carried out. The term regulatory body is ambiguous - decommissioning should come under the purview of the State Pollution Control Boards and Committees. This section should be expanded to include much more detail about the preliminary environmental assessment that should be performed prior to decommissioning work. Unlike an EIA, which evaluates future environmental impacts of a proposed project, an environmental assessment evaluates the existing environmental conditions at a site. The draft should set forth in detail the various conditions that should be evaluated before decommissioning and environmental management plans can be developed. These conditions should include:

o A complete accounting of all hazardous materials stored or disposed at the site, including all asbestos-containing materials, PCBs, solvents, waste oils, SCR catalysts, etc.

o Baseline groundwater monitoring data for the entire site, including all ash disposal areas.

o Ash dyke stability assessment.

Sec 3.4.2 in guidelines: The section on compliance to the Air Act should include guidance on the prevention of dust and other airborne pollutants during demolition activities. These could be drawn from the C&D Waste Rules 2016.

Sec 2.0 in guidelines: While the guidelines talk about the future land use it is silent on the process or strategy of determining future land use. The issue of future land use is at the crux of the decontamination and remediation efforts and will determine the nature of technology and rigour of decontamination efforts. It is hence important to include a process of determining future land use as part of the guidelines.

Section 4.1 Fly Ash Management : As the draft notes, closure of ash ponds is often the most challenging and expensive activity

associated with decommissioning a TPP site. As such, much more detail is needed in this section to address all of the issues that may arise with ash pond closure.

5. That in addition to the above points, there are other issues of concerns.

5.1 Qualification of Contractors: The major administrative task is the establishment of contracts for the actions to be taken in decommissioning. The types and number of contracts will be determined by the contracting strategy established by management and project planners. The guidelines are silent on the issue of qualifications of the contractors engaged in the process of decommissioning. Given the hazardous nature of the dismantling and demolition works - it is important that these tasks be carried out by qualified personnel. Furthermore, it is important that the plant operators demonstrate links or agreements with authorised hazardous waste handling and disposal facilities especially when dealing with hazardous wastes. It is important to have a qualified inspector or environmental engineer onsite throughout dismantling to make sure that asbestos-containing or other hazardous wastes are not introduced into the non-hazardous scrap.

5.2 Coal Residue Management - After surplus coal is removed, any coal residue that is mixed with the soil in the coal yard should be removed and disposed in the onsite ash landfill or surface impoundment or hauled to an offsite permitted facility. After the coal and soil mixture is removed, the coal yard should be backfilled with clean material and contoured as needed for stormwater runoff. The management of coal ash residue will be determined by the future use of the site as discussed in Sec 2.0 of the guidelines.

5.3 Site Investigations: The site investigation phase should focus on confirming whether or not contamination exists at a site, locating any existing contamination, and characterizing the nature and extent of that contamination. Based on the site assessment, sampling of potentially contaminated areas should be performed following established protocols. If predicted by the site assessment or by results from sampling during this phase, migration pathways of contaminants should be evaluated. Historically, contaminants of concern for coal-fired power plants include: (1) arsenic, cadmium, chromium, iron, lead, mercury, nickel, selenium, manganese, and zinc from the fly ash and coal pile areas; (2) polychlorinated biphenyls, polycyclic aromatic hydrocarbon, BTEX (benzene, toluene, ethyl benzene, xylene), and other petroleum hydrocarbons from oil storage and mechanical and electrical equipment; and (3) copper, iron, nickel, chromium, and zinc from metal cleaning and cooling tower blowdown wastewaters.

Special circumstances, such as historical spills, may require

investigation for contaminants. This is especially true for sites like NLC (respondent No.4) who had been listed as a PCB contaminated site under an evaluation conducted by the United Nations Industrial Development Organisation (UNIDO) in March 2015. The results of the site investigation can be used to perform a baseline risk assessment to calculate risk to human health or the environment and the concentration levels of contaminants that will require clean up. The Guidance Document for Assessment and Remediation of Contaminated Sites issued by the MoEF&CC in 2015 can be employed in this case. It is important to point out that the Draft Guidelines makes no mention of the Guidance Document on Contaminated Sites.

5.4 Monitoring and Sampling: Relying on the data collected from the site assessment and investigation phases, clean-up alternatives are evaluated. The technologies should be evaluated for their capability to meet specific clean-up levels and redevelopment objectives, such as schedules, costs, and compatibility with the surrounding environment, area (urban, rural, etc.), and demographics. The need for future monitoring or controls also should be considered when evaluating the various technologies. After the areas of contamination are identified and the clean-up technologies are selected, the clean-up plan can be designed and implemented. Following clean-up of the site area, confirmatory sampling should be performed using specific sampling and analytical protocols.

Successful confirmatory sampling results are a prerequisite for owners and/or regulatory officials who certify that the property is clean and can be accepted for transfer. This is important as some power plant sites convert land use to residential or other purposes of general public use. In the case of two of Delhi's flagship thermal power plants in Rajghat and Badarpur, the government proposes to convert the sites into solar and eco parks. The project to convert the 884 acre Badarpur plant site into an eco-park only proposes to bury the ash under soil cover and vegetation as part of its remediation efforts.

5.5 The draft states "Post closure EMP should be got approved [sic] from the regulatory body," but does not specific which regulatory bodies would have authority to issue or deny such approval. The draft should describe which authorities would have jurisdiction over such approvals, including the role that MOEF&CC would play in this process.

5.5 The draft also states, "Laws on environmental and safety issues, as well as community concerns should be taken into account and necessary permission taken prior to initiating the decommission process," but does not explain how community concerns should be identified and taken into account.

That in view of the above facts, it is important that the Draft Guidelines be revised in light of the concerns raised. This is important in order to ensure that the Guidelines becomes an effective tool to ensure safe decommissioning of power plants.

Dated at Chennai on this 23rd day of September, 2021."

17. When the matter came up for hearing on 27.09.2021, the learned counsel appearing for the applicant as well as the official respondents and the project proponent namely, the 4th respondent submitted that after considering the draft guideline as well as the submissions made by the applicant, necessary directions be given to the authorities to frame the final guideline and issue notification accordingly, so that the same can be applied to all such units which proposes to decommission their old units in an environment friendly manner.

18. Heard the counsel appearing for the applicant as well as the respondents and considered the pleadings and also the draft guideline as well as submissions made by the application to the draft guideline provided by the Central Pollution Control Board on the basis of the directions issued by the Tribunal.

19. The points that arise for consideration are:-

(a) What is the nature of direction that can be issued by the Tribunal in cases of this nature?

(b) If so, what is the nature of directions to be given by the Tribunal to the authorities to frame a guideline of general and specific nature in respect of such situations namely, decommissioning of thermal power plants?

Points:-

20. It is an admitted fact that the 4th respondent is the Coal Based Thermal Power Plant of Central Public Sector undertaking owned and managed under the Ministry of Coal, Government of India. It is also an admitted fact that the 4th respondent had decided to decommission/retire the old units of TPS-I having nine units mentioned in their reply affidavit and the same was also communicated to the 2nd respondent as required under law.

21. It is not in dispute that while decommissioning such thermal power plants, there is a possibility of hazardous substances being left out or to be encountered either during dismantling of the machineries or during disposal of the hazardous waste which are already in existence. It is also admitted by the 4th respondent that there is a possibility of environmental encounters while dealing with decommissioning of the units and they will have to follow the Hazardous and Other Waste (Management and Transboundary) Rules, 2016 and E-Waste Management Rules, 2016 and other waste management Rules and also the directions issued by the MoEF&CC in respect of disposal of polychlorinated biphenyls by their notification namely, S.O. 1327 (E) dated 06.04.2016. It is also in a way admitted that there is no general guideline or monitoring system to supervise such decommissioning process of thermal power plants.

22. So under such circumstances, the prayer made by the applicant regarding necessity of framing a guideline for this purpose appears to be genuine and it is necessary for the purpose of protection of environment as well. If it is not properly handled, there is a possibility of

environment damage being caused, which the 4th respondent is liable to restore applying the *"Polluter Pays Principle"* as envisaged by the Hon'ble Supreme Court in the decisions reported in **Vellore Citizens Welfare Forum Vs. Union of India and Ors. (1996) 5 SCC 647, Indian Council for Enviro-Legal Action and Ors. Vs. Union of India and Ors. (1996) 3 SCC 212** and **M.C. Mehta Vs. Kamal Nath and Ors. (1997) 1 SCC 388.**

23. Being a policy decision, it is not possible for this Tribunal to frame any guidelines and direct the parties to follow the same. Further, it may require further studies and consultation before finalization as even mentioned in the draft guideline submitted. On the other hand, the only legal process that will be available is to direct the policy makers namely, the Ministry of Environment, Forests and Climate Change (MoEF&CC) and the Central Pollution Control Board (CPCB) to evolve a policy on this aspect and prepare necessary protocol or guidelines in this regard and issue necessary notification in this regard under Section 3 and 5 of the Environment (Protection) Act, 1986. With this in view, this Tribunal had appointed a joint committee comprising of the Ministry of Environment, Forests and Climate Change (MoEF&CC), Central Pollution Control Board (CPCB) and Central Electricity Authority and directed them to constitute a joint committee of experts for the purpose of evolving proper guidelines or protocol to be followed by the thermal power plants when they decided for decommissioning of their old units. Accordingly, they have framed the draft guidelines and they produced the same which was extracted above. The power of National Green Tribunal to give direction for future guidance and direction to evolve guidelines by the authorities was upheld by the Hon'ble Supreme Court in **The Director General (Road Development), National Highways Authority of India Vs. Aam Aadmi Lokmanch & Ors.** reported in **(2020) SCC Online SC 572** applying the *"Precautionary Principle"* to protect environment.

24. The applicant also made certain suggestions which they want to be included in the guidelines to be prepared before finalizing the guidelines and issuing necessary notification in this regard. On going through the

submissions made by the applicant, we feel that those are all the matters to be considered by the committee or the policy makers before issuing the necessary final guidelines in this regard.

25. So under such circumstances, we feel that the application can be disposed of by directing the Ministry of Environment, Forests and Climate Change (MoEF&CC) and the Central Pollution Control Board (CPCB) to consider the submissions made by the applicant to the draft guidelines provided by them and after following the procedure for finalizing the same and issuing notification and considering the objections to be raised by other stakeholders and then issue necessary guidelines in the form of notification so that, that can be followed by all the thermal power plants who propose to decommission due to its old age or techno-economic and environment reasons. So, the application can be disposed of with the following directions:

a) The Ministry of Environment, Forests and Climate Change (MoEF&CC), Central Pollution Control Board (CPCB) and Central Electricity Authority are directed to consider the submissions made by the applicant which was extracted in the earlier paragraph and after following the procedure of publishing the draft guidelines incorporating all relevant aspects and then getting objections of the stakeholders and also after consultation with the experts (if any) required, then issue final guidelines in the form of notification as early as possible and at any rate within a period of 6 (Six) months from the date of receipt of this judgment invoking Section 3 and 5 of the Environment (Protection) Act, 1986.

b) Once the final guidelines are formulated, then the Ministry of

Environment, Forests and Climate Change (MoEF&CC), New Delhi is directed to issue notification as required under the Environment (Protection) Act, 1986 in accordance with law within the time specified above.

c) While considering these aspects, the policy makers are also expected to consider the possibility of air, soil and other pollution likely to be caused and provide the remedial measures to be taken by conducting studies by the power plant units and ensure proper supervisory mechanism by the regulators of the remedial measures to be carried out till the completion of decommissioning are carried out properly by the thermal power plants.

d) The existing thermal power plants which have proposed decommissioning of their units and if the decommissioning process is not complete, then they are also directed to follow the guidelines to be issued by the authorities as directed in this regard in the interest of protection of environment applying the "Precautionary Principle".

e) In the meantime, the 4th respondent is directed to follow the procedure enumerated in the draft guideline produced before this Tribunal, as far as possible, while carrying out the process of decommissioning by applying the *"Precautionary Principle"* for the purpose of protecting environment.

26. The points are answered accordingly.

27. In the result, this application is disposed of as follows:

(i) The Ministry of Environment, Forests and Climate Change (MoEF&CC), Central Pollution Control Board (CPCB) and Central Electricity Authority are directed to consider the submissions made by the applicant which was extracted in the earlier paragraph and after following the procedure of publishing the draft guidelines incorporating all relevant aspects and then getting objections of the stakeholders and also after consultation with the experts (if any) required, then issue final guidelines in the form of notification as early as possible and at any rate within a period of 6 (Six) months from the date of receipt of this judgment invoking Section 3 and 5 of the Environment (Protection) Act, 1986.

(ii) Once the final guidelines are formulated, then the Ministry of Environment, Forests and Climate Change (MoEF&CC), New Delhi is directed to issue notification as required under the Environment (Protection) Act, 1986 in accordance with law within the time specified above.

(iii) While considering these aspects, the policy makers are also expected to consider the possibility of air, soil and other pollution likely to be caused and provide the remedial measures to be taken by conducting studies by the power plant units and ensure proper supervisory mechanism by the

regulators of the remedial measures to be carried out till the completion of decommissioning are carried out properly by the thermal power plants.

(iv) The existing thermal power plants which have proposed decommissioning of their units and if the decommissioning process is not complete, then they are also directed to follow the guidelines to be issued by the authorities as directed in this regard in the interest of protection of environment applying the "Precautionary Principle".

(v) In the meantime, the 4th respondent is directed to follow the procedure enumerated in the draft guidelines produced before this Tribunal, as far as possible, while carrying out the process of decommissioning by applying the *"Precautionary Principle"* for the purpose of protecting environment.

(vi) They are directed to produce the final notification issued by them in this regard before this Tribunal, so as to report compliance of the directions issued by this Tribunal within a period of 6 (Six) month as directed above.

(vii) Considering the circumstances, the parties are directed to bear their respective costs in the application.

(viii) The Registry is directed to communicate this order to the Ministry of Environment, Forests and Climate Change (MoEF&CC), New Delhi, Central Electricity

Authority, Central Pollution Control Board for their information and compliance of the directions issued.

28. With the above observations and directions, this application is disposed of.

Sd/-
.....J.M.
(Justice K. Ramakrishnan)

Sd/-
.....E.M.
(Dr. K. Satyagopal)

O.A. No.30/2021(SZ),
30th September, 2021. Mn.

Corrected on 18.02.2025

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI

ORIGINAL APPLICATION NO. 612/2022

IN THE MATTER OF:

SUBHENDER
S/o Mr. Ram Pal,
Village-Sutana, District-Panipat,
State of Haryana

...Applicant

Verses

1. **STATE OF HARYANA**
Through Chief Secretary,
Government of Haryana, 4th Floor,
Haryana Civil Secretariat,
Sector-1, Chandigarh

2. **HARYANA STATE POLLUTION CONTROL BOARD**
C-11, Sector- 6, Panchkula,
Haryana-134109

3. **DEPUTY COMMISSIONER, PANIPAT**
Secretariat Block, Sector-6, HUDA,
Panipat, Haryana-132103

4. **M/S PANIPAT THERMAL POWER STATION**
(Project Proponent)
Village Assan Kala, Khukhrana,
Jattal, Untla, Sutana, Panipat,
Haryana-132105

...Respondent(s)

COUNSELS FOR APPLICANT:
None

COUNSELS FOR RESPONDENT(S):
Mr. Rahul Khurana, Advocate for respondent no. 2
Mr. Rajat Sangwan, Advocate for respondent no. 4 (through VC)

CORAM:

HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

RESERVED ON: JULY 11, 2024
PRONOUNCED ON: NOVEMBER 08, 2024

JUDGMENT

BY HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER

1. Subhender S/o Ram Pal, resident of Village-Sutana, District Panipat, State of Haryana sent a letter petition dated 21.02.2022, taking cognizance whereof, Tribunal in exercise of *suo-moto* jurisdiction in view of law laid down by Supreme Court in ***Municipal Corporation of Greater Mumbai vs. Ankita Sinha, (2022) 13 SCC 401*** registered it as Original Application (hereinafter referred to as **'OA'**) under Sections 14 and 15 of National Green Tribunal (hereinafter referred to as **'NGT Act, 2010'**).

2. Complainant had stated that Thermal Power Plant namely 'Tau Devi Lal Panipat Thermal Power Station' (hereinafter referred to as **'PTPS'**) is situated at village Khukhrana, District Panipat. It uses coal as fuel for generation of electricity. Fly ash obtained in the process of generation of electricity as residue was dumped in nearby area. During peak summer season, fly ash particles spread over the nearby villages Sutana, Jatal, Khukhrana, Untla, Aasan etc. making serious breathing problems and trouble to the passersby and the residents. In the evening of 20th May, 2022, there was heavy wind due to which fly ash entered the houses of villagers and created health problems. Besides, the fly ash particles also create chances of accident on the road by making visibility difficult. Animals are suffering due to fly ash as it has adverse impact on ambient air quality and contaminate ground water.

3. **Tribunal's Order dated 22.09.2022:** Tribunal took cognizance of above complaint on 22.09.2022. However, it found appropriate to obtain a factual report and thus constituted a Joint Committee comprising Central

Pollution Control Board (hereinafter referred to as **'CPCB'**), Haryana State Pollution Control Board (hereinafter referred to as **'HSPCB'**) and Deputy Commissioner, Panipat. The said Committee was directed to submit Report within one month.

Interim Report dated 16.01.2023 by Joint Committee:

4. In compliance to the order dated 22.09.2022, an interim Report dated 16.01.2023 (page/4) was submitted by Joint Committee through Regional Officer, HSPCB, Panipat. Joint Committee visited the site on 16.01.2023. Committee reported that PTPS comprised of 08 units i.e., 04 no. of units of 110 MW, 02 no. of unit of 210 MW and 02 no. of unit of 250 MW. Four units of 110 MW capacity have already been dismantled in 2015. One no. of unit of 210 MW has been phased out and yet to be dismantled. Presently 03 no. of units i.e., one unit of 210 MW and 02 units of 250 MW are operating to generate electricity. Fly ash generated from the plant is stored in fly ash Silos and loaded into Bilkers/Tankers with the help of closed telescopic chutes to prevent fugitive emissions and directly transported to cement industries. Bottom ash generated from the plant is mixed with water and transferred to ash pond area with the help of pumps after making slurry. PTPS has 03 no. of ash ponds called '**ash dykes**' namely A, B and C in which bottom ash is transferred from different units of PTPS. Details submitted by proponent in this regard are as under:

Ash Dyke	*Area in Acres*	*Ash Storage Capacity (**in Lakhs Metric Tonnes**)*	*Ash stored (in Lakhs Metric Tonnes) in 2018*	*Ash stored (in Lakhs Metric Tonnes) as on 01.01.2023*
A	*575*	*283*	*246*	*112*
B	*160*	*45*	*41*	*22*
C	*172*	*58*	*45*	*15*
		386	***332***	***149***

5. For transportation of ash, approximately 700 heavy earth movers (carrying capacity 20-35 tonnes) are plying in the ash dyke and its connected roads. Traffic movement of heavy earth movers causing dust resuspension needs to be handled precisely to control emissions in environment. **Presently, ash is being lifted from dyke A and C only**.

6. Joint Committee sought following information from proponent to assess impact of pollution due to ash handling from ash dykes on environment and public health in nearby villages:

"i. The drawings of the Ash Dykes of Panipat Thermal Power Plant (PTPP).
ii. Layout of the Ash Dykes w.r.t Poer Plant and nearby villages.
iii. Last EIA report of the project of the year 2004.
iv. Power generation data since the year 2018.
v. Coal Consumption data since the year 2018.
vi. Ash generation data since the year 2018
vi. Ash utilization data since the year 2018.
viii. Ambient air quality monitoring data for the last twelve months.
ix. Water consumption data for the water used, for sprinkling in Ash Dykes.
x. The details of the Medical Check up Camps organized by PTPP in the nearby villages and the outcome of the same w.r.t diseases identified during medical check-up.
xi. The Time Bound Action plan of PTPP for lifting of the complete ash from Ash Dykes.
xii. Analysis report of the Coal used PTPP including ash content and heavy metals."

7. Report further said that similar matter was taken in ***OA 581/2019, Residents of Gram Panchayat Panchayat Jatal, District Sonipat vs. State of Haryana,*** wherein the question of impact on environment and public health of the villagers was examined. On the directions of HSPCB, proponent is undertaking monitoring of the studying area by engaging Shri Ram Institute of Industrial Research, Delhi, for the period of 28.12.2022 to 05.01.2023, with regard to following:

"• ***Ambient Air quality monitoring*** *in the study area from 8 locations, for the parameters relevant to thermal power plant ash against the control sample, to establish the impact on the air quality.*

- ***Ground water sampling****, various bore-wells from 5 locations, up-stream and down-stream of the Panipat Thermal Power Plant Ash Dyke. The water quality parameters alongwith other parameters relevant to thermal power plant ash to be analysed in EPA/NABL approved Laboratory.*

- ***Sampling of agriculture Soil*** *of the study area from 5 locations to determine the accumulation of contaminants in the soil over a period of time, by irrigation with contaminated water and deposition of ash over a period of time."*

8. Joint Committee desired to make use of analysis data of the above-mentioned samples and, therefore two months' further time was prayed to submit final report.

9. Tribunal after considering the interim report on 20.01.2023 found it appropriate to implead following as respondents:

(i) State of Haryana through Chief Secretary, Government of Haryana,

(ii) Haryana State Pollution Control Board,

(iii) Deputy Commissioner, Panipat, and

(iv) M/s Panipat Thermal Power Station (hereinafter referred to as **'project proponent/PTPS'**).

Report dated 10.04.2023 by Joint Committee:

10. Joint Committee submitted its Report dated 10.04.2023 vide e-mail dated 11.04.2023 through Regional Officer, HSPCB, Panipat. It analyzed the results of ambient air quality monitoring for the following periods:

i. 29.12.2022 to 30.12.2022

ii. 30.12.2022 to 31.12.2022

iii. 31.12.2022 to 01.01.2023

iv. 02.01.2023 to 03.01.2023

v. 03.01.2023 to 04.01.2023

vi. 04.01.2023 to 05.01.2023

11. The above monitoring was conducted at 05 locations i.e., GD Goenka School, Jattal (Panipat) at rear lawn, Maharishi Kashyap Govt. Polytechnic, Jattal (Panipat) near Parking Area, Field Hostel PTPS Colony and Govt. Sr. Sec School Sutana (Panipat) at near main gate during the period of 29.12.2022 to 01.01.2023. On remaining two period, monitoring was conducted at the following places:

(i) DAV School, PTPS Colony (Panipat)

(ii) Bal Vikas School, Jattal, Panipat,

(iii) Govt. Sr. Sec. School, Jattal (Panipat), and

(iv) Atal Seva Kendra, Sutana Panipat

12. The conclusion drawn by Committee is that parameters of PM_{10} and $PM_{2.5}$ were found exceeding the National Ambient Air Quality Standards (hereinafter referred to as **'NAAQ Standards'**) at all the locations. PM_{10} concentration was ranging between 155-432 ug/m^3 (against the standard of 100 ug/m^3) and $PM_{2.5}$ concentration was found ranging between 66-275 ug/m^3 (against the standards of 60 ug/m^3).

13. Report also said that PM_{10} concentration in villages located in the vicinity of PTPS is much higher in comparison to Continuous Ambient Air Quality Monitoring Station (hereinafter referred to as **'CAAQMS'**) located at Sector 18, Panipat.

14. Further, out of 08 locations monitored by Joint Committee, Nickel concentration in the ambient air was found exceeding at 02 locations,

Benzene concentration was found exceeding at 04 locations and Benzo (a) Pyrene (BaP) concentration was found exceeding at 01 location.

15. The inference drawn by Joint Committee in respect of ambient air quality monitoring are as under:

> *"**The results of the parameters PM_{10} and** $PM_{2.5}$ **were found to be exceeding the NAAQ Standards,** at all the locations, with PM_{10} concentration ranging between **155-432 ug/m³ (against the standard of 100 ug/m³)** and **$PM_{2.5}$ concentration** ranging between **66-275 ug/m³ (against the standards of 60 ug/m³**). A comparison of PM_{10}, conc. in the ambient air at the locations in the vicinity of Panipat Thermal Power Plant monitored by Joint Committee, was also made with the Continuous Ambient Air Quality Monitoring Station located at HSVP Office, Sector 18, Panipat, CAAQM station at Forest Office Jattal Road Panipat and CAAQM station at Police Line, GT Road Panipat. **It was observed that PM_{10} conc. in the villages located at the vicinity of PTPP is much higher (155-432 ug/m³ vs. 70-273 ug/m³, 68-394 ug/m³ and 20-282 ug/m³) in comparison to CAQMS data located at Sector 18, Panipat, CAAQM station at Forest Office Jattal Road Panipat and CAAQM station at Police Line, GT Road Panipat. Similarly, PM2.5 conc. was also higher 66-275 ug/m³ vs. 13-75 ug/m³) at the locations in the vicinity of PTPP in comparison to CAAQMS located at Sector 18, Panipat.** However PM 2.5 is not installed at CAAQM station at Forest Office Jattal Road Panipat and CAAQM station at Police Line, GT Road Panipat therefore comparison was made with only CAAQM station located at Sector-18, Panipat.*
>
> *Out of 8 locations monitored by the Joint Committee, **Nickel concentration in the ambient air was found to be exceeding at 02 locations ranging between 27-30 ng/m³ (24 hr) against the standard of annual average 20ng/m³***
>
> ***Benzene concentration in the ambient air was found to be exceeding at 04 no of locations ranging between 6.2-8.7 ug/m³ (24hr) against the standard of annual average 5ug/m³**.*
>
> *Benzo (a) Pyrene (BaP) concentration in the ambient air, was also **found to be exceeding at 01 locations out of 08 locations** monitored by the Joint Committee with concentration ranging having conc of 1.1 ng/m³ (24hr) against the standard of annual average 1ng/m³."*

16. Joint Committee also examined impact on ground water quality by collecting samples at 05 locations from various borewell upstream and downstream of PTPS ash dyke. Micro biological parameters (total coliform) were found exceeding in one borewell out of 07 monitored by Joint Committee.

17. Impact on agriculture soil was examined and Joint Committee said as under:

> *"It was observed from the analysis of soil that the* ***concentration of nickel and zinc is on higher side****, if compared with the target values of these heavy metals as recommended by WHO.* ***This also indicates the impact on soil due to unscientific disposal and management of ash by PTPS****."*

18. PTPS submitted an Action Plan for disposal of entire ash stored in ash dykes vide memo dated 01.03.2023 and the action plan submitted by it for disposal of ash was as under:

"1. The present quantity of the Ash stored in the ash dykes of the PTPS is as under:

Sr.No.	*Ash Dyke*	*Quantity of Ash stored on 28.02.2023 (in lakh MT)*
1	*Ash Dyke-A*	*103*
2	*Ash Dyke- B*	*22*
3	*Ash Dyke- C*	*12*
	Total	*137*

2. The details of MOUs signed with MIS Shree Cement, NHAI and Sate PWD for lifting of the ash are as below:

Sr. No.	*Name of the Project*	*Quantity of ash required for the project (in Lakh MT)*	*Quantity Lifted till 28.02.2023 (in Lakh MT)*	*Quantity to be Lifted (in Lakh MT)*
1	*Shree Cement village-khukrana Panipat*	*183.5*	*3.12*	*180.38*

2	*NHAI*	*251.9*	*58.52*	*193.38*
3	*State PWD*	*46.64*	*17.36*	*29.28*
4	*Total*	***482.04***	***79***	***403.04***

The demand of the ash is about 403 Lakh MT against the available quantity of 137 Lakh MT in ash dykes. The above estimates suggest that the ***accumulated and generated ash would be utilized in a span of three years as the present rate of lifting is also estimated to be order of 2,0000 MT/Day****."*

19. Joint Committee also examined compliance status with conditions of Consent to Operate and Environmental Clearance (hereinafter referred to as **'EC'**) and found that PTPS was not complying direction no. 42 dated 17.09.2021 of Commission for Air Quality Management in National Capital Region and adjoining areas regarding co-firing of biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants through a continuous and uninterrupted supply chain and to take all necessary steps to ensure that co-firing of biomass pellets in Thermal Power Plants begins without any delay. With regard to accident on road in the nearby area of PTPS ash dyke, the data of 2021, 2022 and some part of 2023 was given as under by Joint Committee:

Year	***No. of accident occurred***
2021	*05*
2022	*03*
2023 till 03.03.2023	*00*

20. In the light of the findings and observations of Joint Committee, it made recommendations in para 3.0, as under:

"***3.0. Recommendations:***

1. *It is pertinent to mentioned that same matter has already been undertaken before the Hon'ble NGT New Delhi in OA No. 581/2019; Residents of Gram Panchayat Jatal, District Panipat Applicant Versus State of Haryana Respondent, is related to*

pollution caused in the nearby villages, during management of fly ash by Panipat Thermal Power Plant and ***a Joint Committee of CPCB and HSPCB is assessing the damage caused to the Environment and Public Health in the area****. Joint committee in OA no. 581/2019 is conducting the detailed monitoring to collect the extensive data required for quantification of the affected area and the quantitative damage caused to the environment and Public health by involving subject experts, so as to prepare the remediation plan.*

2. *PTPS shall provide tyre washing facility of the ash carrying earth movers/ vehicles before reaching on the Panipat Assandh Road, city roads and other village road so that ash shall not come on the road and to avoid dust re-suspension*

3. *PTPS shall make an extensive water sprinkling plan in the ash dykes area and also along the transportation path within the Ash dykes area to prevent the maximum possible ash emissions and submit the copy of the same to CPCB and HSPCB.*

4. *PTPS shall install Online Cameras on all the exits of Ash dykes so that continuous surveillance of the Ash carrying vehicles can be done and any uncovered vehicle shall not ply on the roads.*

5. *PTPS shall comply with the action plan submitted for lifting of the entire ash from the dykes and also submit fortnightly report to HSPCB regarding the lifting of the ash as per action plan."*

Reply dated 20.04.2023 filed by Deputy Commissioner, Panipat on behalf of respondents 1 and 3:

21. It refers to Joint Committee Report and said that the issue in question is to be governed by Expert Body like CPCB and HSPCB.

Reply dated 20.04.2023 filed by Chief Engineer/PTPS:

22. Another reply dated 20.04.2023 was filed by Chief Engineer/PTPS wherein he submitted an action plan for disposal of entire pond ash stored in the ash dykes wherein quantity of ash stored in ash dykes as on 28.02.2023 is same as was mentioned in Joint Committee Report dated 10.04.2023. However, PTPS stated that it has signed MOUs with M/s

Shree Cement, NHAI and State PWD for lifting of the ash and details thereof are given as under:

> *"2. The details of MOUs signed with M/s Shree Cement and NHAI for lifting of the ash are as below:*

Sr. No.	*Name of the Project*	*Quantity Allocated (in Lakh MT)*	*Quantity Lifted till 28.02.2023 (in Lakh MT)*	*Quantity to be Lifted (in Lakh MT)*
1	*Shree Cement*	*183.5*	*3.12*	*180.38*
2	*DAK Pkg-1*	*66*	*17.34*	*48.66*
3	*DAK Pkg-2*	*38.5*	*6.82*	*31.68*
4	*DAK Pkg-3*	*55*	*3.97*	*51.03*
5	*DAK Pkg-4*	*66*	*30.39*	*35.61*
6	*Gohana Sonepat Road*	*26.84*	*15.30*	*11.54*
7	*Barwasni Road*	*19.8*	*2.06*	*17.74*
8	*NH-44 widening*	*26.4*	*0*	*26.4*
	Total	*482.04*	*79*	*403.04*

23. The reply further said that presently 20000 MT/day, ash is being lifted from ash dykes by above proponents since August 2022. Entire pond ash stored in ash dykes will be utilized completely within 03 years tentatively since demand of ash is about 403 lakh MT against the available quantity of 137 lakh MT in ash dykes. The note given in the reply at sl. no. 3 and 4 reads as under:

> *"3. Presently, 20000 MT/ day of ash is being lifted from the ash dykes by above mentioned projects proponents since Aug 2022.*
>
> *4. From the above data it is submitted that the entire pond ash stored in the ash dykes will be utilized completely within 3 years tentatively because the demand of the ash is about 403 Lakh MT against the available quantity of 137 Lakh MT in ash dykes."*

24. The above reply was considered by Tribunal on 21.04.2023 and it observed that PTPS has not given any response to the observations/recommendations made by Joint Committee. Therefore, it

should file an additional reply with action plan for remedial measures with requisite details regarding budgetary allocation, works to be implemented, agency for execution of work and timelines for taking up remedial action.

Reply dated 31.05.2023 by Respondent 4:

25. Reply dated 31.05.2023 was filed by respondent 4 giving remarks in respect of observations and recommendations made by Joint Committee as under:

Sr. No.	***Recommendations of the Joint Committee***	***Remarks***
1	*It is pertinent to mention that same matter has already been undertaken before the Hon'ble NGT New Delhi in OA No. 581/2019; Residents of Gram Panchayat Jatal, District Panipat Applicant Versus State of Haryana Respondent, is related to pollution caused in the nearby villages, during management of fly ash by Panipat Thermal Power Plant and a Joint Committee of CPCB and HSPCB is assessing the damage caused to the Environment and Public Health in the area. Joint committee in OA no. 581/2019 is conducting the detailed monitoring to collect the extensive data required for quantification of the affected area and the quantitative damage caused to the environment and Public health by involving subject experts, so as to prepare the remediation plan.*	*The Joint Committee is already carrying out the assessment.*
2	*PTPS shall provide tyre washing facility of the ash carrying earth movers/ vehicles before reaching on the Panipat Assandh Road, city roads and other village road so that ash shall not come on the road and to avoid dust re-suspension.*	***Tyre Washing Facility will be installed shortly***
3	*PTPS shall make an extensive water sprinkling plan in the ash dykes area and also along the transportation path*	***Sprinklers will be installed all along the transportation***

	within the Ash dykes area to prevent the maximum possible ash emissions and submit the copy of the same to CPCB and HSPCB.	***path and inside the dyke area shortly**.*
4	*PTPS shall install Online Cameras on all the exits of Ash dykes so that continuous surveillance of the Ash carrying vehicles can be done and any uncovered vehicle shall not ply on the roads.*	*Stand-alone cameras are already installed at all the exits. However,* ***Online cameras will be installed by shortly.***
5	*PTPS shall comply with the action plan submitted for lifting of the entire ash from the dykes and also submit fortnightly report to HSPCB regarding the lifting of the ash as per action plan.*	*Fortnightly report is being sent to HSPCB on regular basis.*

26. It is also said that for remedial action, PTPS is taking assistance of experts from Guru Jambheshwar University of Science and Technology, Hisar and some time was sought to submit action plan for taking remedial measures.

Reply dated 29.07.2023 filed by respondent 4:

27. Thereafter, a further reply dated 29.07.2023 was filed by Chief Engineer, PTPS giving remarks in respect of the recommendations made by Joint Committee in its report, slightly revised action plan for disposal of pond ash stored in ash dykes which shows change in increase in the quantity of ash stored in ash dykes as on 30.06.2023, and other remedial steps, as under:

A) <u>Recommendations made in the report of the Joint Committee at Page no. 17:</u>

Sr. No.	*Recommendations/observations of the Joint Committee*	*Remarks*

1	*It is pertinent to mention that same matter has already been undertaken before the Hon'ble NGT New Delhi in OA No. 581/2019; Residents of Gram Panchayat Jatal, District Panipat Applicant Versus State of Haryana Respondent, is related to Pollution caused in the nearby villages, during management of fly ash by Panipat Thermal Power Plant and a Joint Committee of CPCB and HSPCB is assessing the damage caused to the Environment and Public Health in the area. Joint committee in OA no. 581/2019 is conducting the detailed monitoring to collect the extensive data required for quantification of the affected area and the quantitative damage caused to the environment and Public health by involving subject experts, so as to prepare the remediation plan.* *(Page No. 17 of the Joint Committee report)*	*The Joint Committee is Already carrying out the assessment.*
2	*PTPS shall provide tyre washing facility of the ash carrying earth movers/vehicles before reaching on the Panipat Assandh Road, city roads and other village road so that ash shall not come on the road and to avoid dust re-suspension.* *(Page No. 17 of the Joint Committee report)*	***Tyre Washing Facility has been installed****. (Pictures have been attached for Ready reference as Annexure-A)*
3	*PTPS shall make an extensive water sprinkling plan in the ash dykes area and also along the transportation path within the Ash dykes area to prevent the maximum possible ash emissions and submit the copy of the same to CPCB and HSPCB. (Page No. 17 of the Joint Committee report)*	***Sprinklers have been installed*** *all along the transportation path and Inside the dyke area. (Pictures have been attached for ready reference as Annexure-B)*
4	*PTPS shall install Online Cameras on all the exits of Ash dykes so that continuous surveillance of the Ash*	*Stand-alone cameras are Already installed at all the exits. However,*

	carrying vehicles can be done and any uncovered vehicle shall not ply on the roads. (Page No. 17 of the Joint Committee report	***feasibility of installing Online cameras is being explored keeping in view the remote location of the ash dykes.***
5	*PTPS shall comply with the action plan submitted for lifting of the entire ash from the dykes and also submit fortnightly report to HSPCB regarding the lifting of the ash as per action plan.* *(Page No. 17 of the Joint Committee report)*	*Fortnightly report is being sent to HSPCB on regular basis through emails.*

B) <u>Action Plan for disposal of pond ash stored in the ash dykes (Page no. 12 of Report of the Joint Committee</u>):

1. *The present quantity of the Ash stored in the ash dykes of the PTPS is as under:*

Sr. No.	*Ash Dyke*	*Quantity of Ash stored on 30.06.2023 (in Lakh MT)*
1	*Ash Dyke-A*	*96*
2	*Ash Dyke- B*	*22*
3	*Ash Dyke- C*	*5*
	Total	***123***

2. *The details of MOUs signed with M/s Shree Cement and NHAI for lifting of the ash are as below:*

Sr. No.	*Name of the Project*	*Quantity Allocated (in Lakh MT)*	*Quantity Lifted till 30.06.2023 (in Lakh MT)*	*Quantity to be Lifted (in Lakh MT)*
1	*Shree Cement*	*183.5*	*4.41*	*180.38*
2	*DAK Pkg-1*	*66*	*21.89*	*44.11*
3	*DAK Pkg-2*	*38.5*	*9.56*	*28.94*
4	*DAK Pkg-3*	*55*	*4.45*	*50.55*
5	*DAK Pkg-4*	*66*	*32.74*	*33.26*
6	*Gohana Sonepat Road*	*26.84*	*18.16*	*8.68*
7.	*Barwasni Road*	*19.8*	*3.02*	*16.78*
8	*NH-44 widening*	*26.4*	*0*	*26.4*
	Total	*482.04*	*94.23*	*387.81*

3. ***Presently, 10000-20000 MT per day of ash is being lifted from the ash dykes by above mentioned projects proponents since Aug 2022.*** *From the above data it is submitted that the entire pond ash stored in the ash dykes will be utilized completely within 3 years (tentatively) because the* ***demand of the ash is about 388 Lakh MT against the available quantity of 123 Lakh MT in ash dykes.***

C) *Compliance status of the conditions of Consent to Operate and Environmental Clearance (Page no.* ***14*** *of Report of the Joint Committee):*

Observation of Joint Committee:
PTPS is not complying with the direction no. 42 dated 17.09.2021 of Commission for Air Quality Management in National Capital Region and adjoining areas, regarding the co-firing of biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants through a continuous and uninterrupted supply chain and to take all necessary steps to ensure that co-firing of biomass pellets in Thermal Power Plants begins without any delay.

Reply of PTPS:

In view of revised Biomass Policy dated 08.10.2021 and Model Contract dated 02.03.2022 issued by Ministry of Power, ***fresh tender was floated on 29.03.2022 for procurement of 19.3 Lakh MT Torrified Biomass Pellets for co-firing in HPGCL Thermal Power Plants for a period of seven (7) years. The work has been awarded to M/s Beyond Drilling and Exploration Private Limited, Faridabad.*** *Accordingly, Purchase order has been issued to the firm on 10.05.2023 (Copy of the Purchase Order has been attached as Annexure-C). As per provisions of the tender, the Firm shall start delivery of material within 270 days from the date of issuance of Lol/ Purchase Order. Out of total quantity i.e. 19.3 L MT,* ***PTPS will utilize around 5 L MT of biomass at a total cost of Rs 476. 38 Cores (inclusive of GST) during next 7 years.***

D) *Measures adopted to control fly ash (Page no. 17 of Report of Joint Committee):*

i) *The lifting of pond ash has been stopped during day time hours (from 07 AM to 07 PM) w.e.f 13.06.2023. The timings have been restricted further (from 07 AM to 09 PM) w.e.f 29.07.2023 in pursuance of the orders issued by Deputy Commissioner Panipat during District Road Safety Committee meeting held on 07.07.2023. A copy of the letter in this regard has been attached*

*as **Annexure-D.***

*ii) The approach roads (non-metallic) to ash dykes of PTPS have been laid with mill reject to mitigate the dust re-suspension due to vehicular movements. (Pictures attached as **Annexure-E).***

*iii) Strict instructions have been issued to the pond ash lifters (National Highway Authority of India and M/s Shree Cement Limited) for following all the environmental norms while lifting pond ash from the ash dykes of PTPS. A copy of the correspondences done by PTPS with all the pond ash lifters is attached as **Annexure-F.** As per the MoUs (Memorandum of Understanding) signed by PTPS with the pond ash lifters, they are primarily responsible for following all the environmental norms. A copy of one of the MoUs has been attached as **Annexure-G.** This has been reiterated by MoEF&CC (Ministry of Environment, Forest & Climate Change) in its notification dated 31.12.2021 also.*

*iv) PTPS is going to **develop a tree line** on the ash bunds of the ash dyke towards village Jattal and Village Sutana. Matter is being actively taken up with the Forest Department for providing the saplings.*

*v) The **vehicles** carrying pond ash are being **properly covered with tarpaulin covers** to avoid any spillage. The vehicles which are found violating the environmental norms are being banned for lifting pond ash from the ash dykes of PTPS.*

*vi) **Regular water sprinkling** is being done on the Panipat-Jind Road, approach roads of ash dyke (non-metallic) and inside the dyke area as well.*

E) <u>Action plan for taking up remedial measures (as per Para no. 7 & 8 of Hon'ble NGT order dated 21.04.2023):</u>

*As per the directions of Hon'ble NGT, Respondent No. 4 (PTPS) has sought assistance of experts from **IIT** Roorkee. PTPS has placed work order (copy placed **as Annexure-I)** for preliminary site visit of the experts for understanding the background and site conditions before submitting the detailed remedial action plan. **Dr. V. Bhanu Prakash (Associate Professor, Department of Civil Engineering, IIT Roorkee) and Mr. Jatinder Singh Kamyotra (Ex-Member Secretary, CPCB) visited PTPS on 12.07.2023 & 13.07.2023. The Preliminary site visit report of the experts is awaited.** The experts visited the sampling locations from where samples of air and ground water were collected. They have asked for more details related to sampling procedures followed by Shriram Institute of Industrial Research for in-depth analysis of the sampling*

results especially non-conformities/deviations and for suggesting remedial measures."

28. **Tribunal's Order dated 06.09.2023:** Tribunal vide order dated 06.09.2023 directed respondent 4 i.e., PTPS to file additional reply giving details of generation and disposal of fly ash including legacy fly ash during last 03 years, plantation carried out, utilisation of land reclaimed with disposal of legacy fly ash, CER activities undertaken and action plan with specific timelines for complete disposal of legacy fly ash.

Reply dated 06.11.2023 filed by Respondent 4:

29. Pursuant to the above order, Chief Engineer, PTPS filed reply dated 06.11.2023 wherein details of ash generation data, ash disposal data including legacy fly ash for last 03 financial years were given as under:

Sr. No.	*Financial Year*	*Total Ash Generated (Lakh MT)*	*Total Ash utilized (Lakh MT)*		*Total Ash utilized (%)*	
			Total Ash Utilization including legacy ash (LMT)	*Legacy Ash utilized (LMT)*	*Total Ash Utilized including legacy ash (%)*	*Legacy Ash Utilized (%)*
1	*2020-21*	*3.23*	*32.35*	*29.12*	*999.30*	*901.54*
2	*2021-22*	*7.55*	*82.51*	*74.96*	*1092.10*	*992.84*
3	*2022-23*	*12.77*	*64.48*	*51.71*	*504.98*	*404.93*
4	*2023-24 upto Sept*	*6.08*	*20.37*	*14.29*	*334.69*	*235.03*

30. Respondent 4 also referred to Ministry of Environment, Forest and Climate Change (hereinafter referred to as **'MoEF&CC'**) Gazette Notification dated 31.12.2021 and said as under:

"As per MoEF&CC gazette notification dated 31.12.2021, ***every coal based thermal power plant shall be responsible to utilize 100***

percent (fly ash and bottom ash) generated during that year, however, in no case shall utilization fall below 80 percent in any year, and the thermal power plant shall achieve average ash utilization of 100 percent in a three years cycle. *As evident from the above table, the legacy ash utilization in last three financial years is ranging from 900 to 400 percent. Further,* ***the legacy ash was 350 L MT as on 01.04.2016 which has been reduced to 118 L MT, as on 30.09.2023 within a time span of 7 years & 6 months****."*

31. On the issue of plantation, utilisation of land reclaimed, CER activities and action plan for disposal of pond ash stored in ash dykes, respondent 4 replied as under:

*"**B) Plantation carried out:***

Total number of trees planted by PTPS (HPGCL) till date is around 98000 of various species like Neem, Arjun, Jamun, Peepal, Siris, halasina, Kigelia etc. Plantation drive is being organized at different times of the year in & around the plant area.

C) Utilization of land reclaimed with disposal of legacy fly ash:

S.No.	*Ash Dyke*	*Ash Disposal*	*Area (in acres)*	*Quantity of Ash stored as on 30.09.2023*	*Proposed use after disposal of legacy ash*
1	*A*	*Unit 1 to 5*	*600*	*95.11*	*Solar Plant*
2	*B*	*Unit-6*	*100*	*21.82*	*For ash disposal of Unit-6*
3	*C*	*Unit- 7 & 8*	*100*	*1.67*	*For ash disposal of Unit-7 & 8*

Presently, pond ash is being lifted simultaneously from all the three ash dykes of PTPS, Panipat. It is proposed that after disposal of pond ash from Ash dyke-A, a solar plant will be installed over this area. Ash dyke-B & C will be kept for disposal of Unit-6 and Unit 7 & 8 respectively.

D) CER (Corporate Environmental Responsibilities KSR (Corporate Social Responsibilities) undertaken:

1) *Renovation work of the building of Govt. Sanskriti Primary School, Village Jattal (Panipat) has been carried out in the financial year 2022-23 with financial implication of* ***Rs. 80 Lekhs****.*

2) *Technical training to the students of ITI (Industrial Training Institutes) is being provided under skill development apprenticeship program. Around **Rs 1.05 Crores** have been spent by PTPS (HPGCL) for this activity in last three financial years. The expenditure details are as under:*

S. No.	*Financial Year*	*Expenditure carried out*
1	*2020-21*	*Rs 48,17,215/-*
2	*2021-22*	*Rs 44,22,049/-*
3	*2022-23*	*Rs 12,89,333/-*
Total		*Rs 1.05,28,597/-*

3) *Regular medical health check-up camps for the residents of the neighbouring villages are organized.*

E) Action Plan for disposal of pond ash stored In the ash dykes with specific Timelines:

1. *The details of MOUs signed with M/s Shree Cement and NHAI for lifting of the ash are as below:*

Sr. No.	*Name of the Project*	*Quantity Allocated (in LMT)*	*Quantity Lifted till 30.09.2023 (in *LMT)*	*Quantity to be Lifted (in LMT)*	*Completion date*
1	*Shree Cement*	*160.5*	*3.61*	*156.39*	*05.06.2030*
2	*Shree Cement*	*23.5*	*1.66*	*21.84*	*14.04.2027*
3	*DAK Pkg-1*	*66*	*22.18*	*43.82*	*17.02.2024*
4	*DAK Pkg-2*	*38.5*	*11.56*	*26.94*	*17.02.2024*
5	*DAK Pkg-3*	*55*	*4.45*	*50.55*	*17.02.2024*
6	*DAK Pkg-4*	*66*	*32.76*	*33.24*	*06.07.2023*
7	*Gohana-Sonepat*	*26.84*	*19.69*	*7.15*	*04.02.2024*
8	*Bawana-Barwasni*	*19.8*	*3.90*	*15.9*	*22.03.2024*
9	*NH-44 widening*	*26.4*	*0*	*26.4*	*24.05.2023*
	Total	*482.04*	*99.81*	*382.23*	

2. *As per MoEF&CC gazette notification dated 31.12.2021, the legacy ash is to be utilized progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed within ten years from the date of publication*

(31.12.2021) i.e. till 30.12.2031. Presently, 8000-10000 MT per day of ash is being lifted from the ash dykes by above mentioned projects proponents since Aug 2022.

3. *From the above data* ***it is submitted that the entire pond ash stored in the ash dykes will be utilized completely within 3-4 years because the demand of the ash is about 382 Lakh MT against the available quantity of 118 Lakh MT in ash dykes***

32. **Tribunal's Order dated 08.11.2023:** The above reply was considered by Tribunal on 08.11.2023. It observed that respondent 4 has not disclosed as to how much plantation it was required to carry out and actually carried out in terms of conditions of EC with details of area, number of trees, survival of rate and density of plantation. For expenditure of CER activities, Tribunal found that amount spent for renovation of a Govt. Primary School and training of ITI students which benefited educational activities of limited number of students but resulted in no benefit to the residents of locality who were suffering from adverse impact of environmental pollution due to storage of fly ash. Respondent 4, therefore, was directed to file a further additional reply.

Additional Reply dated 18.03.2024 by Respondent 4:

33. Pursuant thereto, respondent 4 filed additional reply dated 18.03.2024 giving details of plantation etc. as under:

"A) <u>Area Brought Under Plantation:</u>

As per Environmental clearance (EC) issued by Ministry of Environment & Forest (MoEF), GOI vide memo no. J-13011/2002-IA.II (T) dated ***23.08.2002****,* ***a greenbelt covering an area of 44 hectare should be developed around construction yard, plant boundary, ash disposal area etc. ensuring a tree density of 1500-2000 trees per hectare.***

<u>Reply:</u> *A topographic & cadastrat survey have been got done to find out the exact area under plantation. As per the survey report, 42 hectare of land is under plantation inside the plant area and*

1.38 hectare of land is under plantation inside the colony area. The report is attached as Annexure-A. PTPS has planned for further plantation in 7 hectares near the ash dyke area and 7 hectares inside the plant area in co-ordination with the forest department of Haryana in Financial year 2024-25 starting June/July 2024.

B) <u>Species planted, density & survival rate:</u>

As per EC dated 23.08.2002, an area of 44 ha was to be brought under plantation with a density of around 1500-2000 trees per ha.

***<u>Reply:</u>** The total number of **trees planted by PTPS (HPGCL) till date is around 98000 number tentatively**. However, PTPS is carrying out tree census (Annexure-B) in a phased manner, to find out the exact number of trees and tree density, Various species like Neem, Arjun, Jamun, Peepal, Sins, halasina, Kigelia etc. have been planted. **No historical data is available for calculating the survival rate**.*

C) <u>Action plan for further plantation:</u>

*i) Forest department has been approached for development of a green belt on a vacant land of around 17.5 acres (7 hectare) near the ash dyke area and 17.5 acres (7 hectares) inside the plant area. Forest department has carried out the field survey and has submitted the budgetary offer (Rs 1.90 Crores) for both creation & maintenance (1 year+3 years) of the green belt. The **plantation drive has been scheduled from June/July 2024. Total 15,400 trees of different species will be planted**. (Annexure-C)*

ii) PTPS has developed a nursery on pilot basis. Different varieties of flower seedlings and tree saplings are propagated for further transplantation at different locations in the station. (Annexure-D).”

34. On the question CER/CSR, respondent 4 stated that it is required to spend at least 2% of average net profits of the company made during immediately preceding financial years. The net profit in 2021-22 was in negative though in 2022-23, it was positive but average net profit was -494.29 Crores still it spent Rs. 5.13 lakhs till 29.02.2024 in 2023-24 as SCR expenditure, besides what it had already spent for renovation of

Government School and for technical training to ITI students, disclosed earlier.

35. **Tribunal's Order dated 21.03.2024:** On 21.03.2024, when the matter was taken by Tribunal, an officer of PTPS appeared and informed about agreement made by respondent 4 regarding disposal of fly ash and requested for some time to place the relevant material on record which was granted.

Reply dated 19.04.2024 by Chief Engineer, PTPS (Respondent 4):

36. Chief Engineer, PTPS submitted its reply dated 19.04.2024 wherein details of ash generation and disposal including legacy ash in the last 04 years was mentioned as under:

Sr.No.	*Financial Year*	*Total Ash Generated (Lakh MT)*	*Total Ash utilized (Lakh MT)*		*Total Ash utilized (%)*	
			Total Ash Utilization including legacy ash (LMT)	*Legacy Ash utilized (LMT)*	*Total Ash Utilized including legacy ash (%)*	*Legacy Ash Utilized (%)*
1	*2020-21*	*3.23*	*32.35*	*29.12*	*999.30*	*901.54*
2	*2021-22*	*7.55*	*82.51*	*74.96*	*1092.10*	*992.84*
3	*2022-23*	*12.77*	*64.48*	*51.71*	*504.98*	*404.93*
4	*2023-24*	*10.61*	*34.89*	*24.28*	*328.76*	*228.84*

37. It also referred to the MoEF&CC's Gazette Notification dated 31.12.2021 and said that legacy ash was 350 lakhs MT as on 01.04.2016 which has got reduced to 108 lakhs MT as on 31.03.2024 i.e., within a time span of 08 years. The remaining legacy ash is required to be utilised progressively in terms of the Gazette Notification dated 31.12.2021 and 10

years from the date of publication i.e., 30.12.2021. Action plan for disposal of pond ash stored in ash dykes, reads as under:

"Action Plan for disposal of pond ash stored in the ash dykes:

The details of sales orders signed by PTPS for lifting of the ash are as below:

Sr. No.	*Name of the Project*	*Quantity Allocated (in LMT)*	*Quantity Lifted till 31.03.2024 (in LMT)*	*Quantity to be Lifted (in LMT)*
1	*Shree Cement*	*160*	*4.15*	*155.85*
2	*Shree Cement*	*23.5*	*2.31*	*21.16*
3	*Tomer Enterprises*	*1.50*	*0.00*	*1.50*
	Total	*185*	*6.46*	*178.51*

Presently, around 2000 MT of pond ash per day is being lifted from the ash dykes by above mentioned projects proponents.

PTPS has recently issued sales order ***(Annexure-A)*** *to M/s Tomer Enterprises. Bhiwani for sale of 1.5 L MT on paid basis (Rs 152 per MT plus GST extra). Further. PTPS is in process of signing a* ***MoU (Annexure-B)*** *with NHAI (PIU-Ambala) for supplying 10 Lakh MT of pond ash on paid basis (Rs 136.80 per MT plus GST extra). The period of supply shall be 2 years or till the allocated quantity is lifted, whichever is earlier. From the above data, it is submitted that the* ***entire pond ash stored in the ash dykes will be utilized completely within 3-4 years because the demand of the ash is about 178 Lakh MT against the available quantity of 108 Lakh MT in ash dykes****."*

Reply dated 17.05.2024 filed by Respondent 4:

38. Copy of the reply dated 19.04.2024 was again filed along with letter dated 17.05.2024 hence we are not repeating.

39. **Tribunal's Order dated 24.05.2024:** Reply dated 17.05.2024 was considered by Tribunal on 24.05.2024 and it observed that in the financial year 2021-2022, ash utilization was to the extent of 82.51 L MT, but

thereafter, in next 02 financial years, it had reduced and substantially reduced in the financial year 2023-24. Tribunal enquired from Counsel appearing for PTPS reason for reduction of utilization in the financial year 2022-23 and 2023-24 for which he sought time to seek instructions which was granted.

Reply dated 29.05.2024 filed by Respondent 4:

40. In the reply dated 29.05.2024, proponent sought to explain the above reduction and utilization in 2022-23 and 2023-24 as under:

> "***1. The legacy ash utilization reduced from 82.51 Lakh MT in FY 2021-22 to 64.48 Lakh MT in FY 2022-23 and 34.89 Lakh MT in 2023-24, mainly due to following reasons:***
>
> *i. During the meeting of District Road Safety Committee held on 07.07.2023, District Administration, Panipat directed PTPS to* ***allow the lifting of pond ash by NHAI concessionaires during night hours only i.e. from 09 PM to 07 AM (10 hours daily) which significantly affected the daily lifting quantity of legacy ash*** *from ash dykes of PTPS during the FY 2023-24. Minutes of meeting are placed at Annexure-A.*
>
> *ii. The total height of the ash dykes of PTPS ranges from 12 metres to 19 metres. During the initial phases of ash evacuation (in FY 2021-22) by NHAI concessionaires, it was easier for the loaded trucks to transport the ash and the turn-around time was less but as the depth increased gradually due to ash evacuation the* ***transportation process slowed down and turn-around time increased*** *which significantly affected the daily lifting quantity of legacy ash from ash dykes of PTPS during the FY 2023-24.*
>
> *iii. PTPS signed 9 MoUs with NHAI for early utilization of legacy ash. The MoUs were signed in Nov 2020, March 2021, April 2021, July 2021 and February/March 2022 with a completion period of 24 months. The NHAI concessionaires lifted maximum quantity during FY 2021-22 and FY 2022-23.* ***Most of the MoUs expired during FY 2023-24 (1 MoUs in July 2023, 4 MoUs in Feb 2024 and 2 MoUs in March 2024) which significantly affected the lifting of legacy ash in this financial year.***

iv. PTPS has three operational units. Unit 6 is of 210 Megawatt and Unit 7 & 8 is of 250 Megawatt each. 20 percent of the ash generated is discharged in the ash dykes through slurry (ash plus water) formation. Pond ash lifting is done simultaneously with slurry discharge process by channelizing the slurry to other area of the dyke. Slurry covers a large portion of the ash dyke area at any point of time. Due to less demand during the FY 2021-22, Units remained under shutdown for more than half of the year, which enabled the lifters to lift the pond ash from a larger area of the ash dyke and at a faster pace in comparison to FY 2022-23, when the demand of electricity increased post-COVID resulting into continuous discharge of slurry for considerable period of time. Plant Load Factor (percentage) of PTPS during last three years is as shown below:

Sr. No.	*FY 2021-22*	*FY 2022-23*
PLF (%)	*44.29*	*78.13*

v. PTPS stopped the lifting of pond ash by the lifters if they are found violating the guidelines issued by Hon'ble NGT from time to time like installation of tyre washing facilities, installation of CCTVs, permanent water sprinklers on transportation path etc. ***PTPS stopped the lifting from 08.09.2023 to 25.09.2023 (Annexure-B) due to non-compliance of the norms by NHAI concessionaire."***

41. Proponent further submitted reply with regard to action plan for disposal of pond ash stored in ash dykes, pollution control measures adopted by it during lifting of pond ash from ash dykes, area brought under plantation and action plan for further plantation by stating as under:

*"**2. <u>Action Plan for disposal of pond ash stored in the ash dykes:</u>***

The details of sales orders signed by PTPS for lifting of the ash are as below:

Sr. No.	*Name of the Project*	*Quantity Allocated (in LMT)*	*Quantity Lifted till 31.03.2024 (in LMT)*	*Quantity to be Lifted (in LMT)*

1	*Shree Cement*	*160*	*4.15*	*155.85*
2	*Shree Cement*	*23.5*	*2.31*	*21.16*
3	*Tomer Enterprises*	*1.50*	*0.00*	*1.50*
	Total	*185*	*6.46*	*178.51*

Presently, around ***2000 MT of pond ash per day is being lifted from the ash dykes by above mentioned projects proponents****. PTPS has recently* ***issued sales order (Annexure-C) to M/s Tomer Enterprises, Bhiwani for sale of 1.5L MT on paid basis (Rs 152 per MT plus GST extra).*** *Further,* ***PTPS is in process of signing a MoU (Annexure-D) with NHAI (PIU-Ambala) for supplying 10 Lakh MT of pond ash on paid basis (Rs 136.80 per MT plus GST extra).*** *The period of supply shall be 2 years or till the allocated quantity is lifted, whichever is earlier. From the above data, it is submitted that the entire pond ash stored in the ash dykes will be utilized completely within 3-4 years because the demand of the ash is about 178 Lakh MT against the available quantity of 108 Lakh MT in ash dykes.*

3. Pollution controlling measure adopted by PTPS during lifting of pond ash from ash dyke:

i) The approach roads (non-metallic) to ash dykes of PTPS have been laid with mill reject to mitigate the dust re-suspension due to vehicular movements. (Pictures attached as Annexure-E).

ii) PTPS is going to ***develop a green belt (17.5 acres)*** *adjacent to ash dykes towards nearby villages.*

iii) The vehicles carrying pond ash are being ***properly covered with tarpaulin covers*** *to avoid any spillage. The vehicles which are found violating the environmental norms are being banned for lifting pond ash from the ash dykes of PTPS.*

iv) ***Regular water sprinkling*** *is being done on the Panipat-Jind Road, approach roads of ash dyke (non-metallic) and inside the dyke area as well through tankers and permanent sprinklers (Annexure-F).*

v) ***Tyre Washing Facility*** *has been installed (Annexure-G).*

vi) ***CCTVs*** *have been installed for regular monitoring of trucks deployed for lifting of pond ash (Annexure-H).*

4. Area brought under plantation:

A topographic & cadastral survey have been got done to find out the exact area under plantation. As per the survey report, around

42 hectare of land is under plantation. The report is attached as Annexure-I. The total number of trees planted by PTPS (HPGCL) till date is around 98000 tentatively. However, PTPS is carrying out tree census to find out the exact number of trees and tree density. Till date, around 40,000 trees have been counted. Various species like Neem, Arjun, Jamun, Peepal, Siris, halasina, Kigelia etc. have been planted. No historical data is available for calculating the survival rate.

5. Action plan for further plantation:

i) Forest department was requested to carry out field visit for plantation in the vacant land and submit the budgetary offer accordingly. DFO, Panipat visited PTPS along with her team on 12.03.2024 and submitted the budgetary offer on 18.03.2024 (Annexure-J). The total financial implication shall be Rs 2.68 Crores for the green belts to be developed on around 35 acres of land by planting around 15,400 trees during the FY 2024-25.

ii) PTPS has developed a nursery on pilot basis (Annexure-K). Different varieties of flower seedlings and tree saplings are propagated for further transplantation at different locations in the station."

Reply dated 09.07.2024 by respondent 4:

42. Respondent 4 has further filed reply dated 09.07.2024 again containing its stand in regard to action plan for disposal of pond ash stored in ash dyke; ash generation and disposal data in the last 02 financial years and legacy ash utilization reduction in 02 financial years i.e., 2022-23 and 2023-24 and has said as under:

*"**1. Action Plan for disposal of pond ash stored in the ash dykes:***

The details of sales orders signed by PTPS for lifting of the ash are as below:

Sr. No.	*Name of the Project*	*Quantity Allocated (in LMT)*	*Quantity Lifted till 31.05.2024 (in LMT)*	*Quantity to be Lifted (in LMT)*
1	*Shree Cement*	*160.0*	*4.15*	*155.85*

2	*Shree Cement*	*23.50*	*3.31*	*20.16*
3	*Tomer Enterprises*	*1.50*	*0.00*	*1.50*
4	*M/s H.G. Karnal Ringh Road Pvt. Ltd.*	*10.0*	*0.00*	*10.0*
	Total	*195.0*	*6.46*	*188.54*

PTPS has issued sales order (Annexure-A) on 05.07.2024 to M/s H.G. Karnal Ring Road Pvt. Ltd. for sale of 10 Lakh MT. The period of supply shall be 2 years or till the allocated quantity is lifted, whichever is earlier.

2. Ash generation data and ash disposal data including legacy ash for last three financial years is as under:

Sr.No.	*Financial Year*	*Total Ash Generated (Lakh MT)*	*Total Ash utilized (Lakh MT)*		*Total Ash utilized (%)*	
			Total Ash Utilization including legacy ash (LMT)	*Legacy Ash utilized (LMT)*	*Total Ash Utilized including legacy ash (%)*	*Legacy Ash Utilized (%)*
1	*2021-22*	*7.55*	*82.51*	*74.96*	*1092.10*	*992.84*
2	*2022-23*	*12.77*	*64.48*	*51.71*	*504.98*	*404.93*
3	*2023-24*	*10.61*	*34.89*	*24.26*	*328.76*	*228.84*

3. The legacy ash utilization reduced from 82.51 Lakh MT in FY 2021-22 to 64,48 Lakh MT In FY 2022-23 and 34.89 Lakh MT In 2023-24, mainly due to following reasons

i. During the meeting of District Road Safety Committee held on 07.07.2023, District Administration, Panipat directed PTPS to allow the lifting of pond ash by NHAI concessionaires only during night hours i.e., from 09 PM to 07 AM (10 hours daily) which significantly affected the daily lifting quantity of legacy ash from ash dykes of PTPS during the FY 2023-24. Month-wise legacy ash utilization, before & after imposition of this restriction was as given below:

S.No.	*Month*	*Legacy ash utilized (Lakh MT)*
1	*May 2023*	*4.81*
2	*June 2023*	*3.88*

3	*July 2023*	*1.73*

ii. *The total height of the ash dykes of PTPS ranges from 12 metres to 19 metres. The lifting of ash is done through open trucks covered with tarpaulin covers. During the initial phases of ash evacuation (in FY 2021-22) by NHAI concessionaires, it was easier for the loaded trucks to transport the ash but as the depth increased gradually due to evacuation the transportation process slowed down which significantly affected the daily lifting quantity of legacy ash from ash dykes of PTPS during the FY 2023-24.*

iii. *PTPS signed 9 MoUs with NHAI for early utilization of legacy ash. The MoUs were signed in Nov 2020, March 2021, April 2021, July 2021 and February/March 2022 with a completion period of 24 months. The NHAI concessionaires lifted maximum quantity during the initial stages of project construction i.e. FY 2021-22 and FY 2022-23.*

iv. *PTPS has three operational units. Unit 6 is of 210 Megawatt and Unit 7 & 8 is of 250 Megawatt each. 20 percent of the ash generated is discharged in the ash dykes through slurry (ash plus water) formation. Pond ash lifting is done simultaneously with slurry discharge process by channelizing the slurry to other area of the dyke. Due to less demand during the FY 2021-22, Units remained under shutdown for more than half of the period, which enabled the lifters to lift the pond ash from a larger area of the ash dyke and at a faster pace in comparison to FY 2022-23, when the demand of electricity increased post-COVID resulting into continuous discharge of slurry for considerable period of time. Plant Load Factor (percentage) of PTPS during last three years is as shown below:*

Sr. No.	*FY 2021-22*	*FY 2022-23*
PLF (%)	*44.29*	*78.13*

Further, as per MoEF&CC gazette notification dated 31.12.2021, every coal based thermal power plant shall be responsible to utilize 100 percent (fly ash and bottom ash) generated during that year, however, in no case shall utilization fall below 80 percent in any year, and the thermal power plant shall achieve average ash utilization of 100 percent in a three years cycle. As per MoEF&CC gazelle notification dated 31.12.2021, the legacy ash is to be utilized progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed within ten years from the date of publication (31.12.2021) i.e. till 30.12 2031.

It is submitted that the entire pond ash stored in the ash dykes will be utilized completely within 2-3 years because the demand of the ash is about 188.54 Lakh MT against the available quantity of 108 Lakh MT in ash dykes."

43. Learned Counsel for proponent i.e., respondent 4 stated that broadly all the recommendations made by Joint Committee in para 3.0 of its Report dated 10.04.2023 have been complied with. For disposal of pond ash stored in ash dykes, effective steps have been taken and it shall be completely utilised in next 02 to 03 years, since available quantity is now reduced to 108 lakhs MT though demand of ash is very high.

44. Per contra, Counsel for HSPCB ambient air quality as also agriculture soil examined by Joint Committee has been found to be adversely affected due to presence of metals etc. which shows that air and soil both have been polluted effectively due to non-handling of ash effectively by the proponent and, therefore, it is liable to pay environmental compensation by application of principle of 'Polluter Pays' not only for past violations but also for future till the entire pond ash stored in ash dykes is cleared/disposed scientifically.

45. We have heard Learned Counsel for the parties and perused the record.

46. Joint Committee Report dated 10.04.2023 shows that ambient air quality was monitored for different periods from December 2022 to January 2023 at different locations and the conclusion drawn by Committee was that parameters of PM_{10} and $PM_{2.5}$ were exceeding NAAQ standards at all the locations. In the nearby villages also, PM_{10} concentration was found much higher in comparison to CAAQMS located at Sector 18, Panipat. Further, out of 08 locations monitored by Joint

Committee, Nickel concentration was found exceeding prescribed limits at 02 locations, Benzene concentration was found exceeding at 04 locations and Benzo (a) Pyrene (BaP) concentration was also found exceeding at 01 location. In the agriculture soil examination, Joint Committee found that concentration of Nickel and Zinc was on higher side which shows unscientific disposal and management of ash by PTPS.

47. Respondent 4 in reply to the above findings of Joint Committee has not placed anything on record to contradict the said findings and, therefore, we have no reason but to accept the said findings and Report dated 10.04.2023 of Joint Committee.

48. With regard to past violations and damage caused to environment for the years 2018-19 and 2019-20, this Tribunal had already issued directions in ***OA 581/2019 (supra)*** directing HSPCB, CPCB and District Magistrate to take remedial action for preventing further pollution, assess and recover compensation for past violations in accordance with law.

49. These proceedings have been initiated vide Tribunal's order dated 22.09.2022 and at least for the period of October 2022 to 30.06.2024, the issue of environmental compensation on account of damage caused to environment by respondent 4 has to be examined in the present matter.

50. We are informed that the process to assess extent of damage caused to environment and computation of environmental compensation is still pending before the authorities concerned pursuant to Tribunal's order dated 18.01.2022 in ***OA 581/2019 (supra)***. We do not appreciate any reason for such delay for computation of environmental compensation when damage to environment is writ large and evident from the documents

on record. It also cannot be doubted that principle of 'Polluter Pays' is attracted on the facts of the present case where due to non-handling of fly ash scientifically by respondent 4, environment has been degraded and damaged causing air pollution and soil contamination which ultimately leads to ground water contamination etc.

51. For such violations on the part of respondent 4, in our view, by application of principle of 'Polluter Pays', as held by Supreme Court in various authorities and also in view of the mandate under Section 20 of NGT Act, 2010 where this Tribunal has to comply principle of 'Polluter Pays', the violator is liable to pay environmental compensation for damage caused to environment by violating environmental laws and norms.

52. When environment is damaged on account of act of anyone, on account of illegal activities which are in violation of environmental laws and norms, such violator is liable to share the cost which may be incurred for remediation and rejuvenation of damaged environment. Supreme Court on this aspect has categorically said that the violator is liable to share cost which may be required for remediation of environment which is damaged on account of illegal activity of such violator. For this purpose, Supreme Court has recognized the principle of 'Polluter Pays'.

53. This Principle was recognized as part of environmental law in India in ***Indian Council for Enviro-Legal Action vs. Union of India, (1996) 3 SCC 212.*** Certain industries producing assets were dumping their waste. Even untreated waste water was allowed to flow freely polluting atmosphere and sub-terrain supply of water which ultimately caused darkening and dirtiness of wells and the streams water rendering it unfit for human consumption. Certain environmentalists' organizations broadly

alleging severe damage to villager's health, filed a Writ petition as PIL in 1989 before Supreme Court. By that time, some of the units were already closed. Referring to Article 48-A in Directive Principles of State Policy and 51-A in the Fundamental duties of citizens, Supreme Court observed that said provisions say that State shall endeavour to protect and improve environment and to safeguard the forest and wildlife of the country. One of the fundamental duties of citizens is to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creature. Where a **Proponent has established its commercial unit and operate contrary to law flouting norms provided by law, Statutory Regulator is bound to act and if it fails, a judicial forum can direct it to act in accordance with law**.

54. Referring to Oleum Gas leak case, i.e., ***M.C. Mehta vs. Union of India, (1987) 1 SCC 395***, Court observed in para 58 that the constitution bench held that **enterprise must be held strictly liable for causing such harm as a part of social cost of carrying on the hazardous or inherently dangerous activity**. Hazardous or inherently harmful activities for private profits can be tolerated only on the condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of carrying on of such hazardous or inherently dangerous activity, regardless of whether it is carried on carefully or not.

55. Court also referred to its earlier decision in ***Indian Council for Enviro Legal action vs. Union of India, (1995) 3 SCC 77,*** wherein concerned Pollution Control Board identified about 22 industries responsible for causing pollution by discharge of their effluent and a

direction was issued by Court observing that they were responsible to compensate the farmers. It was the duty of State Government to ensure that this amount was recovered from the industries and paid to the farmers. In para 67 of the judgment, Court said that the **question of liability of respondent units to defray the costs of remedial measures can also be looked into from another angle which has now come to be accepted universally as a sound principle**, for example, 'Polluter Pays' principle. On this aspect, Court further observed as under:

> *"**67.** ...The **Polluter Pays principle demands that the financial costs of preventing or remedying damage caused by pollution should lie with the undertakings which cause the pollution, or produce the goods which cause the pollution.** Under the principle it is not the role of government to meet the costs involved in either prevention of such damage, or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the taxpayer. The 'Polluter Pays' principle was promoted by the Organization for Economic Co-operation and Development (OECD) during the 1970s when there was great public interest in environmental issues. During this time there were demands on government and other institutions to introduce policies and mechanisms for the protection of the environment and the public from the threats posed by pollution in a modern industrialized society. Since then, there has been considerable discussion of the nature of the polluter pays principle, but the precise scope of the principle and its implications for those involved in past, or potentially polluting activities have never been satisfactory agreed.*
>
> *Despite the difficulties inherent in defining the principle, the European Community accepted it as a fundamental part of its strategy on environmental matters, and it has been one of the underlying principles of the four Community Action Programmes on the Environment. The current Fourth Action Programme ([1987] OJC 328/ 1) makes it clear that **the cost of preventing and eliminating nuisances must in principle be borne by the polluter**', and the polluter pays principle has now been incorporated into the European Community Treaty as part of the new Articles on the environment which were introduced by the Single European Act of 1986. Article 130-R(2) of the Treaty states that environmental considerations are to play a part in all the policies of the Community, and that action is to be based on three principles: the need for preventative action; the need for environmental damage to be rectified at source; and that the polluter should pay."*

56. Court further said that **according to the above principle of 'Polluter Pays', responsibility for repairing the damage is that of the offending industry**. Sections 3 and 5 of EP Act, 1986 empower Central Government to give directions and take measures for giving effect to this principle. Court further said:

> *"...In all the circumstances of the case, **we think it appropriate that the task of determining the amount required for carrying out the remedial measures, its recovery/realisation and the task of undertaking the remedial measures is placed upon the Central Government in the light of the provisions of the Environment [Protection] Act, 1986**. It is, of course, open to the Central Government to take the help and assistance of State Government, R.P.C.B. or such other agency or authority, as they think fit."*

57. The above principle has been followed in ***Vellore Citizen Welfare Forum vs. Union of India, 1996 (5) SCC 647***. In para 25, direction no. 2 reads as under:

> *2. The authority so constituted by the Central Government shall implement the "precautionary principle" and the "polluter pays" principle. The **authority shall, with the help of expert opinion and after giving opportunity to the concerned polluters assess the loss to the ecology/environment in the affected areas and shall also identify the individuals/families who have suffered because of the pollution and shall assess the compensation to be paid to the said individuals/families. The authority shall further determine the compensation to be recovered from the polluters as cost of reversing the damaged environment**. The authority shall lay down just and fair procedure for completing the exercise.*

58. In ***Bittu Sehgal and Another vs. Union of India & Others, (2001) 9 SCC 181***, referring the earlier judgments, Supreme Court has said that 'Precautionary Principle' and 'Polluter Pays Principle' have been accepted as part of the law of the land.

59. In ***Research Foundation for Science vs. Union of India & Ors.,***

(2005) 13 SCC 186, in para 26 and 29, Court, on 'Polluter Pays' Principle, has said as under:

> ***"26.*** *The* ***liability of the importers to pay the amounts to be spent for destroying the goods in question cannot be doubted on applicability of precautionary principle and polluter-pays principle. These principles are part of the environmental law of India****. There is constitutional mandate to protect and improve the environment. In order to fulfill the constitutional mandate various legislations have been enacted with attempt to solve the problem of environmental degradation.*
>
> ***29.*** *The* ***polluter-pays principle basically means that the producer of goods or other items should be responsible for the cost of preventing or dealing with any pollution that the process causes. This includes environmental cost as well as direct cost to the people or property, it also covers cost incurred in avoiding pollution and not just those related to remedying any damage. It will include full environmental cost and not just those which are immediately tangible****. The* ***principle also does not mean that the polluter can pollute and pay for it****. The nature and extent of cost and the circumstances in which the principle will apply may differ from case to case."*

60. In ***Karnataka Industrial Areas Development Board vs. C. Kenchappa & Others, (2006) 6 SCC 371***, principle of 'Polluter Pays' has been explained in detail referring to the earlier judgments in ***Indian Council for Enviro-Legal Action vs. Union of India (supra) and Vellore Citizen Welfare Forum (supra)***.

61. Even this Tribunal under Section 20 of NGT Act, 2010 has been empowered to decide matters by applying the principle of 'Sustainable Development', 'Precautionary Principle' and principle of 'Polluter Pays'.

62. In view of the discussions made above, we are of the view that environmental compensation may be computed, payable by respondent 4, on the present balanced fly ash in ash dykes i.e., 108 lakhs MT (10800000 tonnes) by computing compensation at the rate of One Paisa/tonne/day.

Computation of environmental compensation for 639 days i.e., from 01.10.2022 to 30.06.2024, thus, would be:

10800000 Tonnes × 639 days × Rs.0.01 = Rs.69031200/-.

63. We accordingly hold that respondent 4 – PTPS is liable to pay Rs. 6,90,31,200/- towards environmental compensation for the period from October 2022 to 30.06.2024 for causing damage to environment on account of unscientific handling, management and disposal of fly ash.

64. Respondent 4 has taken a stand that the entire quantity of ash lying in ash dykes i.e., 108 lakh MT shall be scientifically disposed within 02 to 03 years. We direct it to abide by the above timeline and dispose of fly ash completely positively by 31.07.2027.

65. However, for subsequent period i.e., from 1st July, 2024 and onwards, till disposal of fly ash, HSPCB shall compute environmental compensation on six monthly basis, on reduced quantity of fly ash, in the manner we have computed above, after giving opportunity to proponent and recover from respondent 4.

66. With regard to plantation i.e., development of green belt, respondent 4 has stated that 98000 trees have been planted tentatively but the exact number of trees alive could not be ascertained. It is mentioned in the action plan submitted by respondent 4 that no historical data is available for calculating survival rate. Mere plantation of trees without ensuring its survival is neither an effective step for plantation nor serve any purpose for protection of environment. We, accordingly, direct respondent 4 to develop green belt in the prescribed area by not only planting trees of various species but also by ensuring their survival in next five years. Steps

for plantation shall be undertaken by PTPS in consultation with Divisional Forest Officer, Panipat.

67. HSPCB shall ensure compliance of the above directions and submit six monthly compliance Reports with Registrar General of this Tribunal.

68. With the above directions, this application is disposed of.

SUDHIR AGARWAL,
JUDICIAL MEMBER

DR. AFROZ AHMAD,
EXPERT MEMBER

November 08, 2024
Original Application No.612/2022
R

Item No. 04 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 19/2021
(Earlier O.A. No. 618/2016)

(With report dated 22.06.2021)

Sanjay Kumar Applicant

Versus

State of UP & Ors. Respondent(s)

Date of hearing: 09.09.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Respondent: Mr. Pradeep Misra and Mr. Daleep Dhyani, Advocates for UPPCB

ORDER

1. The issue for consideration is permissibility of operation of hot mix plants at Noida beyond 'carrying capacity' of the ambient air of the area as per assessment of the statutory regulators – the CPCB and the State PCB, thereby adversely affecting the environment and the public health.

2. The matter was considered by the Tribunal earlier, almost five years back, vide order dated 23.11.2016 in O.A. No. 618/2016. Considering the status of compliance and adverse impact on air quality, the Tribunal directed sealing of all the hot mix plants. As a result, many hot mix plants shifted elsewhere. Vide order dated 20.11.2019, the Tribunal directed that the remaining may remain sealed till compliance of norms. The State PCB

was directed to file status report which was to be registered as a fresh OA. Accordingly, on report dated 4.12.2020 being filed by the State PCB, the office registered the present OA. which was considered on 24.02.2021.

3. The Tribunal held that the report does not consider the issue of carrying capacity of the area to sustain activities like hot mix plants and the siting criteria, including the *inter-se* distance followed so as not to violate the right of the citizens in the area to breathe fresh air. The Tribunal accordingly directed consideration of these aspects by a Joint Committee of CPCB and State PCB and to furnish a report to this Tribunal. The operative part of the order is reproduced below:

> *"3. We have considered the above report* ***which has not addressed the issue of carrying capacity of the area to sustain activities like hot mix plants and the siting criteria, including the inter-se distance followed so as not to violate the right of the citizens in the area to breathe fresh air. This observation is in the context of air quality in NCR which led to restrict activities with pollution potential. In this regard reference is made to the order dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., requiring regulation of brick kilns in the NCR in the light of the carrying capacity, till they are fired by coal generating air pollution. Question of use of cleaner fuel may require consideration in the context of hot mix plants also.***
>
> *4.* ***Let a joint Committee of the CPCB and the State PCB look into the above aspects to determine whether and to what extent and subject to what safeguards hot mix plants can be sustained following the "Sustainable Development" and "Precautionary" principles, in the interest of public health.*** *The State PCB will be nodal agency for coordination and compliance. The report be furnished to the Tribunal by 30.04.2021 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."*

4. In pursuance of above, report of the Joint Committee dated 22.06.2021 has been filed to the effect that supporting carrying capacity to sustain the hot mix plants in the study area was in the negative. However, in the recommendations it is stated that since hot mix plants are necessary for supplying raw material for repair and maintenance of roads,

the existing hot mix plants be allowed to continue but no new hot mix plants may be allowed to be established. The siting criteria should be applicable only for new establishments. The operative part of the report is reproduced below:-

"2.2 Terms of Reference (TOR) of the Joint Committee

As per orders of Hon'ble NGT, the Joint Committee was required to look into the following aspects and give report:

i. *Assessment of Carrying Capacity of the area to sustain activities like hot mix plants and to determine whether and to what extent and subject to what safeguards hot mix plants can be sustained following the "Sustainable Development" and "Precautionary" principles, in the interest of public health*

ii. *Siting criteria including inter-se distance*

iii. *Consideration of use of cleaner fuel in the context of hot mix plants*

2.3 Report of the Joint Committee

During the first meeting of the Joint committee, the responsibility matrix was discussed and finalized, so as to comply with the directions of the Hon'ble NGT in a time bound manner. Subsequent to the first meeting and site visit of the Joint Committee, various teams with specific tasks visited the site, under the supervision of the Joint Committee.

The Joint Committee deliberated on the various issues based on the outcome of the monitoring conducted and observations made 'during various site visits. The report of the Joint Committee on the various points is submitted as follows:

2.3.1 Observations made by the Joint Committee during site visits

The following are the main observations made by the Joint Committee during site visit:

i. *Out of 8 hot mix plants visited by the Joint Committee on 04.06.2021, it was observed that 7 hot mix plants were not in operation at the time of visit. It was informed by the units that these plants are not in operation from a long time due to implementation of Graded Response Action Plan (GRAP) and afterwards second wave of COVID-19 as a result no work order. The operational status & other details of hot mix plants visited on 04.06.2021 are as under:*

S.No.	Name and address of plant	Geographical location	Operational status	Product &its capacity	Type of Fuel	Consent status
1.	M/s Saroj Construction Co.Village- Nagli	28°29'36" N, 77°23'31" E	Non-operational	Dense Bituminous macadam/Dense	Diesel	Matter under consideration In Hon'ble

	Wazidpur, Sector-135, Noida			bituminous concrete-60 to 90 MT/Hr		NGT, O.A. 618/2016, I.A. No. 399/2019
2.	M/s Maa Bhagwati Construction Co. Village Wazidpur, Yamuna Pusta, Noida	28°29'24" N, 77°23'19" E	Non-operational	Dense Bituminous macadam/Dense bituminous concrete-45 MT/Hr	HSD	Valid upto 31.03.2022
3.	M/s JRD Infratech Pvt Ltd, Village-Nagli Wazidpur, Sector-135, Noida	28°29'17" N, 77°23'22" E	Non-operational	Dense Bituminous macadam/Dense bituminous concrete-60 MT/Hr	Diesel	Valid upto 31.03.2025
4.	M/s PMH Roadtech Pvt Ltd, Village-Nagli Wazidpur, Sector-135, Noida	28°29'20" N, 77°23'16" E	Non-operational	Dense Bituminous macadam/Dense bituminous concrete-60 MT/Hr	Diesel	Valid upto 31.03.2025
5.	M/s S.R. Construction Village-Nagli Wazidpur, Sector-135, Noida	28°29'12" N, 77°23'21" E	Non-operational	Dense Bituminous macadam/Dense bituminous concrete-60-80 MT/Hr	Diesel	Matter under consideration in Hon'ble NGT, O.A. 618/2016, I,A. No. 19/2019
6.	M/s Balaji Construction Village-Wazidpur, Sector-135, Noida	28°29'13" N, 77°23'15" E	Non-operational	Dense Bituminous macadam/Dense bituminous concrete- 60 MT/Hr	HSD	Valid upto 31.03.2024
7.	M/s MYC Infra Pvt Ltd, Village-Nagli Wazidpur, Sector-135, Noida	28°29'14" N, 77°23'39" E	Non-operational	Dense Bituminous macadam/Dense bituminous concrete- 60 MT/Hr	Diesel	Valid upto 31.03.2025
8.	M/s Yash Technobuild Pvt Ltd, Village-Wazidpur, Noida	28°29'23" N, 77°23'43" E	Operational	Dense Bituminous macadam/Dense bituminous concrete- 60 MT/Hr	Diesel	Valid upto 31.03.2026

ii. The Air Pollution Control system "Bag house filter Unit" and chimney of height about 45 ft, from ground level is attached with all the Hot Mix Plants to control the air pollution. All hot mix plants have installed proper monitoring arrangement and water sprinkling arrangement within premises.

2.3.2 Estimation of the Carrying Capacity of the Ambient Air Environment of hot mix cluster area village Wazidpur, Noida

It was directed by Hon'ble NGT to undertake a joint study to estimate the carrying capacity of ambient air environment in the hot mix cluster area village Wazidpur, Noida. It was informed by UPPCB

that nearest Continuous Ambient Air Quality Monitoring Station situated around 9 K.M. from hot mix cluster but the data can't be used for carrying capacity as the location is far away. UPPCB Teams carried out ambient air quality monitoring for two days (08/06/2021 to 09/06/2021 and 19/06/2021 to 20/06/2021) during operation of Hot Mix Plants at Hot Mix Plant Cluster and village- Wazidpur. UPPCB Teams also monitored at aforesaid station for a day (10/06/2021 to 11/06/2021) when Hot Mix Plants are not in operation. The consolidated monitoring results are given below:

Station Name	***Date of Monitoring***	***PM_{10}***	***SO_2***	***NO_2***
Village Wazidpur hot mix plants Cluster	*08/06/2021*	***404***	*22*	*33*
	10/06/2021	***218***	*12*	*24*
	19/06/2021	***202***	*10*	*21*
Village Wazidpur, Sector135, Noida i.e. farm house of Saroj Construction Co.	*08/06/2021*	***336***	*13*	*23*
	10/06/2021	***192***	*9*	*22*
	19/06/2021	***156***	*7*	*17*

Based on the available background concentration of data of air quality, the following approach was followed for estimating the carrying capacity of ambient air environment in the study area of hot mix cluster area village Wazidpur, Noida and applying box model:

a. *It is assumed that the impact of Hot mix Plants in Village- Wazidpur, Noida is restricted to a square of side 1.5 Km then the study area is taken as 2.25 Km^2.*
b. *The carrying capacity is estimated on the day when Hot mix Plants are operational along with other air polluting activities and on the day when Hot mix Plants are nonoperational.*
c. *The atmospheric mixing height in the study area varies between 553 to 670meters on day of Hot mix Plants operating while 730 meters on the day of non-operation of Hot mix Plants. The 90 percentile value which is majorly dominant during the study period is taken and accordingly this value was used to calculate the volume of the ambient air in the study area, as a product of atmospheric mixing height and the study area under reference.*
    d. ***The concentration of PM_{10} in ambient air was found to be varying between 156 to 404 µg/m^3 in study area on the day of operation of Hot mix Plants, while, the day of non-operation of Hot mix Plants in study area, the concentration of PM_{10} varies between 192 to 218 µg/m^3. The 90 percentile value which is majorly dominant during the study period is taken and this value was used to calculate the total load of PM_{10} load in the study area, as a product of predominant PM_{10} particulate matter concentration and volume of the ambient air upto mixing height, in the study area.***
    e. ***The national ambient air quality standard (NAAQS) for PM_{10} i.e. 100 µg/m^3 and when multiplied by the volume of air in the study area, it provided the average assimilative capacity of the study area for the study period.***

f. Supportive carrying capacity of the study area was computed by taking the difference of assimilative carrying capacity of the area & total estimated load of PM_{10} in the study area.

The carrying capacity assessment of ambient air environment, of study area as estimated by the Joint Committee based on the available data of ambient air quality monitored in the study area for the predominant air quality parameter i.e. PM_{10} on day of operation of Hot Mix Plants, is as follows:

Particulars	***Village- Wazidpur, Noida***
Study Area (km^2)	***2.25***
Mixing height (km)	***0.550***
Volume of air in the study area (km^3)	***1.24***
PM_{10} (µg/m3)	***247***
Total Estimated load of particulate matter in ambient air in the study area in a study period (kg)	***306***
Assimilative Carrying Capacity (kg)	***124***
Supportive Carrying Capacity(kg)	***-182***

The carrying capacity assessment of ambient air environment on day of non-operation of Hot mix Plants in study area, is as follows:

Particulars	***Village- Wazidpur, Noida***
Study Area (km2)	*2.25*
Mixing height (km)	*0.657*
Volume of air in the study area km3	*1.48*
PM_{10} (µg/m3)	*185*
Total Estimated load of particulate matter in ambient air in the study area in a study period (kg)	*274*
Assimilative Carrying Capacity (kg)	*148*
Supportive Carrying Capacity (kg)	***-126***

It may be concluded from the above table, as such ***there is no supportive capacity available in the ambient air environment with reference to P1`4$_{10}$, in the study area irrespective of operation of hot mix plants. There is about 30% reduction in supportive carrying capacity when hot mix plants are not in operation. It may require source apportionment study considering the different polluting activities in the study area to assess the contribution of individual activities to propose production limits as one of the preventive measures, so as to keep the ambient air environment within assimilative capacity.***

2.3.5 Source Emission Monitoring

A UPPCB team visited the site on 08/06/2021, 09/06/2021 and 19/06/2021 for source emission monitoring of one, three and one hot mix

plant which were found operational on aforesaid dates, respectively. Source emission monitoring and the results are summarized below:

S. No.	Name & Address of the hot mix plants	Date of monitoring	Stack Height (in m)	Cross Sectional Area of Stack (in m^2)	Average velocity (in m/s)	Average flow in m^3/s)	Concentration of pollutants (in mg/Nm^3)	Pollution load (in kg/day)
1.	M/s Yash Technobuild Pvt LW, Village-Wazidpur, Yamuna Pusta, Noida	08/06/2021	14 (approx)	0.07	5.58 •	0.39	PM- 127 SO_2 — 144 NO_2- 91	PM- 4.28 $S0_2$ — 4.85 NO_2- 3.07
2.	M/s JRD Infratech Pvt Ltd, Village-Nagli Wazidpur, Sector-135, Noida	09/06/2021	14 (approx)	0.07	15.38	1.08	PM- 144 SO_2 — 170 NO_2- 111	PM- 13.44 SO_2 — 15.86 NO_2- 10.36
3.	M/s PMH Roadtech Pvt Ltd, Village-Nagli Wazidpur, Sector-135, Noida	09/06/2021	14 (approx)	0.07	9.44	0.66	PM- 141 $S0_2$— 181 NO_2- 107	PM- 8.04 SO_2 — 10.32 NO_2- 6.10
4.	M/s MYC Infra Pvt Ltd, Village- Nagli Wazidpur, Sector-135, Noida	09/06/2021	14 (approx)	0.07	4.16	0.29	PM- 143 SO_2 — 162 NO_2- 92	PM- 3.58 $S0_2$— 4.06 NO_2- 2.30
5.	M/s Balaji Construction Village-Wazidpur, Sector-135, Noida	19/06/2021	11 (approx)	0.28	3.86	1.08	PM- 173 SO_2 - 181 NO_2- 113	PM- 16.14 50_2- 16.89 NO_2- 10.54

An evaluation of the source emission monitoring of 05 hot mix plants indicated that individual hot mix plant are having PM, SO_2 and NO_2 concentration in between 127 to 173, 144 to 181 and 91 to 113 mg/m^3, respectively. The average pollution load calculated in the study area with respect to PM, SO_2 and NO_2 are 9.10, 10.40 and 6.47 Kg/day, respectively.

2.3.6 DETAILS OF SITING OF HOT MIX PLANT CLUSTER:

A site visit by the joint committee on 04/06/2021 and following are observed with respect to siting of hot mix plants:

i. All these 08 hot mix plants situated in the form of a cluster at Village Wazidpur, Sector-135, Noida and out of which 06 number of hot mix plants were reopened/operate after joint inspection and

recommendation of New Okhla Industrial Development Authority Noida, UPPCB etc. in compliance of the orders passed by Hon'ble NGT New Delhi. Rest 02 hot mix plants (M/s Saroj Construction Co. Village-Nagli Wazidpur, Sector-135, Noida and M/s S.R. Construction Village-Nagli Wazidpur, Sector-135, Noida) which are closed are under consideration in Honible NGT New Delhi in, O.A. 618/2016 as I.A. No. 399/2019 and I.A. No. 19/2019 respectively.

ii. ***Hot mix plant is situated at a minimum distance of***

a. ***140 meters (approx.) from residential dwelling (Sector-130, Noida)***
b. ***1.9 KMs (approx.) from Yamuna river***
c. ***1.3 KMs (approx.) from Noida Greater Noida expressway***
d. ***2.1 KMs (approx.) from Felix hospital, Sector-137, Noida***

iii. The inter-se distance between two hot mix plants were found minimum 150 meters (approx.)

A map showing location of all 8 hot mix plants are given.

3.0 RECOMMENDATIONS:

It is to mention that this cluster of hot mix plants is the only cluster supplying raw material for pot-hole free roads, re-surfacing of roads, black topping of earthen roads to the concerned govt. agencies involved in maintenance & development of the rural/urban infrastructure in Noida & Greater Noida. Total 06 hot mix plants are in operation under direction of Hon'ble NGT, New Delhi in the said matter and are under regular monitoring of SPCB.

i. ***Since, the carrying capacity of the study area is estimated to be negative and therefore, following actions are suggested to support & protect the air environment:***

a. ***No new hot mix plant may be allowed to establish & operate in the area including any expansion of the existing units.***
b. ***The supporting infrastructure such as road needs to be improved, development of green belts and provision of water sprinkling in in the hot mix plants in order to control the fugitive dust emission.***

ii. Siting criteria will be applicable for new establishment. Existing establishments should take appropriate environmental friendly practices. In future Hot mix plants shall be setup as per siting policy/guidelines. However, they may follow criteria as below:

a. ***It should be located in area wherever permissible and atleast 100 meters away from residential dwellings, health centres/hospitals & schools,***
b. ***Atleast 200 meters away from water spread area of major watercourses like Lake, canal and major drinking water sources,***

c. Away from flood plain area of River and areas having shallow groundwater

d. Atleast 50 meters of inter-se distance between two establishments (each establishment should provide 25 meters from each side) should be provided and developed green belt.

e. Carrying capacity of the area may be considered while allowing new hot mix plant.

iii. At present these plants are using diesel as a fuel, recommended installation of additional Alkali scrubber to minimize of SO_2 and NO_2 emission."

5. We have heard learned Counsel for UP State PCB and considered the matter in the light of law laid down by the Hon'ble Supreme Court and orders of this Tribunal on the subject.

6. Since the joint Committee which has given the report comprises of statutory regulators - CPCB and State PCB, who are entrusted with the control of air quality as per laid down norms under the provisions of the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986, even without issuing notice to the stone crushers, we have taken up the report for consideration to determine whether the said regulators need to take further action for compliance of the law on the point. The issue is *in rem* to balance, on the one hand the rights of general public to breathe fresh air on the principle of 'sustainable development' and on the other right of stone crushers generally to operate in area which has no carrying capacity in terms of ambient air so that activity of hot mix plants does not cause damage to public health in terms of deaths and diseases by inhaling toxic air. Individual actions which may have to be taken against the affected stone crushers by the statutory regulators, following due process. It is also made clear that the aggrieved stone crushers will also be at liberty to take their remedies against any such action as per law. Thus, in our view, under the provisions of Section 15 read with Section 20 of the NGT Act, the Tribunal can certainly require the

statutory regulators to perform their legal obligation to uphold the principle of 'Sustainable Development'.

7. Adverse health impact of polluted air quality has been noted inter-alia in judgement of Hon'ble Supreme Court in M.C. Mehta v. UOI[1], M.C. Mehta v. UOI[2], M.C. Mehta v. UOI[3] and K. Guruprasad Rao v. State of Karnataka[4] and order of this Tribunal dated 17.02.2021 in O.A. No. 1016/2019, *Utkarsh Panwar v. CPCB & Or*s. wherein the Tribunal directed stopping of all brick kilns in NCR beyond the assimilative carrying capacity in the air in NCR, till such brick kilns shift to PNG. Till shifting to PNG, it was directed that the brick kilns cannot operate except in limited number and only from March to June when assimilative air capacity permits such operations. The impact of air pollution on public health is noted in the order of the Hon'ble Supreme Court in Arjun Gopal & Ors. v. UOI & Ors.[5]:

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

[1] (1998) 9 SCC 149
[2] (2000) 7 SCC 422
[3] (2002) 4 SCC 378
[4] (2012) 12 SCC 736
[5] (2017) 1 SCC 412

8. In view of acknowledged adverse health effects and extent of carrying capacity to sustain the polluting activity of the hot mix plants, the question is further course of action to be adopted.

9. In Arjun Gopal & Ors. v. UOI & Ors.[6], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was placed in an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> ***"****4. The onset of winter and the festival/ marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m³, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m³ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m³ and with an annual average $PM_{2.5}$ level of 122 µg/m³, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> ***5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information***

[6] (2017) 1 SCC 412

Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:

Tables 1 and 2 have already been reproduced in para 1 above and are not being repeated.

xxx.....xxx xxx
xxx.....xxx xxx

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian

Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

10. The precautionary principle has been elaborated in A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] as under:

“31. The “uncertainty” of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum v. Union of India [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] a three-Judge Bench of this Court referred to these changes, to the “precautionary principle” and the new concept of “burden of proof” in environmental matters. Kuldip Singh, J. after referring to the principles evolved in various international conferences and to the concept of “sustainable development”, stated that the precautionary principle, the polluter pays principle and the special concept of onus of proof have now emerged and govern the law in our country too, as

is clear from Articles 47, 48-A and 51-A(g) of our Constitution and that, in fact, in the various environmental statutes, such as the Water Act, 1974 and other statutes, including the Environment (Protection) Act, 1986, these concepts are already implied. The learned Judge declared that these principles have now become part of our law. The relevant observations in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] in this behalf read as follows: (SCC p. 660, para 14)

'14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.'

The Court observed that even otherwise, the abovesaid principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law. In fact, on the facts of the case before this Court, it was directed that the authority to be appointed under Section 3(3) of the Environment (Protection) Act, 1986

'shall implement the "precautionary principle" and the "polluter pays principle"'.

The learned Judges also observed that the new concept which places the burden of proof on the developer or industrialist who is proposing to alter the status quo, has also become part of our environmental law.

32. The Vellore [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] judgment has referred to these principles briefly but, in our view, it is necessary to explain their meaning in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them.

33. ***A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the "assimilative capacity" rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers with the information and means necessary to avoid encroaching upon the capacity of the environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the "precautionary principle",*** *and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:*

'Principle 15.—In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.'

34. In regard to the cause for the emergence of this principle, Charmian Barton, in the article earlier referred to in "The Status of the

Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] says:

'There is nothing to prevent decision-makers from assessing the record and concluding that there is inadequate information on which to reach a determination. If it is not possible to make a decision with "some" confidence, ***then it makes sense to err on the side of caution and prevent activities that may cause serious or irreversible harm****. An informed decision can be made at a later stage when additional data is available or resources permit further research. To ensure that greater caution is taken in environmental management, implementation of the principle through judicial and legislative means is necessary.'*

In other words, the inadequacies of science is the real basis that has led to the precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible.

35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the international customary law, 'the consequences of its application in any potential situation will be influenced by the circumstances of each case'. (See First Report of Dr. Sreenivasa Rao Pemmaraju — Special Rapporteur, International Law Commission dated 3-4-1998, paras 61 to 72.)"

(emphasis in original)

"36. We shall next elaborate the new concept of burden of proof referred to in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] at p. 658. In that case, Kuldip Singh, J. stated as follows: (SCC p. 658, para 11)

'(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.'

37. It is to be noticed that while the inadequacies of science have led to the "precautionary principle", the said "precautionary principle" in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, — is placed on those who want to change the status quo (Wynne, "Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm" [(1992) 2 Global Environmental Change 111 at p. 123]). This is often termed as a reversal of the burden of proof, because otherwise in environmental cases, those opposing the change would

be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the ***party attempting to preserve the status quo by maintaining a less polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden.*** *(See James M. Olson, "Shifting the Burden of Proof: How the Common Law can Safeguard Nature and Promote an Earth Ethic" [(1990) 20 Environmental Law 891 at p. 898] .) (Quoted in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] at pp. 519, 550.)*

38. The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. (See Report of Dr Sreenivasa Rao Pemmaraju, Special Rapporteur, International Law Commission, dated 3-4-1998, Para 61.)"

(emphasis in original)

11. In Vellore Citizens' Welfare Forum case, 1996) 5 SCC 647, the Hon'ble Supreme Court banned the tanneries when it was found that they were causing immense damage to the environment. Environment protection, which is a facet of Article 21, was given supremacy over the right to carry on business enshrined in Article 19(1)(g). Following the said principle, it has been held that protection of right to health will have to be given priority. Health hazards in the form of various diseases that are the direct result of air pollution are well known. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of $PM_{2.5}$ are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life. Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial.

12. It is well known that Carrying capacity is a facet of sustainable development. It is inherent in 'Precautionary Principle' as well as in 'Inter-generational Equity'. In MC Mehta v. UOI & Ors.[7], **construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity.** It was observed that:-

> ***"Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration."***

13. In Vellore Citizens' Welfare Forum v. UOI & Ors.[8], it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-

> ***"****10……. **During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems**. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.***"**

14. These observations are reiterated in (2006) 6 SCC 371.[9]

Tribunal's Approach to the subject

15. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the NGT Act and can issue appropriate directions for enforcement of these principles, as laid down in Mantri

[7] (1997) 3 SCC 715
[8] (1996) 5 SCC 647
[9] Para 66 to 76

Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[10] and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.[11] Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).[12]

16. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of* ***vehicular pollution[13], industrial and construction sector pollution[14], power sector pollution[15] and agricultural sector pollution[16]*** *and orders of this Tribunal dealing with the said issues[17]. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on*

[10] 2019 SCC online SC 322, Para 43-47
[11] AIR 2020 (SC) 3471, Para 75
[12] (2019) 15 SCC 401
[13] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60
[14] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213
[15] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539
[16] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594
[17] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

05.04.2017[18] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such ***as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[19]***

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[20]

5. ***The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.***

6. ***The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles****."*

7to13..xxx……xxxx……xxx

17. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. While under the orders of the Hon'ble Supreme

[18] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

[19] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[20] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

Court, GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation.

18. We may also refer to direction issued by the CPCB on 27.11.2020 under Section 18 (1) (b) of the Air (Prevention & Control of Pollution) Act, 1981 for upcoming industrial units in NCR **to use only gas** and also refers to an earlier order requiring even the existing industries in NCR Delhi, **to shift to PNG by 31.03.2019 where gas supply is available**. The relevant part of the order is quoted below:-

> *"xx xx xx xx*
>
> *Whereas, considering the Considering deteriorating air quality in NCR-Delhi and also the fact that* ***already directions have been issued to all the existing industries in NCR-Delhi to switch over to cleaner fuels, it is decided that only those new industrial units shall be allowed to set-up in NCR-Delhi, which use cleaner fuels namely, natural gas (PNG/CNG), liquefied petroleum gas, bio gas, propane, butane etc. and***
>
> ***Now therefore, in view of the above and exercising the powers conferred under section 8(1)(b) of Air (Prevention and Control of Pollution) Act, 1981, you are hereby directed to allow only those new industrial units in NCR-Delhi, which are using cleaner fuels, namely, natural gas (PNG/CNG), liquefied petroleum gas, bio-gas, propane, butane etc."***

19. Having regard to the above considerations, the Tribunal has passed recent orders to deal with situation arising out of air pollution caused by brick kilns in the NCR and also in the Mathura District. Order with regard to brick kilns dated 17.02.2021 in *O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors.,* which has already been referred to in the earlier order dated 24.02.2021 wherein the Tribunal directed that the brick kilns in the NCR be regulated in the light of the carrying capacity in the interest of public health unless improved technologies used which doesn't adversely affect the air quality. The Tribunal held that may be it

was a particular brick kiln maintained the standards was not enough if the air quality could not sustain such activities.

20. We may also refer to order of this Tribunal dated 01.12.2020 in O.A. No. 249/2020 whereby the Tribunal banned the fire crackers throughout India where air quality is poor and above in the interest of protection of public health. **Extract from order dated 1.12.2020 in OA 249/2020 is reproduced below:**

> ***"18. .....If the air quality is 'poor' and above, it has been held by the Hon'ble Supreme Court in the table quoted in para 4 above that there is danger of heart diseases, respiratory illness and other serious health impact*** *even before Covid. Covid is going to further aggravate the situation and therefore atleast in areas where air quality is 'poor' and above, no bursting of fire crackers should be permitted in view of 'Precautionary' principle, to be statutorily enforced by this Tribunal under Section 20 read with section 15 of the National Green Tribunal Act, 2010.*
>
> *32. .....In view of above discussion, following directions are issued:*
>
> *i. There will be total ban on sale and use of all kinds of fire crackers during Covid-19 pandemic in the NCR and all cities/towns in the country* ***where the ambient air quality falls under the 'poor' and above category****.*
>
> *v. We further direct that the Air Quality Monitoring Committees (AQMC) in terms of order of this Tribunal dated 08.10.2018 in OA No. 681/2018[21] to coordinate with the District Magistrates.[22] for compliance of the above directions."*

21. This Tribunal, vide order dated 17.02.2021 in OA 1016/2019, *Utkarsh Panwar v. Central Pollution Control Board & Ors.,* considered the

---

[21] The said order is as follows:

"15. xxx xxx xxx

i. xxx xxx xxx

ii. The Action Plans may be prepared by six-member committee comprising of **Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State**. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination."

[22] The District Environment Committee has been directed to be constituted by this Tribunal to prepare and execute District Environment Plan vide order dated 15.07.2019 in OA No. 710/2017, Shailesh Singh vs. Sheela Hospital & Trauma Centre, Shahjanhanpur & Ors.

issue of permissibility of brick kilns beyond the assimilative carrying capacity in the NCR and in the light of the Expert Committee report. This Tribunal directed that brick kilns be allowed to operate only from March to June using Zig-zag technology only to the extent of such number of brick kilns as were found to be viable in terms of the carrying capacity.

22. In recent order dated 12.08.2021 in *O.A. No. 93/2021, Mukesh Kumar Aggarwal v. Central Pollution Control Board & Anr.,* in the context of brick kilns in Mathura District, the Tribunal held:

> ***"13. Applying the same principles, we are of the view that the brick kilns ought to be permitted to the extent of carrying capacity, correctly calculated, strictly as per consent conditions, siting criteria and other environment norms. When air quality standards are exceeded, only non polluting technology has to be followed. Existing guidelines have to be strictly adhered to. Precautionary principle has to be applied and non compliant activity stopped.***
>
> *14&15…xxx……xxx……xxx*
>
> *16. In view of earlier orders quoted above and discussion in paras 10 to 12, we are of the view that steps need to be forthwith taken to stop operation of brick kilns already found to be operating in violation of environmental norms till compliance by the State PCB in exercise of its statutory power, following due process of law, till compliance. This will include brick kilns not following consent conditions, operating in excess of carrying capacity, CPCB guidelines and orders of this Tribunal, and those violating siting guidelines. Necessary action be ensured within two months. At the same time, there is need for further study of carrying capacity, applying correct data and norms. Air quality monitoring equipments be installed in the concerned area and if online monitoring stations cannot be set up, easily available equipments be used to continuously monitor air quality. Stringent monitoring mechanism be put in place. Process of mechanically giving consents be reviewed by the State PCB in view of binding 'precautionary' principle. Public health needs to be given due preference to the need for establishment of brick kilns. Violators be strictly proceeded against by way of prosecution, recovery of compensation and preventing pollution. While determining carrying capacity, other sources contributing pollution loads may be factored in while considering concentrations of PM_{10} in microgram per cubic metre in addition to loads given in kgs. Further, mixing heights data may be referred from the nearest location of IMD station. It is also necessary to clarify reasons of high CEPI score (91.1) particularly for Air and remedial action plan."*

23. In view of above discussions, we are of the opinion that in view of the report in the present matter that the carrying capacity in the area is negative i.e. the air norms are not being met, while benign activity not adding to the pollution can be allowed, polluting activity can be allowed only by ensuring that it does not add to the air pollution, by taking such stringent measures as may achieve desired result and may not adversely affect public health. Such measures may be use of appropriate technology, mitigation measures like dense forest shelter belts etc.

24. 'Sustainable Development' principle requires that the business activity should not compromise public health. This requires study of carrying capacity. In the present case, such capacity has been determined, though data considered is only of the month of June when air quality is comparatively better, compared to the winter months. Carrying capacity has not been assessed with reference to the average air quality for air quality of the months when air quality is comparatively inferior. The hot mix plants may operate even in winter, which are fast approaching. There is no justification in law for the recommendations that only new hot mix plants may not be allowed and the old hot mix plants may continue even at the cost of public health. Further, there is also no justification for the recommendation that the laid down siting criteria should apply only to new establishments. Already set up hot mix plants need not follow such criteria even if it results in damage to the public health and the environment. While the report with regard to the study can be considered for further action, the recommendations which are not in accordance with the environmental law cannot be accepted.

25. While we have no option except to enforce the environmental norms and stop hot mix plants not sustainable due to lack of carrying capacity,

we are mindful of difficulty which will arise not only for the operators of such plants but also those who need such services. While GRAP is already operative which results in closure of certain polluting activities on deterioration of air quality, to maintain air standards further restrictions on polluting activities are necessary in the interest of public health. At the same time, ways and means need to be explored to sustain such activities to the extent possible without adversely affecting the public health. Since PM concentrations in the Central Indian/Indo- Gangetic Plains are higher compared to Southern and East and North-Eastern parts of the country, to maintain regional balance in Developmental and industrial activities throughout the country and to support economy as well as the need of public, it is necessary that better technological options and advanced air pollution abatement measures are explored which enable sustainability of such activities. For this purpose, we constitute a seven member joint Committee which will have statutory authorities and subject matter experts to look into the issue and to give science-based expert report. The Committee will comprise MoEF & CC, CPCB, State PCB, District Magistrate, Prof. Mukesh Khare, IIT Delhi, Prof. Mukesh Sharma, IIT Kanpur and Prof. Shiva Nagendran, IIT Chennai. Proceedings may be steered by the Member Secretary, CPCB. The Committee may adopt any other expert Institutions or individuals of repute. It may give its report in three months. Pending this report, UP PCB not to allow non- compliant hot mix plants in terms of GRAP and the present carrying capacity study report.

26. Thus, we direct as follows:-

i. The hot mix plants beyond carrying capacity may be closed at the earliest and as far as possible from 01.11.2021 by the statutory

regulators in exercise of their jurisdiction under the Air Act, 1981 and the EP Act, 1986. In other words, no hot mix plant – old or new may be allowed beyond carrying capacity and without compliance of the laid down siting norms from 01.11.2021.

ii. A joint Committee comprising MoEF & CC, CPCB, State PCB, District Magistrate, Prof Mukesh Khare, IIT Delhi, Prof Mukesh Sharma, IIT Kanpur and Prof Shiva Nagendran, IIT Chennai may give a report in terms of para 25 above within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.

List for further consideration on receipt of the report.

A copy of this order be forwarded to MoEF & CC and CPCB, State PCB the District Magistrate, Gautam Budh Nagar, UP, Prof Mukesh Khare, IIT Delhi, Prof Mukesh Sharma, IIT Kanpur, Prof Shiva Nagendran, IIT Chennai, by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

September 09, 2021
Original Application No. 19/2021
(Earlier O.A.No.618/2016)
SN

Item No. 03 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(BY VIDEO CONFERENCING)

Original Application No. 19/2021
(Earlier O.A.No.618/2016)

Sanjay Kumar Applicant

Versus

State of UP & Ors. Respondent(s)

Date of hearing: 27.03.2023

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondent: Mr. Pradeep Misra & Mr. Daleep Dhyani, Advocates for UPPCB

ORDER

1. The issue for consideration is permissibility of operation of hot mix plants at Noida beyond 'carrying capacity' of the ambient air of the area as per assessment of the statutory regulators – the CPCB and the State PCB, thereby adversely affecting the environment and the public health.

2. The matter was considered by the Tribunal earlier, more than six years back, vide order dated 23.11.2016 in O.A. No. 618/2016. Considering the status of compliance and adverse impact on air quality, the Tribunal directed sealing of all the hot mix plants. As a result, many hot mix plants shifted elsewhere. Vide order dated 20.11.2019, the Tribunal directed that the remaining may remain sealed till compliance of norms. The State PCB was directed to file status report which was to be

registered as a fresh OA. Accordingly, on report dated 4.12.2020 being filed by the State PCB, the office registered the present O.A. which was considered on 24.02.2021.

3. The Tribunal held that the report does not consider the issue of carrying capacity of the area to sustain activities like hot mix plants and the siting criteria, including the inter-se distance followed so as not to violate the right of the citizens in the area to breathe fresh air. The Tribunal accordingly directed consideration of these aspects by a Joint Committee of CPCB and State PCB and to furnish a report to this Tribunal. The operative part of the order is reproduced below:

> *"3. We have considered the above report* ***which has not addressed the issue of carrying capacity of the area to sustain activities like hot mix plants and the siting criteria, including the inter-se distance followed so as not to violate the right of the citizens in the area to breathe fresh air. This observation is in the context of air quality in NCR which led to restrict activities with pollution potential. In this regard reference is made to the order dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., requiring regulation of brick kilns in the NCR in the light of the carrying capacity, till they are fired by coal generating air pollution. Question of use of cleaner fuel may require consideration in the context of hot mix plants also.***
>
> *4.* ***Let a joint Committee of the CPCB and the State PCB look into the above aspects to determine whether and to what extent and subject to what safeguards hot mix plants can be sustained following the "Sustainable Development" and "Precautionary" principles, in the interest of public health.*** *The State PCB will be nodal agency for coordination and compliance. The report be furnished to the Tribunal by 30.04.2021 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."*

4. The matter was further considered on 09.09.2021 in light of report of the joint Committee dated 22.06.2021 to the effect that supporting carrying capacity to sustain the hot mix plants in the study area was in the negative. It was ,however, suggested that in view of dependence of construction activities on hot mix plant, the existing plants be continued

subject to compliance of siting criteria. The recommendations in the report were as follows:-

> ***"3.0 RECOMMENDATIONS:***
>
> *It is to mention that this cluster of hot mix plants is the only cluster supplying raw material for pot-hole free roads, re-surfacing of roads, black topping of earthen roads to the concerned govt. agencies involved in maintenance & development of the rural/urban infrastructure in Noida & Greater Noida. Total 06 hot mix plants are in operation under direction of Hon'ble NGT, New Delhi in the said matter and are under regular monitoring of SPCB.*
>
> *i.* ***Since, the carrying capacity of the study area is estimated to be negative and therefore, following actions are suggested to support & protect the air environment:***
>
> - ***a. No new hot mix plant may be allowed to establish & operate in the area including any expansion of the existing units.***
> - ***b. The supporting infrastructure such as road needs to be improved, development of green belts and provision of water sprinkling in in the hot mix plants in order to control the fugitive dust emission.***
>
> ***ii. Siting criteria will be applicable for new establishment. Existing establishments should take appropriate environmental friendly practices. In future Hot mix plants shall be setup as per siting policy/guidelines. However, they may follow criteria as below:***
>
> - ***a. It should be located in area wherever permissible and atleast 100 meters away from residential dwellings, health centres/hospitals & schools,***
> - ***b. Atleast 200 meters away from water spread area of major watercourses like Lake, canal and major drinking water sources,***
> - ***c. Away from flood plain area of River and areas having shallow groundwater***
> - ***d. Atleast 50 meters of inter-se distance between two establishments (each establishment should provide 25 meters from each side) should be provided and developed green belt.***
> - ***e. Carrying capacity of the area may be considered while allowing new hot mix plant.***
>
> ***i. At present these plants are using diesel as a fuel, recommended installation of additional Alkali scrubber to minimize of SO_2 and NO_2 emission."***

5. Considering the above, the Tribunal held that in the interest of environment and public health and compliance of law laid down by the Hon'ble Supreme Court and earlier orders of this Tribunal, polluting

activities could not be allowed and even hot mix plants already set up could not be allowed to continue against the laid down siting criteria. With regard to the difficulty on account of closure of such activities, the Tribunal directed that available technological options be considered for which a seven Member joint Committee was constituted. The operative part of the order is reproduced below:-

> *"7. Adverse health impact of polluted air quality has been noted inter-alia in judgement of Hon'ble Supreme Court in M.C. Mehta v. UOI[1], M.C. Mehta v. UOI[2], M.C. Mehta v. UOI[3] and K. Guruprasad Rao v. State of Karnataka[4] and order of this Tribunal dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. CPCB & Ors. wherein the Tribunal directed stopping of all brick kilns in NCR beyond the assimilative carrying capacity in the air in NCR, till such brick kilns shift to PNG. Till shifting to PNG, it was directed that the brick kilns cannot operate except in limited number and only from March to June when assimilative air capacity permits such operations. The impact of air pollution on public health is noted in the order of the Hon'ble Supreme Court in Arjun Gopal & Ors. v. UOI & Ors.[5]:*

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

> *8. In view of acknowledged adverse health effects and extent of carrying capacity to sustain the polluting activity of the hot mix plants, the question is further course of action to be adopted.*

---

[1] (1998) 9 SCC 149
[2] (2000) 7 SCC 422
[3] (2002) 4 SCC 378
[4] (2012) 12 SCC 736
[5] (2017) 1 SCC 412

9. In Arjun Gopal & Ors. v. UOI & Ors.[6], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was placed in an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> *"4. The onset of winter and the festival/marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 $\mu g/m^3$, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 $\mu g/m^3$ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 $\mu g/m^3$ and with an annual average $PM_{2.5}$ level of 122 $\mu g/m^3$, Delhi's air is the worst among global megacities with dense populations. We have particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.***
>
> ***5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:***
>
> Tables 1 and 2 have already been reproduced in para 1 above and are not being repeated.
>
> ***xxx.....xxx .....xxx***

[6] (2017) 1 SCC 412

xxx.....xxx xxx

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks has spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues

like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

10. The precautionary principle has been elaborated in A.P. Pollution Control Board case [A.P. Pollution Control Board v. M.V. Nayudu, (1999) 2 SCC 718] as under:

“31. The “uncertainty” of scientific proof and its changing frontiers from time to time has led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. In Vellore Citizens' Welfare Forum v. Union of India [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] a three-Judge Bench of this Court referred to these changes, to the “precautionary principle” and the new concept of “burden of proof” in environmental matters. Kuldip Singh, J. after referring to the principles evolved in various international conferences and to the concept of “sustainable development”, stated that the precautionary principle, the polluter pays principle and the special concept of onus of proof have now emerged and govern the law in our country too, as is clear from Articles 47, 48-A and 51-A(g) of our Constitution and that, in fact, in the various environmental statutes, such as the Water Act, 1974 and other statutes, including the Environment (Protection) Act, 1986, these concepts are already implied. The learned Judge declared that these principles have now become part of our law. The relevant observations in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] in this behalf read as follows: (SCC p. 660, para 14)

‘14. In view of the abovementioned constitutional and statutory provisions we have no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country.’

The Court observed that even otherwise, the abovesaid principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law. In fact, on the facts of the case before this Court, it

was directed that the authority to be appointed under Section 3(3) of the Environment (Protection) Act, 1986

'shall implement the "precautionary principle" and the "polluter pays principle"'.

The learned Judges also observed that the new concept which places the burden of proof on the developer or industrialist who is proposing to alter the status quo, has also become part of our environmental law.

32. The Vellore [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] judgment has referred to these principles briefly but, in our view, it is necessary to explain their meaning in more detail, so that courts and tribunals or environmental authorities can properly apply the said principles in the matters which come before them.

33. ***A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the "assimilative capacity" rule as revealed from Principle 6 of the Stockholm Declaration of the U.N. Conference on Human Environment, 1972. The said principle assumed that science could provide policy-makers with the information and means necessary to avoid encroaching upon the capacity of the environment to assimilate impacts and it presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the "precautionary principle",*** *and this was reiterated in the Rio Conference of 1992 in its Principle 15 which reads as follows:*

'Principle 15.—In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing cost-effective measures to prevent environmental degradation.'

34. In regard to the cause for the emergence of this principle, Charmian Barton, in the article earlier referred to in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] says:

'There is nothing to prevent decision-makers from assessing the record and concluding that there is inadequate information on which to reach a determination. If it is not possible to make a decision with "some" confidence, ***then it makes sense to err on the side of caution and prevent activities that may cause serious or irreversible harm****. An informed decision can be made at a later stage when additional data is available or resources permit further research. To ensure that greater caution is taken in environmental management, implementation of the principle through judicial and legislative means is necessary.'*

In other words, the inadequacies of science is the real basis that has led to the precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible.

35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential. The precautionary principle was recommended by the UNEP Governing Council (1989). The Bomako Convention also lowered the threshold at which scientific evidence might require action by not referring to "serious" or "irreversible" as adjectives qualifying harm. However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still "evolving" for though it is accepted as part of the international customary law, 'the consequences of its application in any potential situation will be influenced by the circumstances of each case'. (See First Report of Dr. Sreenivasa Rao Pemmaraju — Special Rapporteur, International Law Commission dated 3-4-1998, paras 61 to 72.)"

(emphasis in original)

"36. We shall next elaborate the new concept of burden of proof referred to in Vellore case [Vellore Citizens' Welfare Forum v. Union of India, (1996) 5 SCC 647] at p. 658. In that case, Kuldip Singh, J. stated as follows: (SCC p. 658, para 11)
'(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.'

37. It is to be noticed that while the inadequacies of science have led to the "precautionary principle", the said "precautionary principle" in its turn, has led to the special principle of burden of proof in environmental cases where burden as to the absence of injurious effect of the actions proposed, — is placed on those who want to change the status quo (Wynne, "Uncertainty and Environmental Learning: Reconceiving Science and Policy in the Preventive Paradigm" [(1992) 2 Global Environmental Change 111 at p. 123]). This is often termed as a reversal of the burden of proof, because otherwise in environmental cases, those opposing the change would be compelled to shoulder the evidentiary burden, a procedure which is not fair. Therefore, it is necessary that the ***party attempting to preserve the status quo by maintaining a less polluted state should not carry the burden of proof and the party who wants to alter it, must bear this burden.*** *(See James M. Olson, "Shifting the Burden of Proof: How the Common Law can Safeguard Nature and Promote an Earth Ethic" [(1990) 20 Environmental Law 891 at p. 898] .) (Quoted in "The Status of the Precautionary Principle in Australia" [(1998) 22 Harvard Environmental Law Review 509 at p. 547] at pp. 519, 550.)*

38. The precautionary principle suggests that where there is an identifiable risk of serious or irreversible harm, including, for example, extinction of species, widespread toxic pollution in major threats to essential ecological processes, it may be appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment. (See Report of

Dr Sreenivasa Rao Pemmaraju, Special Rapporteur, International Law Commission, dated 3-4-1998, Para 61.)"

(emphasis in original)

11. In Vellore Citizens' Welfare Forum case, 1996) 5 SCC 647, the Hon'ble Supreme Court banned the tanneries when it was found that they were causing immense damage to the environment. Environment protection, which is a facet of Article 21, was given supremacy over the right to carry on business enshrined in Article 19(1)(g). Following the said principle, it has been held that protection of right to health will have to be given priority. Health hazards in the form of various diseases that are the direct result of air pollution are well known. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of $PM_{2.5}$ are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life. Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial.

12. It is well known that Carrying capacity is a facet of sustainable development. It is inherent in 'Precautionary Principle' as well as in 'Inter-generational Equity'. In MC Mehta v. UOI & Ors.[7]*,* ***construction activity in the catchment area of Badkhal were directed to be restricted/regulated to the level of Carrying capacity.*** *It was observed that:-*

> ***"Preventive measures have to be taken keeping in view of the carrying capacity of the ecosystem operating in the environmental surroundings under consideration."***

13. In Vellore Citizens' Welfare Forum v. UOI & Ors.[8]*, it was observed that quality of human life is to be improved within the carrying capacity to supporting ecosystem. Relevant extract is as follows:-*

> ***"****10……* ***During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems****. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.****"***

14. These observations are reiterated in (2006) 6 SCC 371.[9]

[7] (1997) 3 SCC 715
[8] (1996) 5 SCC 647
[9] Para 66 to 76

Tribunal's Approach to the subject

15. The Tribunal has a mandate to follow these principles under Section 20 read with Section 15 of the NGT Act and can issue appropriate directions for enforcement of these principles, as laid down in Mantri Techzone Pvt. Ltd. v. Forward Foundation and Ors.,[10] *and the Director General (Road Development) NHAI v. Aam Aadmi Lok Manch.*[11] *Environmental rule of law requires strict enforcement of these principles as laid down in Hanuman Laxman Aroskar v. UOI).*[12]

16. This Tribunal in O.A. No. 681/2018, vide order dated 21.08.2020, dealt with the remedial measures for restoration of air quality in 122 Non-attainment cities, including Delhi where air quality is generally beyond norms. The Tribunal directed stopping polluting activities, including brick kilns and assessment of carrying capacity of urban areas to take policy decisions to control polluting potential activities beyond carrying capacity. The Tribunal observed:-

> *"3. The Tribunal noted the concern arising from such large scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon'ble Supreme Court for control of* ***vehicular pollution***[13]***, industrial and construction sector pollution***[14]***, power sector pollution***[15] ***and agricultural sector pollution***[16] *and orders of this Tribunal dealing with the said issues*[17]*. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017*[18] *and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such* ***as improvement in emission and fuel quality and other measures***

---

[10] 2019 SCC online SC 322, Para 43-47

[11] AIR 2020 (SC) 3471, Para 75

[12] (2019) 15 SCC 401

[13] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[14] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[15] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[16] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[17] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[18] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[19]

4. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[20]

5. ***The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc.***

6. ***The MoEF&CC has by various notifications put restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas. This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles****."*

7to13..xxx……xxxx……xxx

17. Dealing with the issue of air pollution in manufacture of tiles at Morbi in Gujrat, vide order dated 6.3.2019 OA 20/17 Babubhai v GPCB, this Tribunal directed closure of industries operating with coal unless they shifted to natural gas. While under the orders of the Hon'ble Supreme Court, GRAP was laid down providing for closing of specified activities on crossing of air quality norms as laid down in the GRAP, the same did not debar consideration of further situations requiring closure/regulation.

18. We may also refer to direction issued by the CPCB on 27.11.2020 under Section 18 (1) (b) of the Air (Prevention & Control of Pollution) Act, 1981 for upcoming industrial units in NCR ***to use only gas*** *and also refers to an earlier order requiring even the existing industries in NCR Delhi,* ***to shift to PNG by 31.03.2019 where gas supply is available****. The relevant part of the order is quoted below:-*

---

[19] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

[20] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

"xx xx xx xx

Whereas, considering the Considering deteriorating air quality in NCR-Delhi and also the fact that ***already directions have been issued to all the existing industries in NCR-Delhi to switch over to cleaner fuels, it is decided that only those new industrial units shall be allowed to set-up in NCR-Delhi, which use cleaner fuels namely, natural gas (PNG/CNG), liquefied petroleum gas, bio gas, propane, butane etc. and***

Now therefore, in view of the above and exercising the powers conferred under section 8(1)(b) of Air (Prevention and Control of Pollution) Act, 1981, you are hereby directed to allow only those new industrial units in NCR-Delhi, which are using cleaner fuels, namely, natural gas (PNG/CNG), liquefied petroleum gas, bio-gas, propane, butane etc."

19. Having regard to the above considerations, the Tribunal has passed recent orders to deal with situation arising out of air pollution caused by brick kilns in the NCR and also in the Mathura District. Order with regard to brick kilns dated 17.02.2021 in O.A. No. 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., which has already been referred to in the earlier order dated 24.02.2021 wherein the Tribunal directed that the brick kilns in the NCR be regulated in the light of the carrying capacity in the interest of public health unless improved technologies used which doesn't adversely affect the air quality. The Tribunal held that may be it was a particular brick kiln maintained the standards was not enough if the air quality could not sustain such activities.

20. We may also refer to order of this Tribunal dated 01.12.2020 in O.A. No. 249/2020 whereby the Tribunal banned the fire crackers throughout India where air quality is poor and above in the interest of protection of public health. ***Extract from order dated 1.12.2020 in OA 249/2020 is reproduced below:***

"18. .....If the air quality is 'poor' and above, it has been held by the Hon'ble Supreme Court in the table quoted in para 4 above that there is danger of heart diseases, respiratory illness and other serious health impact *even before Covid. Covid is going to further aggravate the situation and therefore atleast in areas where air quality is 'poor' and above, no bursting of fire crackers should be permitted in view of 'Precautionary' principle, to be statutorily enforced by this Tribunal under Section 20 read with section 15 of the National Green Tribunal Act, 2010.*

32. .....In view of above discussion, following directions are issued:

i. There will be total ban on sale and use of all kinds of fire crackers during Covid-19 pandemic in the NCR and all cities/towns in the country ***where the ambient air quality falls under the 'poor' and above category****.*

v. We further direct that the Air Quality Monitoring Committees (AQMC) in terms of order of this Tribunal dated

08.10.2018 in OA No. 681/2018[21] to coordinate with the District Magistrates.[22] for compliance of the above directions."

21. This Tribunal, vide order dated 17.02.2021 in OA 1016/2019, Utkarsh Panwar v. Central Pollution Control Board & Ors., considered the issue of permissibility of brick kilns beyond the assimilative carrying capacity in the NCR and in the light of the Expert Committee report. This Tribunal directed that brick kilns be allowed to operate only from March to June using Zig-zag technology only to the extent of such number of brick kilns as were found to be viable in terms of the carrying capacity.

22. In recent order dated 12.08.2021 in O.A. No. 93/2021, Mukesh Kumar Aggarwal v. Central Pollution Control Board & Anr., in the context of brick kilns in Mathura District, the Tribunal held:

"13. Applying the same principles, we are of the view that the brick kilns ought to be permitted to the extent of carrying capacity, correctly calculated, strictly as per consent conditions, siting criteria and other environment norms. When air quality standards are exceeded, only non polluting technology has to be followed. Existing guidelines have to be strictly adhered to. Precautionary principle has to be applied and non compliant activity stopped.

14&15…xxx……xxx……xxx
16. In view of earlier orders quoted above and discussion in paras 10 to 12, we are of the view that steps need to be forthwith taken to stop operation of brick kilns already found to be operating in violation of environmental norms till compliance by the State PCB in exercise of its statutory power, following due process of law, till compliance. This will include brick kilns not following consent conditions, operating in excess of carrying capacity, CPCB guidelines and orders of this Tribunal, and those violating siting guidelines. Necessary action be ensured within two months. At the same time, there is need for further study of carrying capacity, applying correct data and norms. Air quality monitoring equipments be installed in the concerned area and if online monitoring stations cannot be set up, easily available equipments be used to continuously monitor air quality. Stringent monitoring mechanism be put in place. Process of mechanically giving consents be reviewed by the State PCB in view of binding 'precautionary' principle. Public health needs to be given

[21] The said order is as follows:

"15. xxx xxx xxx
i. xxx xxx xxx
ii. The Action Plans may be prepared by six-member committee comprising of **Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State**. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination."

[22] The District Environment Committee has been directed to be constituted by this Tribunal to prepare and execute District Environment Plan vide order dated 15.07.2019 in OA No. 710/2017, Shailesh Singh vs. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors.

due preference to the need for establishment of brick kilns. Violators be strictly proceeded against by way of prosecution, recovery of compensation and preventing pollution. While determining carrying capacity, other sources contributing pollution loads may be factored in while considering concentrations of PM_{10} in microgram per cubic metre in addition to loads given in kgs. Further, mixing heights data may be referred from the nearest location of IMD station. It is also necessary to clarify reasons of high CEPI score (91.1) particularly for Air and remedial action plan."

23. In view of above discussions, we are of the opinion that in view of the report in the present matter that the carrying capacity in the area is negative i.e. the air norms are not being met, while benign activity not adding to the pollution can be allowed, polluting activity can be allowed only by ensuring that it does not add to the air pollution, by taking such stringent measures as may achieve desired result and may not adversely affect public health. Such measures may be use of appropriate technology, mitigation measures like dense forest shelter belts etc.

24. 'Sustainable Development' principle requires that the business activity should not compromise public health. This requires study of carrying capacity. In the present case, such capacity has been determined, though data considered is only of the month of June when air quality is comparatively better, compared to the winter months. Carrying capacity has not been assessed with reference to the average air quality for air quality of the months when air quality is comparatively inferior. The hot mix plants may operate even in winter, which are fast approaching. There is no justification in law for the recommendations that only new hot mix plants may not be allowed and the old hot mix plants may continue even at the cost of public health. Further, there is also no justification for the recommendation that the laid down siting criteria should apply only to new establishments. Already set up hot mix plants need not follow such criteria even if it results in damage to the public health and the environment. While the report with regard to the study can be considered for further action, the recommendations which are not in accordance with the environmental law cannot be accepted.

25. While we have no option except to enforce the environmental norms and stop hot mix plants not sustainable due to lack of carrying capacity, we are mindful of difficulty which will arise not only for the operators of such plants but also those who need such services. While GRAP is already operative which results in closure of certain polluting activities on deterioration of air quality, to maintain air standards further restrictions on polluting activities are necessary in the interest of public health. At the same time, ways and means need to be explored to sustain such activities to the extent possible without adversely affecting the public health. Since PM concentrations in the Central Indian/ Indo-Gangetic Plains are higher compared to Southern and East and North-Eastern parts of the country, to maintain regional balance in Developmental and industrial activities throughout the country and to support economy as well as the need of public, it is necessary that better technological options and advanced air pollution abatement measures are explored which enable sustainability of such activities. For this purpose, we constitute a seven member joint Committee which

will have statutory authorities and subject matter experts to look into the issue and to give science-based expert report. The Committee will comprise MoEF & CC, CPCB, State PCB, District Magistrate, Prof. Mukesh Khare, IIT Delhi, Prof. Mukesh Sharma, IIT Kanpur and Prof. Shiva Nagendran, IIT Chennai. Proceedings may be steered by the Member Secretary, CPCB. The Committee may adopt any other expert Institutions or individuals of repute. It may give its report in three months. Pending this report, UP PCB not to allow non- compliant hot mix plants in terms of GRAP and the present carrying capacity study report.

26. Thus, we direct as follows:-

i. The hot mix plants beyond carrying capacity may be closed at the earliest and as far as possible from 01.11.2021 by the statutory regulators in exercise of their jurisdiction under the Air Act, 1981 and the EP Act, 1986. In other words, no hot mix plant – old or new may be allowed beyond carrying capacity and without compliance of the laid down siting norms from 01.11.2021.

ii. ***A joint Committee comprising MoEF & CC, CPCB, State PCB, District Magistrate, Prof Mukesh Khare, IIT Delhi, Prof Mukesh Sharma, IIT Kanpur and Prof Shiva Nagendran, IIT Chennai may give a report in terms of para 25 above within three months*** *by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF."*

6. In light of above, report dated 30.01.2023 has been filed. It is stated that in view of air pollution in Indo-Gangetic Plain (IGP), development activities can be only with advance technology and management interventions, particularly during October and November. Sector specific recommendations have also been made with regard to domestic, transport and industries sectors along with enforcement strategies.

Our analysis:

7. We have given anxious consideration to the matter. We see the point in the report that prevailing situation in IGP calls for interventions in controlling and regulating unsustainable activities which may deteriorate the situation and adversely affect public health. There is exceedance of PM 2.5 during winter season taking the air quality to

'Severe' category. Apart from meteorological conditions, behavior and dispersion of pollutants particularly PM 2.5., there are contributors from other sources shown by the emission Inventory. The Committee has suggested three stage approach – (i) use of cleaner fuel, (ii) adopting efficient pollution control technologies and (iii) regulating operations as per Graded Response Action Plan (GRAP). The Committee has listed out Hot Spot Districts having poor air quality as follows:

"Table 5: List of Hotspot District with in IGP region

District	***State***
Aligarh	*Uttar Pradesh*
Kanpur	*Uttar Pradesh*
Faridabad	*Haryana*
Gautam Buddha Nagar	*Uttar Pradesh*
Mathura	*Uttar Pradesh*
Palwal	*Haryana*
Bulandshahr	*Uttar Pradesh*
Etah	*Uttar Pradesh*
Mahamaya Nagar	*Uttar Pradesh*
Kansiram Nagar	*Uttar Pradesh*
Baghpat	*Uttar Pradesh*
Ghaziabad	*Uttar Pradesh*
Meerut	*Uttar Pradesh*
Muzaffarnagar	*Uttar Pradesh*
North	*NCT of Delhi*
North East	*NCT of Delhi*
North West	*NCT of Delhi*
Panipat	*Haryana*
Sonipat	*Haryana*
Bhiwani	*Haryana*
Hisar	*Haryana*
Jhajjar	*Haryana*
Rohtak	*Haryana*
Central	*NCT of Delhi*
East	*NCT of Delhi*

New Delhi	*NCT of Delhi*
South West	*NCT of Delhi*
West	*NCT of Delhi*
South	*NCT of Delhi*
Gurgaon	*Haryana*
District	*State*
Mewat	*Haryana*
Firozpur	*Punjab*
Muktsar	*Punjab*
Sirsa	*Haryana*
Firozabad	*Uttar Pradesh*
Bardhhaman	*West Bengal*
Birbhum	*West Bengal*

8. Relevant extracts from the report are as under:-

"2.2.3 Analysis of Ambient Air Quality Data

xxx……xxx……xxx

The data for year 2019 is selected for representation of air quality status in IGP plain, the data for years 2020 and 2021 can cause biasness in our analysis due to Covid 19 pandemic and lockdown periods in both years. The data for year 2019 will be more representative for analyzing the air quality trends in IGP. The data for year 2019 is collected from CPCB air quality data management portal (https://app.cpcbccr.com/ccr/#/caaqm-dashboard-all/caaqm-landing). The seasonal variation of the PM levels is done based on seasonal bifurcation given by Sharma et al., 2021; Kumar et al., 2017. There are four major seasons Winter (Dec-Feb), Summer (Mar-May), Monsoon (Jun-Aug) and Post-Monsoon (Sep-Nov). The analysis of the collected data for seasonal variation is done on the basis of this bifurcation.

2.2.4 Identification of PM hotspots using satellite observations

The research employed satellite-based PM2.5 exposure calibrated to ground-based observations. Moderate Resolution Imaging Spectroradiometer (MRIS) data were used to determine surface PM2.5 concentrations (MODIS). MODIS can recover AOD at 10-km, 3-km, and 1-km spatial resolutions. In this study, we used the Multiangle Implementation of Atmospheric Correction (MAIAC) technique to recover AOD at 1-km resolution and converted it to PM2.5 using geographically and temporally changing scaling factors (i.e., PM2.5/AOD) from MERRA-2 data. The MERRA-2 scaling factors were compared to ground- based observations of CPCB locations. MERRA-2's diurnal scaling factor (i.e., the ratio of 24-hr PM2.5/PM2.5 during the satellite overpass) was used to transform

the satellite-derived instantaneous PM2.5 to 24-hr average PM2.5 (Joshi et al. 2021). The satellite-derived daily (24-h average) and annual PM2.5 show a R^2 of 0.8 and 0.97 and root mean square error of 25.7 and 7.2 µg/m^3, respectively against surface measurements from the Central Pollution Control Board India network. More details about the retrieval of PM2.5 from satellite data, calibration, and validation are available in (Dey et al. 2020). The satellite derived PM2.5 product is accessible from our data portal (www. saans.co.in)."

"3.1 Seasonal Variation of PM2.5 in IGP

xxx……xxx……xxx

Table 3: Seasonal Variation of PM2.5 (in µg/m^3) in IGP

Site	***Winter***	***Summer***	***Monsoon***	***Post-Monsoon***
Amritsar, Punjab	*53*	*52*	*35*	*64*
Murthal, Haryana	*85*	*73*	*59*	*58*
New Delhi (ITO)	*176*	*87*	*51*	*125*
Lucknow, Uttar Pradesh	*119*	*83*	*37*	*87*
Patna, Bihar	*208*	*66*	*37*	*116*
Kolkata, West Bengal	*175*	*64*	*38*	*66*

"3.2 Annual & Diurnal Variation of PM2.5 in IGP

xxx……xxx……xxx

The weekly diurnal variation plots for sites across IGP shows that the concentration of PM2.5 is lowest during the day between 12:00-18:00 hrs, after 18:00 hrs the concentration of PM2.5 starts increasing and peaks around midnight. During night hours (0:00-06:00_ the concentration of PM2.5 does not show much variation. Between 6:00-12:00 hrs, the concentration shows variation due to morning peak hours, the peaks are generally observed between 08:00-10:00 hrs and afterwards the PM2.5 concentration keeps decreasing till 18:00 hrs."

"6.1 General recommendations for non-industrial sectors to control the emission

6.1.1 Domestic Sector

The domestic sector contributes nearly 437 Gg of PM2.5 (19 % of the total PM2.5 emission) per year over the IGP. This emission is primarily due to the use of solid fuel and traditional Chulha in rural locations. In a highly populated country like India, giving subsidy in each individual household might not be feasible. But the rural and partly some semi urban and urban population are unwilling to use cleaner fuel (LPG) instead of free or less costly solid fuel. Hence, promoting the cleaner fuel through Pradhan Mantri Ujjwala Yojana and providing support to the economically weaker section like BPL

ration card holders should be considered. During critical winter months (November and December), if the families using solid fuel only (estimated number of families 3,60,75,200) use domestic LPG (estimated 7,21,50,401 number of domestic LPG cylinders required @two cylinders per family during the season), 108 Gg of net PM2.5 emissions can be reduced over the IGP. Another solution to control the domestic emission might be promoting improved cook stoves in the rural areas. Providing one improved cook stove can run for one or two years for a family and this can significantly reduce the emission from the domestic solid fuel burning. Cattle dung can be used as an alternative of coal in nearby coal-based industries with high PM2.5 control efficiencies and provide some financial benefit to the rural population.

6.1.2 Soil and Dust

All source apportionment and inventory studies in the region show overwhelming impact of dust especially during summer that is inevitable in these geo-climatic conditions. The net emission of soil and road dust is 225 Gg/year (~10 % of the total PM2.5 emissions over the region). Loose crustal soil and high wind effect in the Indo-Gangetic Plain contribute to this phenomenon. Dry winters/summers add to the problem. Re-suspension of road dust due to vehicular traffic is of special concern. Dust is a carrier of toxins from combustion sources and therefore, can be harmful. However, the strategy to address this problem has to be diverse and not limited to only road cleaning and sweeping. A lot of this problem is also created by mismanaged urban construction and roads. Intense rapid action should be taken to repair and building of pavements and vacuum cleaning of roads; implementation of street design guidelines for footpaths and cycle tracks with adequate vegetative buffers and paving of roads; blacktopping/ pavement of road shoulders; phase-in mechanical/ vacuum based street sweeping' introduce wet/ mechanized sweeping of roads; implementation of truck loading guidelines; use of appropriate enclosures for haul trucks; gravel paving for all haul routes; sprinkling of recycled water; water fountains at major intersections; maintenance of pothole free roads, increase in green cover on central verges and on the road sides along the right of ways, enforcement of air pollution control in concrete batching (use of water spray and wind breakers, bag filters at silos and enclosures, hoods, curtains etc.)

Towards dust management on roads and road construction projects, municipal bodies should adopt the road dust control measures. The focus should be largely on the maintenance of roads, identification of hotspots for road dust, mechanical sweeping, sprinkling and scientific disposal of collected waste. The longer-term systemic changes should require more broad-based approaches: (i) Municipal ward wise street network redevelopment plan for paving and greening as per IRC guidelines without impeding the needs of other road users including pedestrians. (ii) Hotspot action for road cleaning with GPS enabled mechanical sweepers; desilting of canals/nullah's side roads brick lining, dedicated helpline with MIS support and citizen interface to enable geo-tagging for complaints; (iii) Urban greening agenda with greening of open areas, gardens, plantation for green walling and protection of all forest areas in IGP.

The exclusive controls of urban dust should include better road conditions, paved shoulders, stabilization of soil surface, sidewalks, and unpaved portions (e.g., parking lots) to have Interlocking Concrete Block Pavement (ICBP) in the megacities over IGP. ICBP technology should be adopted for specific requirements of footpaths, parking areas, etc. It should be the priority that all existing unpaved shoulders, sidewalks, and parking lots are suitably handled and, in the future, all new road constructions incorporate these measures.

All major urban roads, State Highways and NHAI must maintain silt load of 2.0 g/m^2 or less on their roads and assess the silt load twice in a year (winter and summer) at an interval of 50 km on both sides of the road.

Railway siding should construct warehouse for storage of cement bags or other dusty material to minimize fugitive emissions during loading, unloading and storage and avoid these operations on open platforms. Mechanical handling of bags of cement or dusty material be done using conveyor belts, possibly horizontally movable belts. Enclosures in the form of flexible belt curtain may be provided on the warehouse openings used for transfer of material. Warehouse cleaning shall be done with only mechanical means (large size vacuum pump) and it shall be done on regular basis. Cement collected shall be properly stored and records be maintained. Peripheral roads for vehicle movement should be paved and these should be properly maintained.

6.1.3 Construction dust

Construction work all through the country is progressing at a fast rate and as the economy grows, it will further increase. The production of cement, along with poor conditions at the construction sites, are responsible for significant contribution in PM2.5/10. Regulations are adequate but enforcement of these needs to be strengthened (e.g. shielding off the construction sites, storage of materials, loading-unloading, paved road at the construction site) and dust from the construction work. Uses of water cannon to wash the surrounding may be partly useful but what is important is to prevent dust emissions. A condition/policy should be formulated that all building materials and surroundings (except raw cement) will have 2% moisture; this approach will solve the dust problems to a large extent.

6.1.4 Open Burning

This sector emits nearly 358 Gg PM2.5 annually (As per the EI report done in this study by IIT-Kanpur) (15.5 % of the total emission of PM2.5 over this region) and need to be addressed comprehensively. The following are some recommendations.

Crop residue burning

Our results have clearly shown that the major fraction of open burning is due to the crop residue burning. For the IGP, we cannot settle the issue of episodic air quality unless we talk about crop residue burning (CRB) in Punjab and Haryana; the estimated PM2.5 emissions from CRB is 70 Gg at the end of Kharif season is almost three times more than the Delhi's annual estimated emission. Thus,

the large CRB emission have paramount impact on the entire IGP. Plan of actions need to be taken well before and implemented. Continue with all efforts to minimize the number of CRB fires through technology, education, awareness, incentives and limit the mean number of daily fires to less than 1000 (refer to CII-NITI Aayog, 2018). Make all efforts at Block/Panchayat level to educate households not to burn any biomass including dung, encourage and promote LPG usages particularly during this period. Implement GRAP (Annexure - V) fully from October 15 to November 20 and not wait for PM2.5 levels to go above 250 µg/m^3. The GRAP has all the actions that will improve the air quality and reduce the emission to desired levels. But these actions are to be taken from October 15 to November 20, regardless of air quality in this period.

Municipal Solid Waste Burning

MSW is the major cause of air pollution not only because it is burned but also because of its improper disposal. The dumped MSW undergoes decomposition which releases H2S, NH3 and harmful volatile compounds like VOCs. The VOCs turn into particles of secondary organic aerosols and add in the formation of ozone. Although there exist MSW disposal Rules, their implementation is far from satisfactory in most urban areas.

The Cl- content, which is an indicator of MSW burning, in urban areas can vary 2-10 percent in PM10. The typical contribution of MSW burning alone is about 8-10 percent and it needs to be controlled.

Any form of garbage burning should be strictly stopped and monitored for its compliance. It will require the development of infrastructure (including access to remote and congested areas) for effective collection of MSW and disposal at the scientific landfill site. Space constraints force the municipal corporations to simply dumped and spread at the low lying area. This must be recognized that the major problem is that of collection. The option of waste to energy plants must be considered with very high pollution control; PM control over 99.99 percent should be ensured. A similar treatment/ disposal of legacy waste should also be taken up on priority.

The municipal corporations should prioritize the MSW collection mechanism starting in a systematic manner in each ward. Special attention is required for fruits, vegetable markets and commercial areas and high-rise residential buildings, where MSW burning is common. A mechanism should be developed to carry out the mass balance of MSW generation and disposal on a daily and monthly basis. These data must be inventorized and available for public scrutiny.

Desilting and cleaning of municipal drains by Municipal Corporation should be undertaken on a regular interval, as the silt with biological activities can cause emission of air pollutants like H2S, NH3, VOCs, etc. It is seen that waste is sometimes burned in industrial areas; this must stop and be ensured under the supervision of industrial development agency and pollution control boards. The complete banning of MSW burning in urban areas can significantly reduce PM2.5 emissions.

Open burning of waste as well as spontaneous fire in landfills contribute substantially to air pollution and is a source of high toxic exposure for local communities. The enforcement measures that include ground inspection and penalty and emergency response to public complaints have limited impacts. The effective solution lies in proper waste management. However, infrastructure for waste collection, transfer, material recovery and safe disposal is not adequate. As a result, waste accumulates in the open that is burnt for easy disposal. Waste management has to ensure proper quantification of waste generation, 100 % door to door collection of segregated waste, material recovery and recycling and minimize fresh dumping of waste in landfills and full remediation of legacy waste.

6.1.5 Transport Sector

The contribution of particulate matter from the transport sector is relatively low compare to industrial or domestic sector as a whole (118 Gg/year, i.e., 5 % of the total PM2.5 emission over the region) (As per the EI report done in this study by IIT-Kanpur). But in point locations such as over the urban agglomeration the relative contribution from transport sector could quite high. According to the Automotive Research Association of India, due to the progressive tightening of the emissions standards for vehicles there has been substantive improvement in tailpipe emissions from new vehicles. With graduating from Bharat Stage-I (BS-I) to Bharat Stage - VI (BS-VI) emissions standards, particulate emissions from diesel cars have reduced 31 times and from heavy duty vehicles by 36 times. While new vehicle technology and emissions control systems have significantly improved and will continue to improve to reduce tailpipe emissions in the driving conditions, equally stringent focus is needed on management of on-road vehicles. The objective is to keep on-road vehicles low emitting during their useful life on the road and to reduce direct exposure to toxic emissions; accelerate fleet renewal to leverage emissions gains from the technology advancement with introduction of BS VI emissions standards; and accelerate zero emissions transition with rapid electrification of targeted vehicle fleet to meet clean air target. Simultaneously, transportation and mobility strategies will be implemented to reduce vehicle miles travelled and achieve at least 80-85 per cent modal share by public transport systems.

There should be improvement in enforcement systems that include linking of updated PUC and Vahan database, automatic alert to vehicle owners for renewal of PUC certificates, compliance strategy like linking refueling with valid PUC certificate and higher penalty. Linking of PUC with annual vehicle insurance may be useful. Information on the status of action in IGP is not equally adequate. The programme requires uniform strengthening; quality control at a scale and effective fleet screening still remains a daunting challenge. This requires introduction of more advanced inspection and monitoring systems. In addition, all commercial vehicles require annual roadworthiness and fitness tests under Central Motor Vehicle Rules (CMVR). In most part of IGP these tests are done manually with limited testing facilities. There is a need to set up more fully automated high-capacity centralized testing centers for the region. There is scope for better capacity utilization of these testing centers. Vehicle electrification targets for IGP by each of the

States need to be set in terms of percentage of the new vehicle sales to be achieved by the end of the 2025-2030 in phased manner and also targeting total e-vehicles in particular categories. All States should have a policy on EV and hybrid vehicles, charging points at State/ private/ household level in a time bound manner. Implement older vehicle phase out policy as per the action plan of MoRTH for National Clean Air Programme (prana.cpcb@gov.in>> partners>>MoRTH plan). All new public transport buses in cities over this region should be targeted to be electric buses. Identification and decongestion of traffic intersections as per the approved city action plans could also lead to reduction in net emission from the transport sector.

Minimizing pollution from in-use old vehicles: *Among control devices, the Diesel Particulate Filter (DPF) is useful and proven technology. DPFs are porous ceramic honeycomb devices and filtration in DPFs occurs as exhaust gases are forced to flow through the walls and structure of filter. Such installation is possible in both BS IV two and four-wheelers. Every State should develop/amend vehicle scrappage policy, develop incentive mechanism for scrappage of old vehicles, and set up infrastructure for material recovery and disposal of end-of-life vehicles (Toyota operates one such plant in NOIDA). Develop a plan for CNG/CBG fuelling network in IGP and on highways to shift long haul trucking and other commercial vehicles to CNG.*

E-Mobility: *Policies on e-mobility for all the IGP states should have priority for million plus cities that encourage EV including strong hybrid vehicles.*

Faster EV adoption in intra-city commercial transport and in 2/3-wheeler segments should be ensured. Public city transport including taxis and cabs may be converted to gas/electricity or strong hybrid in a time-bound manner. Diesel auto rickshaws should be phased out. Strategic plan for EV charging infrastructure at each 3 km in urban areas, 25 km on highways (both sides) and 100 km for buses and trucks and swappable battery stations may be set up. Retrofitting of old and overaged petrol/diesel vehicles into electric vehicles.

City transport services (bus and metro services) should be augmented in million plus cities. Public transport can be made cheaper than the two-wheeler cost.

6.1.6 Fugitive emissions

There are several industrial enterprises that are responsible for huge amount of fugitive emissions and dust generation from mining and different phases of crushing and storage. Stone crushers and mineral grinding are the most prominent among them. It is necessary to further reform the industrial structure, modernize production capacity with improved emission control systems and adoption of clean fuels like natural gas and clean electricity for industrial applications. This will have to be supported by smart monitoring and deterrence for compliance and targeted improvement. Other requirements are installation of ambient air quality monitoring stations and online e-Rawaana system to stop illegal mining. These require proper implementation and effective

technical approach. Also, further mapping of all sources of fugitive emissions is important.

Construction work all through the country is progressing at a fast rate and as the economy grows, it will further increase. The production of cement, along with poor conditions at the construction sites, result in contamination and pollution. Regulations are adequate but poor implementation of dust control measures (e.g., shielding off the construction sites, proper storage of materials, loading-unloading, paved road at the construction site) may lead to dust from the construction work. Uses of water cannon to wash the surrounding may be partly useful but what is important is to prevent dust emissions. A condition/policy should be formulated that all building materials and surroundings (except raw cement) will have 2 % moisture; this approach should solve the dust problems to a large extent.

CPCB has brought out guidelines for prevention and control of dust from construction activities. State agencies must implement these in later and spirit.

6.1.7 Agriculture Sector

The rural emissions are significant and need to be controlled on priority. The control of rural emissions will improve the air quality in rural area and prevent its contribution to urban areas in the form of background pollution. In rural area tillage from the agricultural land is an important source of PM2.5. Use of solar pump can be encouraged for the irrigation purpose in place of diesel or kerosene.

Ploughing should be avoided if the soil is dry and there are high winds. Minimize soil-disturbing field operations such as ploughing, mowing, and tilling. These activities may be avoided when winds are high. Post-harvest tillage may be done on low wind speed days-based weather forecasts. Physical barriers such as fences, straw bales, and large trees may be used to minimize the flow of dust.

6.2 Industry Specific Interventions (Best Available Technology and stringent emission standards)

This study shows that the industrial sectors are the main PM2.5 emitters over the IGP region with the net emission of 1128 Gg/year (48 % of the total PM2.5 emission) (As per the EI report done in this study by IIT-Kanpur). Hence this sector needs special attention and planning for air quality management. Emission Inventory for Industrial emission of PM2.5 shows that in IGP, Uttar Pradesh is the major emitter of industrial PM followed by Bihar, West Bengal, Haryana and Punjab (Figure 34).

Net industrial emission of different states

Haryana= 133.2 Gg/Year

Punjab= 121.2 Gg/Year

Uttar Pradesh= 492 Gg/Year

Bihar= 208 Gg/Year

West Bengal = 191 Gg/Year

Brick Kilns

Among the industrial emission, the bricks have the largest contribution in IGP with the net emission of 468 Gg/year (41 % of the total industrial emission and 19 % of the total PM2.5 emission) (As per the EI report done in this study by IIT-Kanpur). State-wise emission inventory of PM2.5 shows that Brick Kilns contribute maximum to PM2.5 levels in Uttar Pradesh (230 Gg/year) and Bihar (77 Gg/Year) while the other major emitting States are Punjab (69 Gg/Year), Haryana (49 Gg/Year) and West Bengal (43 Gg/Year). Therefore, it is prerequisite to curb Brick kilns' emissions using latest technology.

Brick kilns are small scale and widely dispersed and are difficult to monitor. There have been several efforts to monitor their operation, set emission standards, mandate adoption of improved zig zag kiln technology and closure during winter in NCR. The MoEFCC has issued a gazette notification on February 22, 2022, on emissions standards and kiln technology. This provides for tighter particulate emissions standards, and specification of stack height by capacity of brick kilns. In intermittent kilns, bricks are fired in batches; fire is allowed to die out and the bricks are allowed to cool after they have been fired. The kiln must be emptied, refilled and a new fire has to be started for each load/batch of bricks. In intermittent kilns, most of the heat contained in the hot flue gases, fired bricks and the kiln structure is thus lost. Intermittent kilns are still widely used in several States of the IGP and can be further sub-divided into two categories: – Intermittent kilns without stack: The kilns which do not have any stack/chimney to guide the flue gases. In these kilns the flue gases can be seen coming out of the kiln from the sides or from all over the top surface of the kiln. Clamps, scove and scotch kilns are the examples of intermittent kilns without stack. This kind of kilns should be strictly banned over the region within next 3 years. All new brick kilns will be allowed only with zig zag technologies or vertical shaft or on piped natural gas. In addition, it is recommended that the brick kilns should be operative after the annual episodic issues of poor air quality (i.e., end of November) over Punjab and Haryana. For vertical shaft kilns the stack height should be 16m and 14m respectively for the Kiln capacity less than 30,000 bricks per day and more than 30000 per day. For rest all kind of kilns it should be 27m and 24m respectively. Brick kilns shall construct permanent facility (port hole and platform) as per the norms or design laid down by the Central Pollution Control Board for monitoring of emissions. Brick kilns should be established at a minimum distance of 0.8 kilometers from habitation and fruit orchards. State Pollution Control Boards/Pollution Control Committees may make siting criteria stringent considering proximity to habitation, population density, water bodies, sensitive receptors. The first step is to identify the type of technology used in existing brick kilns. Table 9 shows types of Brick kilns in use in IGP with their specifications.

Table 9: Types of Kilns used in IGP with their specifications

Type of Kiln	***Fixed Chimney Bull Trench Kiln (FCBTK)***	***Natural Draught Zig Zag***	***Induced Draught Zig Zag***	***Vertical Shaft***
Commonly used Fuel	*Coal Biomass: Sawdust, firewood, biomass briquettes Agricultural residue: husk and stalks Industrial waste: tires, plastic*	*Similar*	*Similar*	*Coal*
Specific Energy Consumption (MJ/kg)	*1.1-1.46*	*1.02-1.21*	*0.95-1.11*	*0.54-1.11*
Cause of Heat loss	*Incomplete Combustion, Heat loss from kiln surface*	*Heat Loss from kiln surface*	*Heat Loss from kiln surface*	*Flue gas and fired bricks*
Production Capacity (million Bricks per year)	*3-8*	*3-8*	*2.5-6.0*	*1.5-3.0*
Capital Cost (USD)	*50,000-80,000*	*50,000-80,000*	*50,000-80,000*	*60,000-80,000*
Good Quality Product	*60 %*	*85 %*	*80 %*	*90 %*

It is evident from the Table 9 that natural draught zig zag type of Brick kilns are the most efficient. Vertical shaft brick kilns are less polluting and their specific energy consumption is also low, however, with respect to capital cost and production capacity it is not viable.

Ministry of Environment, Forest & Climate Change has notified revised emission norms for brick kilns, which should be strictly enforced.

MSMEs

Micro Small and Medium Enterprises (MSME) are the major source of PM2.5 emissions in Bihar, Haryana and West Bengal while second major source in Punjab and Uttar Pradesh. Boilers and furnaces are the most common category of MSME in all States while stone crushers in Uttar Pradesh and Jute industries in West Bengal are also contributing (Table 10).

Among the industrial emission, MSMEs are the second largest (after brick kilns) contributor to the PM2.5 with the net emission of 350 Gg/Year which is about 31 % of the industrial emission and 14 % of the total PM2.5 emission over the region (As per the EI report done in this study by IIT-Kanpur). State-wise Emission inventory of PM2.5 shows that MSMEs contribute maximum to PM2.5 levels in Bihar (107 Gg/Year, 30 % of the MSMEs emission) and Uttar Pradesh (96 Gg/Year, 27 % of the MSMEs emission).

Table 10: State wise classification of leading MSME industries

State	***Type of MSME***
Bihar	*Boiler, Furnace, Roll Mills*
Haryana	*Boiler, Furnace*
Punjab	*Boiler, Furnace, Hot-mix Plants*
Uttar Pradesh	*Boiler, Furnace, Stone Crusher, Roll Mills*
West Bengal	*Boiler, Furnace, Roll Mills, Hot-mix plants, Jute*

The following steps can be taken to curb emissions from MSME.

Small scale units and small boilers

Small scale units dominate the industrial sector in the region and are largely dependent on polluting fossil fuels in their individual boilers. Such a system being energy inefficient on one hand, also are a source of high pollution. While several industry specific interventions to improve processes may improve overall technical efficiency for resources and emissions savings, it is necessary to focus on two priority strategies viz. access to clean fuel and replacement of small individual industrial boilers with common boilers, wherever possible. If feasible, such furnaces and industrial processes could also be run on affordable electricity. More than 50 % of the boilers installed in industrial areas are of less than 2 tones per hour (TPH) capacity. Another 35 % of boilers have capacity in the range of 2–10 TPH. These are used for generating steam for heating purposes. These boilers primarily consume coal and are presently not equipped with effective pollution control measures. Fuel feeding is mostly done manually without any automation and these have poor technical efficiency. Installation of any type of Continuous Emissions Monitoring Systems (CEMS) is not feasible. There are large number of small boilers in several industrial clusters in IGP. Replacement of small boilers with common boilers for steam generation in a cluster of industrial units is an important way forward. There are several advantages of switching from individual small boilers to common boilers. The individual industrial units can avoid a range of costs that include cost of installing small boilers and associated fuel cost, cost of air pollution control devices, operation and maintenance cost and can also avoid the need for getting environmental clearances for boilers. These costs and responsibilities can be borne by the manufacturers/installer and operator of common boilers. This can further reduce inspection requirements of numerous boilers by SPCBs. Common boilers can meet much tighter emissions standards, run on cleaner fuels including natural gas or biomass, adopt emissions control systems and CEMs monitoring and also obtain necessary environmental clearances.

Controlling emissions from the furnaces

There are many industries with induction furnaces, which is very polluting process, with almost no pollution control devices (Figure 35). The maximum emissions occur when the furnace lids and doors are opened during charging, back charging, alloying, oxygen lancing (if done), poking, slag removal, and tapping operations. These emissions escape from sides and top of the building. To address the pollution caused by fugitive emissions using induction furnaces a fume gas capturing device has been developed and commercially available. A side-based suction is far more effective than top suction, which interferes with the movement of the crane.

As efforts are being made to reduce pollution from boilers in industries, it is equally important to restrict the use of furnaces running on dirty fuels. Primarily manufacturing industries, especially metal-based industries, use furnaces. Currently these are largely operating on fuels like coal, wood and liquid fuel. However, several units have also adopted electric furnaces while a few are running on gas-based systems. While non-electric furnaces should not be allowed in new industries, a phase out plan may be planned for the existing industries with some incentive support for small and medium scale units. Until then ensure all industries using furnaces have installed well maintained air pollution control devices.

Induction furnace

There are several induction furnaces in IGP and these do not have proper collection of fumes and emission due to movement of cranes and almost all emission goes uncollected (Figure 36). The new technology requires the collection of emission from sideways but with much higher suction rate that does not interfere with the movement of crane and should be adopted (Figure 36).

Industrial waste burning

Nearly all industrial areas are prone to open burning of industrial waste that includes plastic, packaging, rubber, textile, ceramic, slag etc. Industrial waste management – both nonhazardous and hazardous waste - has emerged as an important issue in IGP States. There is an urgent need to streamline the collection and disposal of such industrial waste to prevent burning. Industries and industry associations should be made liable for safe collection and disposal. There have been some initiatives as in a few industrial zones where authorities have tied up with service providers to collect industrial waste and recycle and reuse using a material recovery facility. Such initiatives will have to be scaled up for the entire region.

CEMS monitoring in industries

Smart monitoring with the help of continuous emission monitoring (CEMS) is important for effective surveillance and transparent monitoring of industrial stack emissions to assess performance. The concerns regarding CEMS installation is quality control of data generated from the system. Lack of proper calibration and wrong installation, inadequate knowledge and skills required for technology selection, installation, operation and maintenance, compromise the quality of data and this needs immediate attention

and action. Also, vendors, industry, service providers lack proper knowledge/skills. Industries lack clarity on suitable technology selection. Suitability of technologies, according to type of stacks, issues related to auto drift, span check etc., or provision of remote calibration of equipment, quality assurance and periodical check of CEMS performance also need to be addressed. There is an urgent requirement to strengthen the CEMS regime so that it can be used as a compliance monitoring tool by the regulators. CPCB has already initiated steps in this regard. Quality data and robust management of data from CEMs is desirable to adopt market-based mechanism like emission trading system.

Sugar Industry

In IGP, sugar industries located in Uttar Pradesh and Punjab are the major contributors to PM emissions. In Uttar Pradesh sugar industries contribute to 16% of PM emissions while in Punjab it is around 5%. Figure 37 shows that in Uttar Pradesh most of the sugarcane industries are in the northern region.

Most of the Sugar Industries use bagasse as a fuel in boilers, which produces particulate matter, oxides of nitrogen, carbon, sulfur and water vapors. It has been observed that nearly 45-50% of the Sugar Mills (<1000 tons cursed per day) in this region is small scale sugar manufacturing company (Khandsari) and should be treated as MSMEs. They should shift to forced draft from current practice of natural draft for better combustion and install simple air pollution control devices like cyclones and multi-clones.

For the bigger mills (>1000 tons crushed per day), the particulate matter, usually referred to as fly ash, consists of ash, unburnt bagasse and carbon particles. The MoEF&CC has provided emission standards for sugar industries which has to be stringently followed.

They should install advance air pollution control devices like bag filters, scrubbers and ESPs and should meet the emission standard of 150 mg/m^3.

Coal based Power Plants

Emissions from coal power is also a significant source of PM2.5 in most of the States in IGP ranging from 12-16 % while in West Bengal it is one of the primary sources of PM2.5 (36 %). Revised emission norms for Coal Power Plants should be implemented within the specified time frame.

Cement Industries

The point source emissions from the cement industry include dust/particulate matter and gaseous emissions. Cement industry deals with various size reduction operations from limestone crushing to clinker grinding, dust emissions are a major pollutant. Gaseous emissions such as sulfur dioxide (SO2), oxides of nitrogen (NOx), carbon monoxide (CO), carbon dioxide (CO2), etc., are generated during pyro processing. The major sources for particulate matter emissions are crusher, coal mill, raw mill, kiln, clinker cooler, cement mill and packing plant.

Cement plants are equipped with air pollution control equipment (APCEs) like electrostatic precipitators (ESP), baghouse with glass

fiber membrane filters and ESPs modified with bag filters, called hybrid filters. The CPCB norms for fugitive dust control should be strictly followed.

Summary – industry specific

In IGP, industrial PM2.5 is primarily emitted by Uttar Pradesh followed by Bihar, West Bengal, Haryana and Punjab. Delhi and Chandigarh are comparatively negligible. In all IGP States four major industries have been identified viz. brick kilns, MSME, sugar and coal-based power plants. The study identified a work plan to be followed to curb emissions from different categories of industries. The first step should be usage of cleaner fuel. Nowadays, in brick kilns, scraps and plastic wastes have been in use which should be replaced by PNG and agricultural waste. Furnaces and boilers should use PNG, electricity and low sulfur coal. The most of the sugar mills are using bagasse fired boilers. Second step should be replacement of old technologies with new, for e.g., FCBT kilns should be replaced by zig-zag technology. Third step is to utilize pollution control technologies. Various types of PM controlling technologies have been identified which can be adopted as per requirement. Electrostatic precipitators and filters bags are the most efficient technologies for the finer particles, while for NOx and SO2 selective catalytic reduction and flue gas desulfurization are the most efficient methods. The last step is periodic assessment of emissions from stacks and stack height. Industries should follow the emission standards prescribed by MoEFCC. It is recommended that over the identified hot spots of industrial pollution PNG supply network should be started to shift towards the cleaner fuel. No new red category industries should be allowed within 5km radius where population is above 1 million."

Chapter 7 which refers to Summary of Actions and Recommendations are reproduced below:

Pursuant to the order of the Hon'ble NGT, the Committee has investigated the causes of high air pollution in IGP and made a detailed district-wise emission inventory of fine particles (PM2.5) for different emitting sectors. This has enabled the identification of regions of poor air quality and local hotspots where air quality is very poor. Industrial development is the backbone of economic progress; however, the growth should be sustainable with a low emission trajectory for better public health. The Committee has specifically concluded the requirements of advanced technology and management interventions for air pollution sources in IGP. Due consideration was given that technological options and other actions are realistic and time-worthy for air quality improvements without any major recommendation of closure or restriction on economic activities. In addition, specific action plans are also suggested for the October -November episodic air pollution observed in IGP. The Committee has proposed overall recommendations which may be implemented in a time-bound manner. The detailed sector-wise emission control measures are presented in Chapter 6 and specific recommendations are condensed in this chapter.

7.1 Specific Recommendations

Action plans for non-attainment cities for various sectors/activities are already prepared. These include short, medium and long-term actions for abatement and control of particulate matter emissions from transport, industry, domestic, agriculture, construction and demolition, road dust, genset and power sectors. These plans should be implemented aggressively, and various guidelines and norms enforced strictly. The Committee, in addition to the above, suggests the following sector-wise recommendations.

Domestic Sector

(i) A program for switching over from solid to cleaner gaseous fuel for domestic sector should be formulated and implemented in a time-bound manner. The plan may include expansion of LPG network and putting up Compressed Biogas (CBG) network using biomass such as crop residue, dung, wet organic municipal waste, etc., particularly in rural areas. To deal with high air pollution levels in critical winter months, feasibility of distributing two domestic LPG cylinders free of cost or on subsidized rate among the BPL families may be examined.

(ii) Promotion and rapid distribution of government-approved improved cook stoves in rural areas and among the urban road-side shanties.

(iii) Make all efforts at Block/Panchayat level to educate households through anganwadi workers and ANM nurses not to burn any biomass including dung and encourage and promote LPG usages.

Transport Sector

(i) All the diesel city public transport should be phased out completely in next five years, and city transport should be operated only through metro, e-vehicle or on CNG. All new public transport should be CNG or electric buses.

(ii) Public transport to be strengthened with metro and/or adequate number of buses, route plan based on commute surveys and Mobile App based ticketing and seating system is developed in all major cities.

(iii) Public transport can be made cheaper than two-wheeler cost.

(iv) Adequate vehicle scrappage infrastructure should be developed in next three years. Extended Producer Responsibility (EPR) may be considered for vehicle manufactures, who will have to build required vehicle scrap plants.

(v) Incentivise and aggressively implement e-mobility including required charging infrastructure. Strategic plan for EV charging infrastructure at each 3 km in urban areas, 25 km on highways (both sides) and 100 km for buses and trucks and swappable battery stations.

(vi) Linking of PUC centres with remote server and elimination of manual intervention in PUC testing.

(vii) Use off-peak passenger travel times to move freight (within the city) and restrict the entry of heavy vehicles into cities during

6:00 am to 9:00 pm in winter and 6:00 am to 10:00 pm in other seasons.

(viii) Check Overloading: Use weigh-in-motion bridges/machines (WIM) and Weigh bridges at entry points to the city and at toll plaza to check the payload of commercial vehicles. As per CMVR, a penalty of 10 times the applicable rate for overloaded truck is applicable.

(ix) Prepare plan for improvement of infrastructure for decongestion of roads.

(x) Prepare and implement zonal plans to develop an NMT (non-motorized transport) network

(xi) Proper road maintenance and marking, smart traffic signaling, encroachment-free roads, the standard design of the speed breakers, speed warnings and traffic discipline should be enforced for emission reduction.

(xii) Poor quality lubricants and their inappropriate recycling is important cause of real driving emissions. The quality of lubricants should improve and recycled unorganized sales of the lubricants should be stopped.

(xiii) EVs should be aggressively promoted. However, till the time battery-EVs take over, strong hybrid electric vehicles (HEVs) that blend fuel and electric power are much more fuel-efficient and should be promoted.

(xiv) Control of particulate emission through gasoline particulate filter (GPF) is a new technology and can be adopted in new BSVI vehicles for reducing emissions in the near to mid-term period.

Industry (Brick kiln, MSME, Induction Furnace, etc.)

(i) All the industries must stop using solid and liquid fuel and switch over to cleaner source of energy viz. electricity, gaseous fuel or bio-mass, in a time-bound and phased manner (say five years). Industrial clusters having uncontrolled PM emission of 500 tons per day (equivalent to 100 MW coal power plant) may be taken up on priority. Such clusters should also become candidate for priority of PNG infrastructure.

(ii) In the industrial clusters, wherever feasible, common boilers (to supply steam) with adequate emission control measures may be installed, which will be a win-win option for industries and regulators.

(iii) Brick kilns should be converted to Zig-Zag technology. The revised norms notified by MoEFCC should be strictly enforced.

(iv) In induction furnaces new technology requiring collection of emission from sideways but with much higher suction rate that does not interfere with the movement of crane should be adopted.

(v) Small scale sugar mills (<1000 tons cursed per day) (Khandsari) should be treated as MSMEs. These should shift to forced draft from current practice of natural 77 draft for better combustion and install simple air pollution control devices like cyclones and multi-clones.

(vi) Technology upgradation must be targeted in MSMEs and adequately supported. Regular training program should be conducted for the skill development.

(vii) Carry out pollution load estimation from industrial sector to enable setting of target for emission.

(viii) For MSMEs, a resource centre on technology-linked emissions achievements and multiple technology options and vendors (with the cost) linked to different levels of control be established at national and state levels; however, standards should be attained with the industry.

Open burning

Action plans for crop residue management are already in place for States of Haryana, Punjab, Delhi and NCR districts of Uttar Pradesh & Rajasthan. These should be implemented expeditiously. Every year, target and focus on at least five districts for zero crop residue burning in the States of Haryana and Punjab during post-monsoon.

Dust Control

(i) Identification and greening of open spaces, green cover on central verges and on the roadsides, repair and re-laying of pavements, grassing of road shoulders, washing and mechanical/vacuum-based street sweeping and proper disposal of collected dust must be ensured in cities and towns with more than 5 lakh population. Indian Road Congress/Bureau of Standards must bring out silt load standards for roads. All major urban roads, State Highways and NHAI must maintain silt load of 2.0 g/m^2 or less on their roads and assess the silt load twice a year (winter and summer) at an interval of 50 km on both sides of the road.

(ii) All the Railway Siding should construct warehouse for storage of cement bags or other dusty material to minimize fugitive emissions during loading, unloading and storage and avoid these operations on open platforms. Mechanical handling of bags of cement or dusty material be done using conveyor belts, possibly horizontally movable belts. Enclosures in the form of flexible belt curtain may be provided on the warehouse openings used for transfer of material.

(iii) Construction & Demolition (C&D) waste processing facilities of adequate capacities should be set up, to begin with, in cities having population more than 5lakh. C&D waste collection points must be created in different zones of the cities, and in no case, it should be allowed to be dumped in non-designated areas, particularly along roadside. Recycling of processed waste must be encouraged, facilitated and, wherever feasible, mandated.

Research & Development, Training and Capacity Building

(i) Focused research on IGP air pollution problems must be taken up, which can be coordinated through a dedicated Center/Cell established specifically for the purpose. The Center may collaborate with research & academic institutes and encourage/facilitate startups for developing affordable cleaner technologies (particularly for small scale polluting industries) and best process practices & guidelines for various air polluting sectors.

(ii) *Training and capacity building of regulatory agencies, urban local bodies, panchayats, industries must be taken up as a regular and important component to create skilled human resource.*

Enforcement and Administrative Issues

(i) *An independent body to better coordinate performance measurement among the Central, State and other agencies (e.g., Industry, Municipal Corporation) responsible for taking air pollution control measures as per the targets should be established. The sector-wise report, clearly stating air quality achievements and evaluate air program results should be published and available for public scrutiny.*

(ii) *The unorganized sectors should be facilitated to come on the mainstream within a specified timeframe and apply for consent under Air Act and meet emission standards.*

(iii) *The review of existing technologies, emission norms, guidelines, process practices, etc. should be taken up every three to five years for upgradation.*

(iv) *Hotspot districts (as per Table 5) must be dealt on priority for implementing various interventions/recommendations."*

9. We are satisfied that the report needs to be acted upon. It has articulated causes of air pollution scientifically and recommended sector-wise interventions. Recommendations in the report include setting up of an independent body in the MoEF&CC to monitor air control measures which is certainly the need of the hour. Identified Hotspot Districts need focused attention and continuous interventions. The existing technologies need have to be upgraded and unorganized sectors brought the main stream and also brought under the Consent Regime under the Air (Prevention and Control of Pollution) Act, 1981.

10. However, we find that the report has not covered the entire ground in terms of order of this Tribunal dated 09.09.2021. The Report has not given firm suggestions to deal with the pollution of existing industries in IGP and roadmap for the PCBs under the existing regulatory mechanism. Specific strategies for shifting to cleaner fuel and better technologies by revising conditions for Consents to Operate (CTO) have yet to be worked out in the light of data appearing in the report. More stringent strategies need to be followed for acknowledged polluting activities like hot mix

plants, beyond GRAP. This left over work may need to be now undertaken by the special monitoring cell under the MoEF&CC/CPCB which may be set up preferably within three months.

11. We have noted that *Civil Appeal Diary No(s). 30240/2021, Jagat Singh vs. State of Uttar Pradesh & Ors.* is pending before the Hon'ble Supreme Court against order of this Tribunal dated 09.09.2021. It will be open to the parties to file a copy of this order in the said pending proceedings to enable the Hon'ble Supreme Court to consider the same for any further order.

12. In the light of above, we dispose of the application with following **Directions:**

1) The report of the Joint Committee be hosted on the website of CPCB and circulated by the CPCB to PCBs/PCCs of IGP States/UTs within a fortnight.

2) The vulnerable districts mentioned in the report may be listed out as 'Air Quality Sensitive Districts' and polluting sources operating in these districts be closely monitored. Modified CTOs be granted in respect thereof with operational restrictions in the nature of GRAP, requiring switching over to cleaner fuel and adopting efficient air pollution control devices with definite time frame not exceeding six months.

3) MoEF&CC and CPCB may enforce requirement of cleaner fuel, switching over to efficient air pollution control technologies, enforcement of GRAP and vigilance measures to control other pollution sources like dust control, vehicular pollution and the like under the National Clean Air Program and require City and District specific action plans within six months by identified authorities/joint Committees

4) MoEF&CC and CPCB may further assess the status in different areas after review of Daily and Annual Ambient Air Quality data and take remedial measures on that basis within six months.

13. We place on record our appreciation for the efforts of the joint Committee which may be conveyed to its Members by the Member Secretary, CPCB. We have noted that the report is available on the NGT website and its copy may also be hosted on the CPCB website for reference by the stakeholders. MoEF&CC/CPCB may also forward the report to concerned Departments responsible for taking action on the recommendations including Ministry of Transport, Ministry of Petroleum, Ministries of MSME and Heavy Industries, and Chief Secretaries of concerned States i.e. Uttar Pradesh, Delhi, Haryana, Punjab and West Bengal.

14. CPCB may hold a meeting with all concerned Ministries, Departments, States, UTs and other stakeholders preferably within three months for preparing a road map for implementation of the recommendations.

The application is disposed of.

A copy of this order be forwarded to MoEF&CC, CPCB, Chief Secretaries of States of Uttar Pradesh, Delhi, Haryana, Punjab and West Bengal and Secretaries, Ministry of Transport, Ministry of Petroleum, Ministry of MSME, Ministry of Heavy Industries and Ministry of Home Affairs, Government of India by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 27, 2023
Original Application No. 19/2021
SN

Item No.07 Court No.1

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
(THROUGH PHYSICAL HEARING WITH HYBRID MODE)

Original Application No.83/2023/EZ

IN THE MATTER OF:

Ankur Sharma,
S/o Shri Ambooj Sharma,
Resident of 13/3, Dr. P. K. Banerjee Road,
P.O., P.S. & District – Howrah,
West Bengal,
Pin – 711101,

.... Applicant(s)

Versus

1. **State of West Bengal,**
Represented by the Chief Secretary,
Government of West Bengal
Having office at Nabanna (13th Floor),
325, Sarat Chatterjee Road, Shibpur,
Howrah – 711102,

2. **The Principal Secretary,**
Department of Environment,
Government of West Bengal
Having office at Pranisampad Bhawan,
Block (5th Floor), LB-II, Salt Lake, Sector – III,
Bidhannagar, Kolkata,
Pin – 700106,

3. **West Bengal Pollution Control Board**
Represented by its Member Secretary,
Having office at Paribesh Bhavan,
10A, Block – L.A., Sector – III, Salt Lake,
Howrah – 700106,

4. **Howrah Municipal Corporation**
Through its Commissioner,
Having office at 4, M. G. Road,
Howrah – 711101,

5. **The Central Pollution Control Board**
Represented by its Member Secretary,
Having office at Parivesh Bhawan,
East Arjun Nagar,
Delhi – 110032,

.... Respondent(s)

Date of hearing: 16.07.2024

CORAM: HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant(s) : Mr. Ankur Sharma, in person

For Respondent(s) : Mr. Sudip Kumar Dutta, Adv. for R-1 & 2 (in Virtual Mode),
Mr. Dipanjan Ghosh, Advocate for R-3,
Mr. Amrita Pandey, Adv. for R-4, (in Virtual Mode),
Mr. Surendra Kumar, Advocate for R-5,

ORDER

1. Mr. Ankur Sharma, the Applicant, is present in person.

2. This Original Application has been filed by the Applicant alleging that within the Howrah Municipal Corporation, Hot Mix Plants are in operation near 'Dalal Pukur' on Mahendra Bhattacharya Road, which is an extension of N. S. Road close to the house of the Applicant. It is stated that a new layer of asphalt has been applied on a small stretch of N. S. Road within the jurisdiction of the Howrah Police Station using Hot Mix technology.

3. It is further stated that on 19.07.2023 the Applicant noticed that hot mix asphalt was being brought on polluting three wheelers and was being laid on a stretch of the said Road and on enquiry it was informed that reconstruction of N. S. Road is being carried out and a Hot Mix Plant has been set-up near 'Dalal Pukur' on Mahendra Bhattacharya Road being the extension of N. S. Road.

4. It is stated that the Applicant thereafter rushed to Dalal Pukur and noticed a huge Hot Mix Plant had been set-up near the lake emitting thick black smoke in which plastic and wood were being used as fuel. The name of the contractor was not available anywhere through any display board to show that he has been engaged by the Howrah Municipal Corporation.

5. It is further stated that on 11.12.2022 while passing along Deshpran Shasmal/Panchanantala Road, Howrah, the Applicant noticed that gross pollution was being caused out by the Howrah Municipal Corporation due to the use of Hot Mix Plant emitting thick black smoke which was causing considerable air pollution in the area.

6. It is stated that thereafter the Applicant sent a complaint vide e-mail dated 20.07.2023 at 10:45 hours (Annexure-P-2 to the Original Application), to the Commissioner, Howrah Municipal Corporation and the West Bengal Pollution Control Board, but no action has been taken till date. It is also stated that another complaint letter vide e-mail dated 12.12.2022 at 11:45 PM was sent by the Applicant to the Commissioner, Howrah Municipal Corporation, copy of which has been filed at page no. 27 of the paper book. Photographs have also been filed as Annexure-P-1 & P-2 (page nos. 18, 19, 20, 21, 24 & 26) to the Original Application.

7. The Applicant has also referred to the directions given by the Tribunal in its order dated 02.05.2022 passed in Original Application No.171/2016/EZ with M.A. No. 57/2018/EZ (*Subhas Dutta Vs. State of West Bengal & Ors.*), wherein the Tribunal had taken note of emissions emerging from Hot Mix Plants. Para 13 of the order reads as under:-

> *"13. Kolkata - Howrah twin Cities (in KMDA) are included in the nonattainment cities (NACs). They are required to execute Clean Air Action Plan, 2020 under NCAP which includes identification sources contributing to air pollution. The relevant information particularly relating to Hot Mix Plants with reference to short and medium term actions are given:*
>
> > *"1.5 Hot-mix plants for road construction and cement batching*

Kolkata Municipal Corporation, as well as the Kolkata Metropolitan Development Area have been witnessing a boom. Greenfield projects, in terms of commercial, residential and mixed land-use area development, as well as expansion of existing areas has led to the intensive increase in emissions emerging from concrete batching as well as from asphalt mixing plants, known as hot-mix plants.

The Eastern Zone bench of the NGT took notice of the emissions emerging from these hot-mix plants, and in a series of orders dated 18 September 2018 and 01 October 2018, banned the operation of all Hot Mix plants within Kolkata and Howrah. The order also asks the state government, KMC, and the WB PWD to 'adopt more environment friendly and cleaner methods for the purpose'. The KMC also moved the NGT on 01 October 2018 to get a 4-month window to continue to operate the KMC run hot-mix plants within Kolkata. The deadline of 31 January 2019 has been set for these plants by the KMC to finish the ongoing repair of roads across Kolkata and Howrah. However, it must be noted that the longer term plan of the KMC for its hotmix plants is to relocate these to areas such as Dum Dum and Rajarhat that are outside the jurisdiction of KMC. While this may suffice for the purpose of the NGT order, the emissions from these re-located plants, along with others within the KMDA will continue to affect air quality in the Kolkata-Howrah airshed. The KMC has begun implementation of this order, through the constitution of a panel of experts from WBPCB, IIT-Kharagpur, KMDA, Hooghly River Bridge Commissioners (HRBC) and KMC, with a mandate to monitor emissions from existing hot-mix plants, and suggest technical, technological and other measures to reduce the emissions from this sector.

xxx ……xxx……xxx

3. BRICK KILNS, HOT-MIX PLANTS AND STONE CRUSHERS

Sr. no.	***Action points***	***Agency responsible***	***Timeline***

Short-term priority action			
3.1	*There are about six brick kilns in close vicinity of the city. Enforce restrictions on operations of brick kilns within urban airshed zones during high pollution periods; allow only those brick kilns that comply with rectangular zig-zag design with induced draft or those with improved technology. Initiate phasing out of traditional brick kilns.*	*Dept. of land and Land Reform WBPCB, KMDA, HMC, Department of MSME*	*6 months*
3.2	***Relocate and discourage any hot-mix plants within Howrah boundaries. Shut down small and mobile hot-mix plants.***	***HMC, WB PWD, NHAI and other road operating agencies***	***Immediately***
Medium-term action			
3.3	*Identify and convert all brick kilns to rectangular design zigzag technology. If any FCBT natural draft kilns are found they need to be converted to induced draft kilns with rectangular zigzag*	*Department of Land and Land Reform, WBPCB, CPCB, ICE and MSME*	*1 year*

	design.		
3.4	*Prescribe design specifications for improved kilns and ensure compliance checking of conversion. Ensure provision of infrastructure in terms of viewing platform and chimney emission testing point for compliance.*	*CPCB, WBPCB, Department of ICE, MSME*	*1 year*
3.5	***Establish a protocol for using cleaner fuels & technology for asphalt mixing and minimizing the number of hot-mix plants.***	***MoRTH, HMC, WB PWD, NHAI and other road operating agencies***	***2 years"***

8. The Tribunal while disposing of the said Original Application, had constituted a Joint Committee comprising of; (i) Secretary Environment, Government of West Bengal, (ii) Secretary Transport, Government of West Bengal, (iii) Secretary Urban Development, Government of West Bengal, (iv) Secretary Local Bodies, Government of West Bengal, (v) Central Pollution Control Board, and (vi) State Pollution Control Board, to prepare/update Action Plan for Kolkata Metropolitan Area for control of air pollution with Secretary Environment, Government of West Bengal, as the Nodal Agency for compliance. This Joint Committee was directed to come up with an updated plan within three months. Para 16 of the order reads as under:-

"16. In the light of above discussion, we direct constitution of a joint Committee comprising Secretary Environment, Secretary Transport, Secretary Urban Development, Secretary Local Bodies, (all West Bengal Govt), CPCB and State PCB to prepare/update action plan for Kolkata metropolitan Area for control of air pollution. Secretary Environment will be nodal agency for compliance. The joint Committee may meet within one month and finalise/update its plan within three months. It may consider outline of suggested plans in the order dated 8.10.2018, quoted in para 11 and 12 above and other plans finalised by AQMC in respect of NACs in the State of West Bengal, in pursuance of the said order. It will be open to any stake holder to put forward suggestions for consideration of the Committee. The Committee will also be free to interact with any other expert/institution/department on the subject."

9. The two orders of the Tribunal dated 18.09.2018 and 01.10.2018 referred to in para 13 of the final order of the Tribunal dated 02.05.2022 read as under:-

*"(**Order dated September 18, 2018)***

.....xxx.....xxx.....xxx.....

2. The affidavits filed by the respondents in reply to the application appear to contain statements which are unsatisfactory and grossly wanting of compliance of the directions issued in Original Application No.33/2014. This would be evident from the supplementary affidavit filed by the applicant on 24.11.2017 which illustrates the brazen violation of the directions. Hot mix plants appears to be in use rampantly for road repairs and also use of fossil fuel in the heart of the city of Kolkata adding tremendously to the already polluted air.

.....xxx.....xxx.....xxx.....

4. We, therefore, direct the state respondents, the State Public Works Department and the Kolkata Municipal Corporation to ensure that the use of Hot Mix Plants and burning of fossil fuel is discontinued for road construction and repair forthwith and adopt more environment friendly and cleaner methods for the purpose as already directed earlier."

*"(**Order dated October 01, 2018)***

.....xxx.....xxx.....xxx.....

4. We reiterate our order dated 18.09.2018 and direct closure of all Hot Mix Plants failing which exemplary penalty of not less than Rs. 5 lakh shall be imposed upon the Kolkata Municipal Corporation and other authorities apart from taking appropriate steps against the erring officers for non-compliance of the directions."

10. At the stage of admission, this Tribunal constituted a Committee comprising of the following Members:-

(i) Senior Scientist, West Bengal Pollution Control Board,

(ii) Senior Scientist, Central Pollution Control Board,

(iii) Principal Secretary, Department of Environment, Govt. of West Bengal, or his nominee of a senior rank, and

(iv) Municipal Commissioner, Howrah Municipal Corporation, or his nominee of a senior rank,

11. The Committee was directed to visit the site in question and submit its Report. The Committee was also directed that in case violations are found, it shall not only determine the Environmental Compensation against the violator but also recommend disciplinary action against the officer responsible for disregarding the orders of the Tribunal.

12. The West Bengal Pollution Control Board, Respondent No.3, has filed affidavit dated 19.09.2023 bringing on record the Inspection Report of an inspection carried out on 29.08.2023. The Inspection Report reads as under:-

"Report in the matter of Original Application No.83/2023/EZ (Regarding operation of hot mix plant within Howrah Municipal Corporation, Mr. Ankur Sharma Vs The State of

West Bengal & Ors.) vide Hon'ble NGT order (Eastern Zone Bench, Kolkata) dated 02.08.2023.

The Hon'ble National Green Tribunal, Eastern Zone Bench constituted a Comm9ittee, comprising Senior Scientist, West Bengal Pollution Control Board, Senior Scientist, Central Pollution Control Board, Principal Secretary, Department of Environment, Govt. of West Bengal or his nominee, Municipal Commissioner, Howrah Municipal Corporation or his nominee, in the matter. The Howrah Municipal Corporation was to act as the nodal agency for all logistic purpose.

Pursuant to the order of the Hon'ble NGT, the Committee comprising of the following members was constituted as per nominations received from the participating departments/offices.

1. *Sri Pradip Acharyya, WBCS (Exe.), Additional Secretary, Environment Department*
2. *Sri Sandeep Roy, Scientist-D, Regional Directorate, Central Pollution Control Board*
3. *Smt. Rita Datta, Environmental Engineer, Howrah Regional Office, WBPCB*
4. *Sri Manas Das, Secretary, Howrah Municipal Corporation representing the Commissioner, HMC*

Accordingly, the members of the committee accompanied by Sri Prithwish Roy, Exe. Engineer (Roads) & Sri goutam Nag, Asst. Engineer (Roads), HMC visited the areas on 29.08.2023 at 13:00 hrs.

The observations of the constituted Committee are as follows:

1. The site near "Dalalpukur" where the hot mix plant had been set up as physically identified by the HMC engineers was found to be clear and no such plant was spotted in the area.

2. The work for which the hot mix plant was used was improvement of a stretch of road. As per the documents available to the committee the following work was undertaken:

Name of work	*Improvement of "Netaji Subhash Road" by Bituminous (Mastic*

	Asphalt) work from Mullick Fatak to Shymasree Cinema Hall (Jn. Of N.S. Road) under ward no-24,26,27 & 28 HMC
Contractor allotted work order	*Soumik Enterprise* *7, Kankrapara Lane, Santragachi, Howrah-711104*
Issue Date of work order	*05.07.23*

3. *The area of the above work was at least at an approx. distance of 1.5 km from the site and it was informed during the visit that wheel barrows were used for carrying the material to the place of work.*

4. *The work had been carried out at night time as it is a very congested stretch. Also the hot mix plant had been set up on Mahendra Bhattacharya Road which is an extension of N.S. Road near a water body locally known as Dalalpukur, in a place which was likely to cause less congestion.*

5. *As per the Howrah Municipal Corporation, initial road dressing was started on 09.07.2023. Later bituminous work was started. The Bituminous work was stopped on 08.08.2023.*

6. *The area where the work was undertaken as identified by the HMC engineers was also visited and it was observed that no work was being carried out at the time.*

7. *As per the Howrah Municipal Corporation no communication was received by them regarding the non-operation of hot mix plant. However a clause was included in the contract to abide by all applicable clauses rules regulations laws acts etc. in force at present and or any other applicable rules in force which are relevant in the context of the job or would be in force during the period of contract.*

8. *As per the Howrah Municipal Corporation their own hot mix plant has stopped functioning long back.*

On the day of inspection, i.e. 29.08.2023, a committee found no evidence of operation of Hot Mix Plant as Howrah Municipal Corporation already directed them to stop the operation of Hot Mix Plant, as Howrah Municipal Corporation received Public Complaint (PGC) in this regard.

Considering the environment violation in past (from 20th July – 5th Aug 23), the Committee members were in opinion to calculate Environmental Compensation (EC) based on methodology given in "Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the fund" formulated in response to OA No. 593/2017(PB), for an industry can be assessed using the following formulae:

EC = PI x N x R x S x LF

Where,

EC is Environmental Compensation in ₹

PI = Pollution Index of industrial sector

N = Number of days of violation took place

R = A factor in Rupees (₹) for EC

S = Factor for scale of operation

LF = Location factor

The above formulae incorporate the anticipated severity of environmental pollution in terms of Pollution Index, duration of violation in terms of number of days, scale of operation in terms of micro & small/medium/large industry and location in terms of proximity to large habitations.

Based on the concept of Pollution Index (PI) as used by CPCB for classification (Final Document on Revised Classification of Industrial Sectors Underr Red, Orange, Green and White Categories, February 29, 2016) of industries Hot Mix Plant considered under orange Category. Any of the industrial sector having only air pollution (A) the score will be normalized to 100 as per the following formula –

Normalized Score = {100x x A)} / 40

Thus Hot Mix Plant has a normalized PI of 50.

Further, N is the number of days of violation i.e., the period between the date of start of Improvement Work for improvement of Netaji Subhash Road by Bituminous (Mastic Asphalt) and the date of close down of the mentioned job. Therefore N is 30 days.

R is a factor in rupees for estimating environmental compensation which as per CPCB guidelines is taken as Rs.250.

S is a factor representing the scale of operation of the industry and in this case it as considered as small scale and therefore value of 5 is 0.5.

LF is the location factor depending on the population of the area as per recent census 2011 is below 1 million, so LF may be taken as 1.25 following CPCB's guidelines.

S. No.	*Population * (million)*	*Location Factor# (LF)*
1	*1 to <5*	*1.25*
2	*5 to <10*	*1.5*
3	*10 and above*	*2.0*
**Population of the city/town as per the latest Census of India* *#LF will be 1.0 in case unit is located >10km from municipal boundary* *LF is presumed as 1 for city/town having population less than one million*		

Now, using formulae (1), environmental compensation is:

EC = PI x N x R x S x LF

EC = 50 x 30 x 250 x 0.5 x 1.25

=INR 2,34,375

(Rupees Two lakh thirty four thousand three hundred seventy five only)

As the work had been allotted by Howrah Municipal Corporation to a contractor and it had been mentioned in the contract that they were to abide by all applicable clauses rules regulations laws acts

etc. it is a negligence on the part of contractor in compliance of existing order."

13. The Central Pollution Control Board, Respondent No.5, in its affidavit dated 07.12.2023 has stated that the Ambient Air Quality of Howrah, West Bengal, reported during January, 2023, to July, 2023, in terms of PM_{10} and $PM_{2.5}$ were found to be in the range of 13 to 407 µg/m3 and 5 to 237 µg/m^3, respectively. It was also observed that during January, 2023 to March, 2023, on most of the occasions, the air quality in terms of PM_{10} and $PM_{2.5}$ exceeded the National Ambient Air Quality Standards but no direct conclusions can be drawn regard impact on ambient air quality due to operation of the Hot Mix Plant. It is also stated that the ambient air quality may also have been influenced by local factors such as – vehicular traffic, natural dust, DG sets etc. rather than the emissions from the Hot Mix Plant.

14. The Central Pollution Control Board has also placed on record the Notification dated 18.05.2023 issued by the Ministry of Environment, Forests and Climate Change ('MoEF&CC' for short), which requires that Hot Mix Plant shall be installed on the following siting criteria:-

(a) 1 kilometer from boundary of cities and towns;

(b) 0.5 kilometer from habitation;

(c) 0.2 kilometer from National or State Highways (from Centre Line)

(d) 0.5 kilometer from Schools or Colleges and Temples;

(e) 1 kilometer from Hospital, Court and Tourist spot.

15. The Notification dated 18.05.2023 also provides that in case Hot Mix Plants are not able to meet the above siting criteria, they may be allowed with the condition that minimum 6 meters high

compound wall of GI sheets along the periphery shall be installed. The Notification further enjoins that the Hot Mix Plants shall be equipped with appropriate air pollution control devices to ensure optimum efficiency to achieve the standards, namely:-

(a) Drum Type: Cyclone or multi-clones with wet scrubber,

(b) *Batch Type: Multi-clones with bag filters.*

16. The Applicant has filed rejoinder affidavit dated 16.03.2024 stating that in the affidavit of the West Bengal Pollution Control Board it is disclosed that the Howrah Municipal Corporation has accorded work for improvement of Netaji Subhas Road by Bituminous (Mastic Asphalt) in favour of one M/s Souvik Enterprise vide work order dated 05.07.2023 but it did not hold the Howrah Municipal Corporation liable for environmental violations carried out by the contractor. It is stated that Howrah Municipal Corporation did not accord work for improvement of road using Cold Mix Technology and thereby the Howrah Municipal Corporation has itself violated the order passed by the Tribunal.

17. The Applicant has also made certain suggestions regarding use of Concrete/Pavement Quality Concrete (PQC) roads whose live span is stated to be more than 20 years.

18. The Howrah Municipal Corporation, Respondent No.4, has filed affidavit dated 12.07.2024, wherein it is stated that concrete made Portland cement, aggregate (stone), reinforcing steel and water is the most common alternative to bitumen (asphalt) for hard surface road construction, however, for that the entire existing structure/road has to be removed and it is very expensive and moreover it will result in more carbon emission in order to remove the existing road. It is also stated that in the matter of repair of

roads presently undertaken, patchworks of craters such as – potholes is being carried out by fixing small cement blocks but due to heavy rains and plying of heavy vehicles, the same is not sustaining.

19. We have heard the learned Counsel for the parties and perused the documents on record.

20. The Tribunal by its order dated 02.05.2022 passed in Original Application No.171/2016/EZ with I.A. No.57/2018/EZ (*Subhas Datta Vs. State of West Bengal & Ors.*), had taken note of emissions emerging from Hot Mix Plants and had given certain directions which have been extracted hereinabove and, therefore, need not be repeated for sake of brevity. Directions were also given to relocate and discourage of Hot Mix Plants within the boundaries of Howrah; to shift and to shut down small and mobile Hot Mix Plants; and establish a protocol for using cleaner fuels and technology for asphalt mixing and minimizing the number of Hot Mix Plants.

21. The MoEF&CC in its Notification dated 18.05.2023 has prescribed standards of Particular Matter Concentration (mg/Nm^3) in stack emission, namely, Batch Type Hot Mix Plant which has prescribed standard of 150 and for Drum Type Hot Mix Plant the standard prescribed is 300. The Notes (i) to (x) to the Notification for Hot Mix Plant reads as under:-

> *"……xxx……xxx……xxx……*
>
> ***Notes**:*
>
> *(i) The minimum stack height for Hot Mix Plant shall be calculated as: Stack height (Hs) = $14(Q)^{0.3}$, where, Q is the SO_2 emission rate in kg/hr.*
>
> *(ii) Only approved fuel as specified by State Pollution Control Boards or Pollution Control Committees shall be used.*

(iii) Dust emission from material handling shall be contained with water sprinkling or by covering the points of dust emission.

(iv) The internal roads, working platform, loading and unloading areas in premises should be paved and kept clean all times.

(v) Provisions of the Noise Pollution (Regulation and Control) Rules, 2000 shall be followed and workers shall be provided with personal protective equipments.

(vi) The green belt shall be developed along the periphery.

(vii) Use of Recycled Asphalt Pavement (RSP) shall be allowed in the aggregates.

(viii) Any process rejects or left over of the hot mix shall be recycled in the process.

(ix) The site shall be reinstated at the end of operation phase i.e. after dismantling the plant.

(x) State Pollution Control Boards or Pollution Control Committees may decide the size and capacity to permit hot mix plants based on available technology and prevailing environmental conditions."

22. It is noticed that while carrying out patchwork repair of roads small Hot Mix Plants are used on the road itself which are pulled out from place to place. However, it is common knowledge that such Hot Mix Plants cause large quantities of black soot to emerge from its chimneys thereby causing immense pollution in the area.

23. The following directions are, therefore, being issued:-

A. The West Bengal Pollution Control Board is directed to ensure that such Hot Mix Plants shall conform to the parameters and standards in stack emission as prescribed in the MoEF&CC Notification dated 18.05.2023. It shall also ensure that the siting criteria laid down in the Notes (xi) (xii) & (xiii)

to the said Notification are strictly observed and complied meaning thereby that all Hot Mix Plants shall be situate;

(i) At least 0.5 kilometers from habitation,

(ii) 0.5 kilometers from Schools or Colleges and Temples,

(iii) 1 kilometer from Hospital, Court and Tourist spot,

(iv) 0.2 kilometers from National or State Highways (from Centre Line), and

(v) 1 kilometer from boundary of cities and towns, as the case may be.

B. The West Bengal Pollution Control Board shall also ensure that such Hot Mix Plants during their operation shall have a 6 meters high wall of GI sheet along its periphery as provided in Note (xii) to the Notification and shall be equipped with appropriate air pollution control devices such as – Drum Type/Batch Type as provided in Note (xiii) to the Notification, so as to ensure optimum efficiency to achieve standards, namely, cyclone or multi-clones with wet scrubber for Drum Type and multi-clones with bag filters for Batch Type.

C. The West Bengal Pollution Control Board shall also ensure that the chimneys of such Hot Mix Plants shall possess the necessary smoke emission devices for control of smoke/SO_2 and the prescribed Particular Matter Concentration (mg/Nm^3) shall at all times maintain standards of 150 for Batch Type Hot Mix Plan and 300 for Drum Type Hot Mix Plant.

D. So far as the suggestions of the Applicant that Pavement Quality Concrete shall be used for construction of roads or even during its preparation, in our opinion, this issue needs to be addressed by the State Government keeping in mind the

efficacy of Pavement Quality Concrete for small items of work also bearing in mind all times that preservation of a clean environment should be of the utmost concern for the State Government for which budgetary constraints cannot be taken as a plea to perpetuate environmental degradation.

24. With the aforesaid directions, the Original Application No.83/2023/EZ is disposed of.

25. I.As. if any, stand disposed of accordingly.

26. There shall be no order as to costs.

.....
B. Amit Sthalekar, JM

.....
Dr. Arun Kumar Verma, EM

July 16, 2024,
Original Application No.83/2023/EZ
AK

Item Nos. 03 to 21

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
(Through Video Conferencing)

Original Application No. 20/2017 (WZ)
(M. A. No. 344/2017 & M. A. No. 91/2018)
WITH
Original Application No. 42/2017 (WZ)
WITH
Original Application No. 06/2019 (WZ)
WITH
Original Application No. 07/2019 (WZ)
WITH
Original Application No. 08/2019 (WZ)
WITH
Original Application No. 09/2019 (WZ)
WITH
Original Application No. 10/2019 (WZ)
WITH
Original Application No. 11/2019 (WZ)
WITH
Original Application No. 12/2019 (WZ)
WITH
Original Application No. 13/2019 (WZ)
WITH
Original Application No. 14/2019 (WZ)
WITH
Original Application No. 15/2019 (WZ)
WITH
Original Application No. 16/2019 (WZ)
WITH
Original Application No. 17/2019 (WZ)
WITH
Original Application No. 18/2019 (WZ)
WITH
Original Application No. 19/2019 (WZ)
WITH
Original Application No. 20/2019 (WZ)
WITH
Original Application No. 21/2019 (WZ)
WITH
Original Application No. 22/2019 (WZ)

Babubhai Ramubhai Saini Applicant(s)

Versus

Gujarat Pollution Control Board & Ors. Respondent(s)

With

Babubhai Ramubhai Saini Applicant(s)

Versus

Gujarat Pollution Control Board & Ors. Respondent(s)
With

Lexicon Ceramic Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Glossy Tiles Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Active Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Saimax Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Kevin Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Erocoin Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Acute Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Leviton Ceramic LLP Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

G. Tone Tiles LLP Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Levita Granito LLP Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Hollis Vitrified Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Lizzart Granito LLP Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Lichi Ceramic Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Wallstone Ceramic Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Alive Tiles Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Stream Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

With

Harisun Ceramic Pvt. Ltd. Applicant(s)

Versus

Central Pollution Control Board & Ors. Respondent(s)

Date of hearing: 06.03.2019

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Applicant(s): Mr. Dhaval Vyas, Advocate (in O.A. 20/2017(WZ)
Ms. Manisha Narsinghani, Advocate (in O.A. 42/2017(WZ)

For Respondent (s): Mr. S.P. Singh, Senior Advocate with Mr. Pritesh khambhol, Advocate for Ceramic Industries
Jayesh K. Unnikrishanan, Standing Counsel for CSIR
Anil Kumar, Scientist, CSIR for CSIR - NEERI
Mr. Raj Kumar, Advocate for CPCB
Mr. Viral Shah, Advocate for GPCB
Mr. B.M. Mangukiya, Advocate
Ms. Bela Aprajapati, Advocate

Mr. Siraj R. Gori, Advocate for R-15 and Applicant in M.A. No. 30/2019
Mr. Rahul Andhale, Advocate for CPCB
Mr. Rahul Garg and Ms. Prachi Sawant, Advocates for MoEF&CC

ORDER

1. The issue for consideration is remedying the pollution in Morbi town of Gujarat on account of the operation of Ceramic, Silicate and Frit industries. The issue came up before this Tribunal by way of Original Application No. 21 of 2015 (WZ) filed before the Western Zone Bench at Pune. Prayer in the application was to close the coal based gasifiers used by industrial units in and around the town of Morbi and ensure that the said industries follow terms of 'Consent of Consolidated Authorization' (CCA) by the Gujarat State Pollution Control Board (GSPCB) and the directions of the Central Pollution Control Board (CPCB) vide letter dated 21.06.2014.

2. The Tribunal dealt with the matter vide order dated 08.09.2015. The Tribunal noted the judgment of the Gujarat High Court dated 23.06.2014 in a group of writ petitions being Writ Petition (PIL) No. 165 of 2013 directing the industries to follow new norms laid down by the CPCB. The order of the High Court was affirmed by the Hon'ble Supreme Court on 22.07.2014 and 14.02.2015. The Tribunal considered the grievance that inspite of order of the High Court and the Hon'ble Supreme Court, the pollution continued unabated. Only LNG or CNG should be used as fuel instead of coal gasifiers. Stand of the industries was that modified and improved technology had been adopted and, thus, there could be no objection to the industries continuing to operate after the use of new technology.

3. The Tribunal constituted an Expert Committee comprising representatives of CPCB, GPCB and Head of Department (HoD), Environment Engineering Department of M.S. University, Baroda to evolve the parameters for coal-gasifiers which could meet the standards and directed that the matter be dealt with by the GPCB in the light of such report.

4. Against the said order, the applicants moved the Hon'ble Supreme Court. In the meanwhile, report dated September 2016 was submitted by the CPCB based on the spot study. The Hon'ble Supreme Court vide order dated 16.01.2017 in C.A. No. 584/2016 gave liberty to the applicants to place the additional material before this Tribunal to reconsider the matter. Accordingly, present Original Applications No. 20/2017(WZ) and 42/2017(WZ) have been filed before this Tribunal.

5. The same came up for hearing earlier on 24.07.2017 to consider the issue with reference to use of coal gasifiers in Morbi and Wankaner industrial clusters. The Tribunal considered the report produced by the CPCB and other material. It was found necessary to constitute a Committee comprising Senior Scientists from CPCB, GPCB and NEERI to carry out investigation of the industries in Morbi and Wankaner industrial cluster and submit environment status report of the area, after examining recommendations of the earlier Expert Committee on coal based gasifiers. It was directed that the coal gasifier units not conforming to the standards laid down by GPCB be shut down within two months.

6. Report of the Committee was furnished in October 2017 which was taken up for consideration on 14.11.2017, but the report was found to be incomplete, as only 8 ceramic industries were visited. Accordingly, this Tribunal directed the Committee to file complete environment status report. The Tribunal also directed the GPCB to file report of action taken against the erring units and to shut down ceramic industries using type B gasifiers in violation of consent terms, in view of the report of the Expert Committee that type B gasifiers are non-compliant and only C, D, E gasifiers were to be considered. The matter was adjourned to 16.01.2018.

7. Since on 16.01.2018, no Bench of NGT was available at Pune, *Special Civil Application No. 6151/2018, Digvijay Sinh Parbat Sinh Rana Vs. State of Gujarat* was filed before the High Court of Gujarat. The High Court took note of order of this Tribunal dated 14.11.2017 directing the GPCB to shut down ceramic industries using type B gasifiers and the grievance that other gasifiers should also be shut down. The High Court framed and considered the following issue:

> *"8. The issue involved in the present petition is damage to the environment, both air and water, by the ceramic industries in Morbi - Wankaner region due to use of coal gasifiers, more particularly, Type-A and Type-B gasifiers. It cannot be disputed that as such, because of Type-A and Type-B gasifiers, there is a great damage being casued to the environment which as such is irreparable and irreversible. The National Green Tribunal (Western Zone), Pune, in its interim direction/order dated 14.11.2017 after considering the report of the Committee comprising Senior Scientists, one each from the Central Pollution Control Board, Gujarat Pollution Control Board and National Environmental Engineering Research Institute, Nagpur (NEERI), which was constituted to carry out investigation of all the industries situate within Morbi and Wankaner Industrial Cluster, has already issued the directions and has directed the GPCB to (i) place before the NGT the action taken against the erring units and (ii) shut down ceramic industries / industries using Type 'B' gasifiers, if they are not complying with the consent terms and conditions as stipulated for grant of consents to*

operate by GPCB. The learned Tribunal has also directed the Committee shall continuously monitor the performance of the industrial units employing any of the Type-C, D and E gasifiers and ascertain its effect on all aspects of pollution and safety."

8. The High Court noted that no Bench was available at Pune and urgent orders were necessary which could be granted by the High Court under Article 226. Accordingly, the High Court, vide order dated 12.06.2018, directed as follows:

"16. In view of the above and for the reasons stated hereinabove, the present petition stands disposed of with a direction to the GPCB to take further steps as stated in the affidavits-in-reply dated 30.04.2018, 08.05.2018, 10.05.2018, filed on behalf of the GPCB. As observed hereinabove, the steps shall be taken by the GPCB only with respect to those ceramic industries/ industries using Type-B gasifiers if they are not complying with the consent terms and conditions as stipulated for grant of consents to operate by GPCB and all steps shall be taken by the GPCB to ensure that no further damage is caused to the environment by such ceramic industries/ industries in Morbi - Wankaner cluster/ region using Type-B gasifiers. So far as those ceramic industries/ industries using Type-A gasifiers are concerned, as stated by GPCB, all those industries are closed and closure orders have been passed and even the electricity supply has been disconnected.

17. Before parting with the present order, it is observed that as suggested on behalf of respondent No. 7 - Association, the GPCB may explore the possibility of permitting the ceramic industry to use new technology, which is "advanced oxidant process with provided as Lineus based on Singaporer technology" for which one of the members of respondent No. 7 - Association has applied for CTE (amendment) on 03.05.2018 and the GPCB to consider the request to provide the trial run of the new technology after following due procedure as required and explore the possibility / availability of such new technology which may help to some extent in stopping further damage to the environment which is being caused at present by using Type-B gasifiers - coal based gasifiers."

9. In pursuance of order of the Tribunal dated 27.07.2017, a report has been filed in February 2018. The same was not produced before the High Court as order dated 14.06.2018 passed by the High Court makes no reference to the same.

10. The applicants have filed point-wise synopsis on 03.01.2019. Relying upon report of the Committee constituted in pursuance of order of the Tribunal dated 24.07.2017 filed before this Tribunal in February 2018, the applicants submit that not only type A industries which were noted to have been closed and type B industries where coal gasifiers were not viable, even type C and type D industries could not be continued.

11. According to the applicants, the claim of the manufacturers that now there is improvement in coal gasifiers with zero percentage pollution discharge may not be considered by this Tribunal in view of Expert Committee report in February 2018. Coal gasification is a dangerous process where wastes are generated which are highly carcinogenic. Daily coal tar generation in Morbi has been found by the Committee to be 8 lakh kg per day. Its effect has been noted by the International Agency for Research on Cancer (IARC) which is part of World Health Organization (WHO) as causing cancer of lungs. Accordingly, the applicant seeks direction to shut down and dismantle all gasifiers in furtherance of above report submitted in February 2018 in respect of ceramic industries in Morbi and Wankaner area of Gujarat with a view to prevent air, water and land pollution on 'Precautionary' and 'Sustainable Development' principles.

12. Learned Counsel for the GPCB submitted that while it will be difficult for him to state that the coal gasifiers are not causing pollution as found by the Committee, the improved technology may be given further trial and to the extent any particular activity is found to be compliant with the norms, such activity may be allowed to be continued.

13. He also mentioned that another Writ Petition is pending before the High Court. It was submitted that GPCB has prepared a policy for defaulter ceramic units. While type A gasifiers have been closed, notice has been issued to 860 ceramic units in April 2018 for closure. Public notice has been issued in three vernacular newspapers for creating awareness. Type G gasifiers were given trial run permission. 67 units were closed and show cause notice given to 262 ceramic units. Trial permission was given for carrying out feasibility study of advanced technology. SOP was issued for prevention of air pollution on 05.06.2018. CCA was granted on 09.02.2018 on the request of Ceramic Association. The Morbi District Administration issued notification against movement of illegal tankers from 10 pm to 6 am. Ambient air quality was monitored and found to be as follows:

> *"Ambient Air Quality Status:*
> *As per National Green Tribunal committee report average ambient air quality (7 Stations) monitored PM10 = 552.66 µg/m3, PM2.5 = 289.61 µg / m3, SO2 = 152.81 µg /m3.*
> *Compared to that, Average ambient air quality monitored (4 Stations) in last 3 months (Aug- 18 to Nov-18) is PM10 = 199.1 µg /m3, PM2.5 = 60.6 µg /m3. Though not meeting with standards, This shows improvement in air quality of Morbi-Wankner Region."*

14. Learned Counsel for the GPCB stated that the above ambient air quality status is based on situation prevailing from August 2018 to November, 2018.

15. One can certainly say that the above report shows alarming situation of ambient air quality.

16. Learned Counsel for some of the industries submitted that there is a vast difference in the report submitted in February, 2018 on account

of results of SGS Laboratory which show the level of pollution to be very high. There are 800 industries in Morbi and Wankaner area and transportation of 5,000 trucks per day which is contributing to the pollution of the air where are other industries such as clay spray driers, paper mills, silicate industries, stone crushers, roofing tiles, coal screener, laminate units, frit industries, refractories, etc. working for 20 hours per day. The said industries are also contributing to the water and air pollution and not ceramic industries alone. The Consolidated Consent Authorization has been given by the GPCB and short term and medium term measures can be taken for upgradation of the gasifiers.

17. We have not been able to find any warrant for Consolidated Consent Authorization in view of the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. Consent to Operate and Consent to Establish have to be given to every individual unit based on the study of its operations and impact on water and air. Thus, it appears that the Consolidated Consent Authorization is per se beyond what is permitted under the law. The said industries are, thus, operating in violation of the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.

18. Chapter 6 of the report of February 2018 presents the conclusion and the recommendations for the study, which is as follows:

"Chapter 6

Conclusions and Recommendations

6.0 Introduction

This chapter presents the conclusions and recommendations based on the study at Morbi - Wankaner industrial area, environmental monitoring, inspection of ceramic industries, gasifiers and discussion with different stakeholders.

6.1 Examination /Evaluation of Gasifier Technologies

***Type 'A'**: There are 13 type 'A' gasifiers were found during the inspection by the committee. These gasifiers were not in operation. Some of them were not in operation since long, however, some gasifiers were found with wastewater and tar which shows these gasifiers were operational in immediate past. Since, this type of gasifiers are not permitted, GPCB must ensure that all type 'A' gasifier should be dismantled.*

***Type 'B'**: Earlier expert committee (2014) suggested that type 'B' gasifier can be permitted to operate if the wastewater generated during gas cleaning / condensation is recycled back to the gasifier shell by the use of evaporator. Accordingly, GPCB granted amended CTE / CCA for the operation of type 'B' gasifiers. However, this committee finds that type 'B' gasifier cannot be operated by recycling condensate wastewater in the gasifier shell as the condensate wastewater generated is in excess of the required moisture for shift reaction. This is the reason, almost all type 'B' gasifier operators illegally discharge wastewater either through open drain, in low lying areas, abandoned mines etc. and /or steam release to atmosphere. During the inspection of industries, it was found that there are 71 gasifiers that operate evaporator and feed wastewater steam inside the gasifier shell. This can only be a temporary phenomenon as complete wastewater cannot be fed on continuous basis. These gasifiers can discharge condensate wastewater outside the premises illegally and it is not possible for GPCB to keep track of the wastewater generated and its recycle. An argument put forth is that the evaporator operates only for a few hour and feed the complete steam inside the gasifier shell. Such argument does not stand as the condensate wastewater generation is a continuous process and even if intermediate tanks of very large capacity is built, all will get filled at some instance during the operation of gasifier. Therefore, this committee recommends that all gasifier of type 'B' must be shut down immediately, dismantled safely.*

***Type 'C'**: Condensate wastewater with indirect cooling and Tar (Wet ESP) is stated to be recycled into gasifier shell by heating it at high temperature in the Tar reformer. The recycling operation is carried out on the premises that the moisture fed inside the gasifier shell will be the stoichiometric requirement of amount of coal tar recycled. The coal tar generated itself is an emulsion of water and coal tar due to its collection mechanism (Wet ESP). The moisture content of coal tar should be sufficient to take part in the shift reaction and any additional moisture may not be needed. The condensate wastewater will be recycled again in the subsequent condensation and this in turn will*

accumulate the wastewater in the gasifier system as happens in the case of type 'B' gasifier. Thus, after a few days of operation, type 'C' gasifier will generate and accumulate condensate wastewater, which does not have economical treatment option, and therefore its management will always be major issue. Generation of condensate wastewater and coal tar is not recommended.

***Type 'D'**: This is hot gasifier and does not allow condensation of moisture up to kiln. The entire moisture is fed in the kiln. Since this is a hot gasifier, coal tar does not get condensed and is fed directly to the kiln. This was evident from the colour of the flame, which was yellow / orange. A clean producer gas gives blue flame. Raw gas cleaning through road metal/aggregates (kapachi) filter generates large quantity of exposed/used aggregate filter media. Huge quantum of Filter media coated with tar and coal dust whose disposal may be another environmental issue. High molecular weight (class 5) coal tar gets condensed just before the kiln burner and gets solidified as soon as its moisture is evaporated. Solid coal tar cannot be fed from the bottom of the shell. If solid coal tar is fed from the top, it gets vaporized and again reappear in the raw synthetic gas thereby accumulating coal tar in each successive cycles. Type D' gasifier will have the problem of solid coal tar and disposal of large quantity of used contaminated aggregates. Generation of coal tar and contaminated filter media (aggregate) from gasifier is not recommended.*

***Type 'E'**: is based on down draft and agro based fuel where no cooling and cleaning of gas is required and therefore no wastewater and tar generation. Bio-mass based fuel does not generate heavy hydrocarbon, and therefore Tar, which is heavy hydrocarbon is not formed. Steam is not added in the gasifier, instead moisture of bio-mass is considered sufficient for H2 formation. Due to very low amount of moisture feed, wastewater is not generated.*

Even if condensate wastewater and coal tar is generated from gasifiers in small amount in Morbi — Wankaner Industrial cluster, its cumulative impact on the ecosystem is very severe as there are very large number of ceramic industries exists. Management and handling of wastewater and hazardous waste (coal tar) from all industries together exceeds the assimilative capacity of the region and therefore any gasifier generating condensate wastewater and coal tar should not be permitted. Instead of further experimenting with older moving coal bed gasifiers (currently existing in Morbi), advanced fluidized bad gasifier should be designed along with all pollution control device for meeting the clean energy demands in Morbi region.

Till a cleaner technology for synthetic gas generation is demonstrated, ceramic industries having gasifiers may opt for PNG. Natural gas grid /pipe connections are already established in area and most of industries are having connections.

6.2 Environmental Status of Morbi - Wankaner Area

The general ambience of Morbi — Wakaner industrial cluster is smell of half burnt coal, VOC, SO2 and poor visibility due to dust and smog. The committee visited different areas along the roads of Morbi - Wankaner and collected sample of surface and ground water. It was observed that most of the storm water drains in the industrial area are carrying condensate wastewater (brown colour) and vitrified tile polishing wastewater (white colour). All these storm water drains join some natural drains and finally meets Kalindri and Bela river in the region. Many low lying areas along the road and nearby abandoned mines contain condensate wastewater, which is disposed illegally. Further travel to inner part of the industrial area showed the very poor industrial solid waste management practice. Wherever open space is found along the river, solid waste, broken tiles, ceramics, polishing sludge etc. are disposed haphazardly. Overall visual experience of the industrial area is that Morbi industrial area is highly polluted and is an economic zone only to create wealth from mother earth (clay, coal) but belongs to none.

Though the visible water colour suggest that it is polluted, a scientific approach require its analysis in laboratory, and therefore, to quantify the level of pollution samples of air and water were collected from field and analysed in the laboratory. Water analysis result suggest that the discharged wastewater is highly polluted. The ambient air samples collected by the committee and analysed in CPCB (RD, Vadodara) laboratory shows very high & alarming level of PM10, and PM2.5 and SO2 pollution indicating uncontrolled emission from spray drier, ceramic kiln without any flue gas treatment. The concentration of PM10, and PM25and SO2 are exceeding many time more than the National Ambient Air Quality Standards (NAAQS) except two locations for SO2. The concentrations of pollutants are also more due to high industrial density having almost same nature of industrial activities in the Morbi area. This warrants immediate preparation of air action plan and its implementation including proper /adequate pollution control technology for spray dryers, tiles polishing units, restriction & control on haphazard disposal of solid waste (broken tiles, polishing dust, coal ash), improvement in road conditions etc.

The pollution control technology primarily demands use of clean technology for coal gasifier, which will eliminate condensate wastewater and coal tar generation followed by scrubbing of dust, SO2 from spray drier and installation of flue gas treatment (scrubber) for removal of Sulphur from burning of synthetic gas in ceramic kiln. The groundwater analysis results shows contamination (high COD) at some bore wells which needs to be further investigated through state level ground water board /authority. Recently, it is informed that brownish color ground water is observed in bore well.

As per Medium term measures given by Expert Committee (Govt. of Gujarat) 2014, a study of spray dryer was to be conducted, from pollution view point, which shall incorporate survey related to the existing air pollution control devices, ascertaining the adequacy of installed system and suggesting addition /alterations to fulfil the prescribed norms within six months by environment departments of Engineering /Technical Institutes and respective Industrial Associations should bear the cost of the study. However, no action is visible at site and the status quo of pollution discharge is maintained.

6.3 Industrial visits and compliance aspects

Ease of handling waste leads to its categorization based on physical state i.e. solid, liquid and gaseous. At Morbi, ceramic industries are generating and discharging waste in all the three states. Solid waste are visible and can be managed if space for its disposal is provided and the existing solid waste management rules are followed. Coal tar generated in gasifier is illegally used in combustion activity thereby causing air pollution as in the entire Morbi industrial area. While using coal tar in combustion, air pollution control device are not installed, thereby releasing pollutant in the atmosphere. There are several emission points like, spray drier, kiln emission, evaporator emission etc. Therefore, the issue of air pollution in Morbi is very serious and alarming. Liquid waste i.e. mostly condensate wastewater from gasifier and polishing waste from vitrified tiles are not disposed after treatment. In fact the condensate wastewater from gasifier cannot be treated economically and therefore the technology of gasifier needs to be upgraded so as not to generate wastewater and tar. Previous committee (expert committee -2014) has suggested some modifications in the existing coal gasifiers including recycling the condensate wastewater through evaporator to achieve zero liquid discharge. Accordingly, GPCB provided amended CCA for such gasifiers, which is presently termed as Type E' gasifier. Another committee (NGT 2015), recommended for excess wastewater (after evaporation) to be incinerated which is part of notification published by GPCB in August 2017, but till date the industries are not sending excess wastewater to any common incineration facility for disposal of wastewater and common incineration facility not developed. However, it is found that such measures do not solve the wastewater problem and therefore this committee recommends to overrule any such provision of wastewater recycling in the moving bed coal gasifier (up-draft existing gasifiers) and incineration of excess wastewater.

In total, 432 industries visited, 411 industries were found to have coal gasifier and the remaining 21 were using PNG for operating the ceramic industry. There are 384 Type 'B' gasifiers visited, 69 gasifiers are without CCA & therefore illegal and 315 with valid CCA. Out of 384 type 'B' gasifier, 130 gasifiers were not operational and 254 gasifiers were operational where 2 does not have evaporator installed, 96 were not operating evaporator, and 85 were releasing

steam of evaporator in to the atmosphere (more than 50 % operational evaporator). There are 73 type 'B' gasifiers that have provision/practicing direct scrubbing of raw synthetic gas by addition of water pipe line/recirculation line. There are 133 gasifiers that have contaminated cooling water and 32 gasifiers were found to be discharging wastewater inside/outside the premises. All these actions make them non-compliant.

71 industries have exhibited recycling of condensate wastewater in the gasifier shell during the visit of committee members, however, it is not possible to continue such practice for long time due to reasons as elaborated in Chap-2. Therefore, the compliance condition stipulated by the GPCB based on the earlier committee's recommendations is not maintainable and should be cancelled. Regarding management of coal tar generated from coal gasifier, there is large gap between coal tar generation and its authorized use as fuel. A very large quantity of coal tar is illegally used as fuel. By & large, storage, handling & transportation of coal tar is not as per HWM Rules.

There are other difficulties /issues by the industries in handling present coal gasifiers like small scale operations, local suppliers /manufactures of gasifiers without proper Material of Construction (MoCs), without proper operational control, leakages of tar /wastewater, fugitive emissions /smell from open wastewater /tar tanks in the area, industries casual approach for operation of gasifiers, large number of industries /gasifiers in limited area concentrating pollution /safety risks, enforcement difficulties i.e. day to day check on illegal operations not possible with limited manpower and local interferences. Further, other non-compliances observed during industry visits which are elaborated in (chapter-5).

All type 'B' coal gasifiers should be shut down immediately and dismantled, irrespective of whether it is complying with the consent condition or not. The plant premises should be cleared of wastewater and tar, else it should be considered as violation.

The summary of industrial visits with observations is submitted to GPCB. Action should be initiated by GPCB on industries that are operating illegally in the Industrial area of Morbi as per orders (dated 24.07.2017 & 14.11.207) of Hon'ble NGT, Pune. Majority of gasifiers including almost all type-B gasifier with valid CCA visited by the teams and made observations/conclusions and further visits may not influence the observations/conclusion in any way as the issues related to type-B gasifiers are similar in nature. GPCB should further identify all such gasifiers (with CCA & without CCA) and shut them down.

Initiation by the gasifier operators on incineration of wastewater or its bio-chemical treatment should not be considered as a reason for permitting them to operate it further.

Most of the medium term measures (to be taken up by Ceramic Industries Association) mentioned in the

recommendations of the expert committee of Govt. of Gujarat (2014) such as Spray dryer study (adequacy for spray dryers, suggestions on addition/alterations to meet norms etc.), implementation of suggested additions/alteration to APCD by member industries within three months, solid waste management, improvement of roads to improve the ambient air quality etc. by industry association(s) are yet to be fulfilled. As per the information provided by the GPCB, five industrial accidents reported in last two years related to gasifier and therefore safety aspects needs to be seriously considered by concerned department.

Till clean technology gasifier demonstrated, available PNG may be used to avoid any environmental issues/damage which are being created due to mismanagement, illegal disposal of tar and wastewater generated from existing gasifiers.

New advance fluidized bed clean technology gasifiers that does not generate condensate wastewater and tar should be encouraged. Such gasifier should be approved for its material of fabrication, all temperature and pressure measuring gadgets, automated monitoring and control system by Directorate of Industrial Safety & Health (DISH) for authorized installation in Morbi."

19. Thus, as per the above expert study, type A, B, C, D and E coal gasifiers are not viable. If the ceramic industries are to be permitted, their option is to adopt Pipe Natural Gas (PNG). The final conclusion is as follows:

"*Even if condensate wastewater and coal tar is generated from gasifiers in small amount in Morbi — Wankaner Industrial cluster, its cumulative impact on the ecosystem is very severe as there are very large number of ceramic industries exists. Management and handling of wastewater and hazardous waste (coal tar) from all industries together exceeds the assimilative capacity of the region and therefore any gasifier generating condensate wastewater and coal tar should not be permitted. Instead of further experimenting with older moving coal bed gasifiers (currently existing in Morbi), advanced fluidized bad gasifier should be designed along with all pollution control device for meeting the clean energy demands in Morbi region.*

Till a cleaner technology for synthetic gas generation is demonstrated, ceramic industries having gasifiers may opt for PNG. Natural gas grid /pipe connections are already established in area and most of industries are having connections."

20. The CPCB has filed its synopsis on 05.01.2019 with reference to the said report, *inter-alia*, stating as follows:

> *"The Committee (NGT Committee 2017) recommended for closure/dismantling of type-A & B type of gasifiers. Type-C, Type-D and Type-E gasifiers were given trial run permission by GPCB during the visits of the committee. As there is generation of waste water and coal tar in case of Type-C and issues of tar recycling, generation & disposal of huge amount of contaminated/ exhausted filter (aggregates) media in case of Type-D gasifier, these gasifiers are not recommended by Committee. Regarding, Type-E gasifier though, its pollution potential is negligible, its output performance is inadequate to generate required heat for long kiln.*
>
> *Even if condensate wastewater and coal tar is generated from gasifiers in small amount in Morbi-Wankaner Industrial cluster, its cumulative impact on the ecosystem is very severe as there are very large number of ceramic industries exists. Management and handling of wastewater and hazardous waste (coal tar) from all industries together exceeds the capacity of the region as evident from monitoring results of water bodies & ambient air and therefore any gasifier generating condensate wastewater and coal tar should not be permitted. Instead of further experimenting with older moving coal bed gasifiers (currently existing in Morbi), advanced fluidized bed gasifier should be designed along with all pollution control devices for meeting the clean energy demands in Morbi region.*
>
> *Till a cleaner technology for synthetic gas generation is demonstrated, ceramic industries having gasifier may opt for PNG. Natural gas grid/pipe connections are already established in the area and most of the industries are having connections.*
>
> *The ambient air quality of the Morbi-Wankaner ceramic industrial area was with high and alarming levels of PM1o, PM2.5, 502. The concentrations of these pollutants are exceeding many times more than the National Ambient Air Quality Standards (NAAQS). Particulate Matters (PM) emission primarily from spray dryers, use of coal & tar (illegal) in Hot air generator, and also due to handling of raw materials such as coal, different types of clay, poor road condition and vehicular movement. SO2 from spray drier (coal fired Hot air generators), and use of synthetic gas in ceramic kiln, evaporators. The groundwater analysis results show contamination (high COD) at some bore wells which needs to be further investigated through state level ground water board /authority. Recently, it is informed that brownish color ground water is observed in bore well.*
>
> *As per Medium term measures given by Expert Committee (Govt. of Gujarat) 2014, a study of spray dryer was to be conducted, from pollution view point, which shall incorporate survey related to the existing air pollution control devices, ascertaining the adequacy of installed system and suggesting addition /alterations to fulfil the prescribed norms*

within six months by environment departments of Engineering /Technical Institutes and respective Industrial Associations should bear the cost of the study. However, no action is visible at site and the status quo of pollution discharge is maintained.

There is urgent need to provide adequate air pollution control devices to all the sources of air emission including spray driers, coal/clay handling systems with proper roads and solid waste management.

A meeting was convened by CPCB on 31.05.2018 to discuss the pollution matter relating to ceramic industries using coal gasifiers in Morbi-Wakaner areas of Gujarat among CPCB & GPCB. In the meeting it was discussed & recorded that as the Senior Scientists of GPCB and CPCB were part of the Committee (NGT Committee 2017), there is no question of disagreeing with any of the observations/recommendations made by the said Committee. It implies that GPCB 'has to implement the recommendation of the said Committee and considering the gravity of problem in the Morbi-Wakaner. It was informed by GPCB that consent to the Units is issued with condition to achieve the ZLD as per the recommendations of Committee earlier constituted by the Gujarat Govt. Strict action against the Units with Type A gasifier has been initiated leading to closure. Action is being taken in respect of Type B gasifier that do not meet the ZLD conditions as per the NGT order dated 14.11.2017. GPCB further informed that they have carried out fresh survey of industrial Units in compliance of an order passed by the Hon'ble High Court of Gujarat and submitted the report to the Court.

Considering that (a) the NGT Committee 2017 has recommended to use for PNG for such time till a cleaner technology for synthetic gas generation is demonstrated; (b) the natural gas grid /pipe connections are already established in the area; and (c) most of industries are having connections, GPCB was requested to take steps to implement the recommendation of using PNG."

21. In view of the above, it is clear that coal gasifiers are no longer viable. Inspection by GPCB shows high level of air pollution which is dangerous for health and environment. 'Sustainable Development' and 'Precautionary' principles are to be upheld.

22. Purpose of economic development in any region is to provide opportunities for improved living by removing poverty and unemployment. While industrial development invariably creates more jobs in any region, such development has to be sustainable and

compliant with the norms of environment. In absence of this awakening or tendency for monitoring, industrialization has led to environmental degradation on account of industrial pollution. It is imperative to ensure that steps are taken to check such pollution to uphold statutory norms. Adequate and effective pollution control methods are necessary.

23. We may also note that as per data compiled by the CPCB Morbi-Wankaner is one of the polluted industrial clusters. Vide order dated 13.12.2018 in Original Application No. 1038/2018, this Tribunal considered the subject matter of critically polluted industrial clusters and directed preparation of action plans by the respective States for remedying the situation.

24. Even though, this area is polluted but not 'critically polluted', the same may not be covered by the said order, but the fact remains that there is high amount of pollution as shown by the latest report of the GPCB quoted above in para no. 13. PM_{10} is equal to 552.66 and $PM_{2.5}$ is equal to 289.61. Stringent measures are, thus, required in the interest of protection of environment and public health.

25. Accordingly, we allow the applications and direct the GPCB to close all coal gasifiers industries and units operating with the help of coal gasifiers without prejudice to such units switching over to non-coal gasifiers or PNG or technology consistent with the above report. The GPCB must initiate immediate steps for prosecution of the industries which have operated in violation of law and recover compensation for causing damage to the environment and public health. This amount may be assessed by a Committee with representatives of CPCB, GPCB and NEERI. The CPCB will be the nodal agency for

coordination and compliance. The Committee may suggest restoration plan.

26. The Committee may give its report within one month by e-mail at ngt.filing@gmail.com.

27. The Committee may take into account the cost of reversing the damage caused and also the amount to be recovered which will operate as deterrent and render any polluting activity non-profitable.

28. To oversee the execution of this order by the GPCB, we appoint an Oversight Committee headed by Justice B.C. Patel, former Chief Justice of Delhi High Court and former Judge of Gujarat High Court who is already heading an Oversight Committee constituted by this Tribunal vide order dated 16.01.2019 in O.A. 606/2018. He will also be assisted by a representative of CPCB. The GPCB will provide all logistics to Justice Patel. Any person concerned with execution of this order will be at liberty to represent to the said Oversight Committee.

29. Learned Counsel for the GPCB states that expenses incurred by the NEERI will be paid as per direction of this Tribunal within one month from today.

30. Industries have filed applications which have no merit and are not maintainable under Sections 14 and 15 of the National Green Tribunal Act, 2010. Same is the position with regard to the applications of the manufacturers.

All the applications stand disposed of accordingly.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

March 06, 2019
Original Application No. 20/2017 (WZ)
(M. A. No. 344/2017 & M. A. No. 91/2018) and other connected matters
DV&AS

Item No. 02 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 400/2019

(With report dated 05.12.2022)

Social Action for Forest &
Environment (SAFE) Applicant

Versus

Union of India & Ors. Respondent(s)

Date of hearing: 07.11.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Sanjay Upadhyay, Advocate

Respondent(s): Mr. Raj Kumar, Advocate with Mr. Anand Kumar, Scientist E, CPCB
Mr. Saurabh Kulkarni, Advocate for Association of Rubber & Tyre Recycling Industries

ORDER

1. The issue for consideration is the absence of proper management of End-of-Life Tyres/Waste Tyres (ELTs) in accordance with the Environment (Protection) Act, 1986, Environment (Protection) Rules, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, CPCB Guidelines for Environmentally Sound Management of End of Life Vehicles, 2016 and Standard Operating Procedure (SOP) issued by the MoEF&CC on the subject.

2. The matter has been earlier considered and dealt with by several orders in the last three years, particularly orders dated 19.09.2019 and

25.10.2021. By order dated 19.9.2019, the Tribunal considered the CPCB report dated 30.07.2019 mentioning the data of such units and their compliance status. The report inter alia suggested that non complying units should take specified measures viz. those following 'batch process' should switch over to 'continuous process', feed to the continuous reactors should be in the form of tyre chips and mechanical feeding system should have air lock arrangements so that no air enters in the reactors. The units should install packed bed scrubber for control of gaseous emission and reduction of odour. The tyre pyrolysis units should strictly follow the Standard Operating Procedures (SOPs) issued by MoEF& CC for continuous process and the consent conditions issued by SPCBs/PCCs. Considering the report, the Tribunal directed remedial action against non-compliant units, including levy of compensation on 'Polluter Pays' principle.

3. Accordingly, CPCB issued directions dated 04.12.2019 and 30.12.2019 to the State PCBs/PCCs to close down non-compliant units, to maintain vigilance and to monitor compliance. It also initiated study through NEERI and IIT Delhi for further safeguards. Considering the matter, the Tribunal vide order dated 06.01.2020 directed further action and completion of pending study. The study report, alongwith further action taken report, was filed by CPCB before the Tribunal on 23.10.2021. Vide order dated 25.10.2021, the Tribunal directed acceptance of observations and recommendations in the report of CPCB which were as follows:-

"8……xxx……xxx……xxx

7.0 RECOMMENDATIONS OR THE STUDY ON ADEQUACY OF TYRE PYROLYSIS PLANTS TO MEET ENVIRONMENTAL CONCERNS

i. ***All the existing batch Tyre Pyrolysis Plants to install additional features like PLC based control arrangement, bypass arrangement for pyro gas from reactor door to primary condenser, installation of gas sensors, pressure, temperature gauges at reactor & storage tank, alarm system, flaring of entire pyro gas during emergency, arrangement for re-circulation of pyro gas for reactor's heating, provision for flaring of pyro gas, suction hoods over the gate of reactor and carbon black powder bagging area, water sprinkler system and mechanized arrangement for removal of carbon black powder and steel scrap and arrangement of Nitrogen(N2) purging.***

ii. ***Initial firing of reactor and heating of the reactor to be done either by using pyro gas generated by the plant itself or by use of purge water (oil mix water)/oil water emulsion, or by tyre pyrolysis oil or any other fuel approved by concerned SPCBs /PCCs. After generation of pyro gas, the same is to be used for the purpose of heating reactor. Plants to install adequate APCD for controlling flue gas emissions.***

iii. ***Feed to tyre pyrolysis plants has to be full waste tyre or two piece cut waste tyre with steel for better operational control in existing batch tyre pyrolysis plant.***

iv. ***It has been observed that unloading of steel scrap from the reactor results into spillage of carbon black around the reactor area and generates fugitive emission. Plants to ensure no such spillage occurs by using suitable trays with wheels for transporting the steel scrap within the premise from generation points to storage points. This operation can be made cleaner by use of vacuum cleaner after each batch operation.***

v. ***Unloading of carbon black powder from the reactor should be done under controlled conditions through a pneumatic /screw conveyor system in such a manner that the contents of the reactor are not open to the atmosphere at any point of time. The end of the conveyor system shall be attached to a bagging plant where all the carbon black powder will be bagged in the HDPE bags with proper sealing.***

vi. ***Suction hood to be installed above door of the reactor. Suction hood also to be installed at the transfer points across the work zone such as at carbon black powder bagging area etc. to control fugitive emissions. All suction hood to be connected to centralized bag filters /wet scrubber attached with stack of 30 m height (installed for control of flue gas emissions).***

vii. ***Water sprinklers to be installed at the transfer points for arresting fugitives.***

viii. ***Tyre Pyrolysis Plants to install ETP for proper treatment of waste water generated. Also plants to ensure that treated water be re-used in unit itself & there is zero effluent discharge in all the Tyre Pyrolysis Plants***

ix. ***The transportation of Carbon Black and Tyre Pyrolysis Oil (TPO)should strictly be done in closed vehicles to***

ensure that there is no spillage of carbon black or TPO during their transportation

x. All Tyre Pyrolysis Plants to carry out annual health check-up of all the employees working in the unit & submit its report to concerned SPCBs/PCCs on annual basis.

xi. SPCBs/PCCS to carry out vigilance & randomly inspect Tyre Pyrolysis Plants @ 25% of total Tyre Pyrolysis Plants per annum in their respective States/UTs and submit their compliance reports quarterly and annually to CPCB.

xii. SPCBs/PCCs while granting consent to establish & operate a new Tyre Pyrolysis Plants only after assessing the area of the plant premises where unit is proposed. The area of the plant premises carry more weightage as the emission from tyre pyrolysis unit does not affect far away community, instead it is the immediate neighborhood that is affected. Black carbon, being large size particle is accidently spilled over in the plant premises during its handling and therefore cannot travel to larger distance under the influence of wind. Odor remains a nuisance to the nearby residential and industrial area. In case of existing plants seeking expansion of processing capacity, the same may also be granted only after plant area is found sufficient. CPCB will issue guidelines on area of the plant premises accordingly within ten months.

xiii. CPCB to revise SoP and prepare guidelines for both existing batch and continuous tyre pyrolysis plant and its process within ten months."

4. In response to the above, the Applicant made further suggestions for remedial action with reference to compiling relevant data, implementation of Hazardous Waste Rules 2016, monitoring of information provided by the occupiers, ban/regulation of Pyrolysis Plants, extended producer's responsibility on the manufacturers of tyres and guidelines for alternative environment friendly uses of ELTs based on global best practices. The Tribunal directed further study on related issues and necessary action for ensuring compliance of norms. The operative part of the order is reproduced below:-

> *"11. Accordingly, further remedial action be taken by the CPCB in coordination with the State PCBs/PCCs for* ***compliance of environmental norms, consistent with the Water and Air Acts, HOWM Rules and safety aspects to prevent accidents and for protection of public health. There is need for further studies***

on the subject of siting criteria, threshold limit of a plant, carrying capacity, standards for effluents, emissions and hazardous or other waste and monitoring mechanism, preferably with larger samples size which may preferably be 10% of the total plants. The monitoring needs to be more extensive and prompt with reference to the category of the Tyre pyrolysis units – Red, Orange, Green or White. In the light of such further study, appropriate SOP needs to be issued promply in view of potential for damage to the environment from the hazardous activities in question.

12. Accordingly CPCB may, apart from initiate prompt remedial action in the light of above recommendations, require the Committee to undertake further study on above aspects with liberty to co-opt any other expert/institution. The same may be completed within three months. The report of the Committee with comprehensive recommendations be filed before the Tribunal within four months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The same may also be placed on the website of the CPCB for comments of any stakeholders within two weeks thereafter for consideration of this Tribunal.

13. The concerned State PCBs/PCCs may inspect the compliance status of all such units in terms of availability of requisite consent and status of compliance of the environmental norms and take such remedial action as may be found necessary in accordance with law. They may give their action taken report to the CPCB by 28.2.22 for preparing a consolidated status report."

5. In pursuance of above, further report dated 05.11.2022 has been filed by CPCB compiling the status based on information furnished by the State PCBs. Extracts from the report are as follows:-

"In compliance to the above directions, CPCB has taken following actions:

i. CPCB vide its letter dated 25.11.2021 asked concerned SPCBs (where TPO units exists) to ensure compliance of NGT's order and also carry out inspection of all tyre pyrolysis units in the State/UT to inspect their compliance status in terms of availability of requisite consent and status of compliance of the environmental norms. CPCB provided format for submission of the compliance report.

ii. CPCB convened meetings with all SPCBs/PCC to review status of compliance of Hon'ble NGTs order on 13.01.2022.

iii. In compliance to Hon'ble NGT order, CPCB prepared a study format and circulated amongst concerned SPCBs for carrying out detailed study in at least 10% of the operational TPO units in their respective states.

iv. *CPCB convened meeting with concerned SPCBs through video conference (VC) on 04.07.2022 to review status of compliance in carrying out studies in 10% of the TPO units.*

v. *Studies have been carried out for 70 TPO units through SPCBs/PCCs. CPCB has done compilation and assessment of these studies for establishing the conclusion as arrived through earlier studies of 07 TPO units.*

vi. *In consultation with expert members from NEERI & IIT-Delhi, CPCB has revised the existing SoPs w.r.t "Recycling of Waste Tyre Scrap for production of Tyre Pyrolysis Oil in line with various concern raised. While revising the SoPs, CPCB has studied the existing guidelines of SPCBs w.r.t TPO units, detailed study of 07 TPO units carried out by CPCB, study of 70 TPO units carried out with the help of concerned SPCBs and also the recommendations of the petitioner i.e. Social Action for Forest & Environment(SAFE).*

vii. *The SOP has been revised and aligned with the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022 notified on 2107-2022. The draft of revised SOP was placed on the web site of CPCB and also circulated among stakeholder for seeking suggestions and comments. The last date of submission of comments was 31-10-2022. The comments are being compiled for finalising the draft. The finalised SOP will be forwarded to MoEF & CC for their concurrence.*

3. Outcomes:

Following are the outcomes of CPCB's actions taken in compliance to Hon'ble NGT's order dated 25.10.2021:

i. *CPCB has compiled compliance report of 17 states where TPO units are existing presently. The compliance report along with CPCB's observations on the same are at attached at* ***Annexure-I.***

ii. *CPCB has complied the detailed study of 70 TPO units w.r.t. study of 10% units. Complied reports along with outcome arrived from these studies is attached at* ***Annexure-II.***

iii. *In consultation with expert members from NEERI & IIT-Delhi, CPCB has developed SoPs w.r.t "Recycling of Waste Tyre Scrap for production of Tyre Pyrolysis Oil. CPCB has studied the existing guidelines of SPCBs w.r.t TPO units, detailed study of 07 TPO units carried out by CPCB, study of 70 TPO units carried out with the help of concerned SPCBs and also the recommendations of the petitioner i.e. Social Action for Forest & Environment (SAFE).*

iv. *The SOP has been revised and aligned with the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2022 notified on 21-07-2022. The notification is at* ***Annexure —III.*** *The draft of revised SOP was placed on the web site of CPCB and also circulated among stakeholder for seeking suggestions and comments. The last date of submission of comments was 31-10-2022. The comments are being compiled for finalising the draft. The finalised version of SOP will be forwarded to MoEF & CC for their concurrence"*

6. The Annexure to the report gives the compliance status in the country as follows:-

Compliance Status of Tyre Pyrolysis Units (TPO Units) in the country

i. *There are 757 Tyre Pyrolysis units (TPO Units) situated in 17 states of the country. Maximum number of units are in the state of UP (148) followed by Haryana (101), Rajasthan (95) and Maharashtra (85).*

ii. *Out of 757 units, 349 units are complying with consent conditions and SOP of MoEF &CC, 216 units are non-complying.*

iii. *Actions against non-complying units like closure directions/show cause notices have been issued. Many of the non-complying units have been closed.*

iv. *Around 192 TPO units are closed. Most of the closed units are closed in compliance of CPCB's directions dated 04.12. 2019.*

v. *Out of total 757 units, 749 units are operating on batch process and 08 units are based on continuous process.*

vi. *Most of the SPCBs/PCCs have categorized TPO units under Red Category except for the States of Chhattisgarh, Haryana, J& K, U.P and Uttarakhand. In the States of Haryana & U.P, TPO units have been categorized under "Orange" category, while in the States of Chhattisgarh & Uttarakhand, some of the units are categorized under red and some are categorized under orange. In J&K while 05 units have been categorized under red category and one unit has been categorized under green.*

The compliance status is summarized in the table below:

S.No	Name of State	Number of TPO units	Compliance Status		Closed/Self closed	Remarks
			Complying	Non-Complying		
1.	Andhra Pradesh State Pollution Control Board	39	21	18	-	Closure directions issued to 16 units and 02 units are self-closed
2.	Assam State Pollution Control Board	06	05	01	-	Closure Notice has been issued
3.	Chhattisgarh Environment Conservati on Board	29	15	06	08	Closure direction issued to all the 06 units
4.	Haryana State Pollution Control Board	101	51	42	08	Closure directions issued to non-complying units
5.	J & K State Pollution Control Board	06	-	02	04	04 units are non-operational and self-closed. Actions initiated against the non-complying units
6.	Jharkhand State Pollution Control Board	13	05	04	04	-
7.	Karnataka State Pollution Control Board	34	12	19	03	-
8.	Kerala State Pollution Control Board	01	01	-	-	-
9.	Maharashtra State Pollution Control Board	85	32	24	29	-
10.	Madhya Pradesh State Pollution Control Board	64	26	11	27	Non-complying units have been issued notices.
11.	Odisha State Pollution Control Board	13	06	04	03	Actions initiated against non-complying units
12.	Punjab State Pollution Control Board	18	11	04	03	Actions initiated against non-complying units
13.	Rajasthan State Pollution Control Board	95	28	07	60	Actions initiated against non-complying units. Out of 60 closed, 35 units are closed by Board and 25 units are self-closed
14.	Tamil Nadu State Pollution Control	25	20	03	02	Actions initiated against non-complying unit
15.	Telangana State Pollution Control Board	61	43	07	11	Status of 02 units is not provided. Actions initiated non-complying units
16.	Uttar Pradesh State Pollution Control Board	148	71	53	24	ECC of Rs 1,23,37,185/-imposed on 15 units. Actions initiated against non-complying units
17.	Uttarakhand Pollution Control Board	19	02	11	06	-

	Total	*757*	*349*	*216*	*192*	-

7. We have heard learned Counsel for the parties and given further consideration to the issue in the light of above material.

8. It is seen that action has been taken against number of non-complaint units but there still remains gap in the units which are non-compliant and units against whom action has been taken to close them till compliance. Such gaps need to be bridged at the earliest in the interest of rule of law and environmental good governance. Tyre Pyrolysis Oil Units (TPOs) need to follow 'Zero Liquid' and 'Zero Emission' norms. Further, carbon produced during the process needs to be utilized in cement industries. Carbon material should not be simply transported to landfills.

9. Accordingly, we direct that non-compliant units be closed till compliance expeditiously. CPCB may finalize the classification of the units so that application norms can be enforced. Revised SOP may be finalized by the CPCB and MoEF&CC in light of discussion in today's hearing and above observations within one month. SOP may also provide for certifying the fuel quality standards of pyro-oil as per norms of the Petroleum Ministry.

The application is disposed of.

A copy of this order be forwarded to CPCB, MoEF&CC, State PCBs/PCCs by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

November 07, 2022
Original Application No. 400/2019
SN

Item No.10 Court No.1

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA

(THROUGH PHYSICAL HEARING WITH HYBRID MODE)

Original Application No.125/2023/EZ
(Earlier O.A. No.511/2022/PB)

IN THE MATTER OF:

Mr. Chandrashekhar Khawade
Principal, Taurian World School,
District Ranchi, Jharkhand

....Applicant(s)

Versus

1. State of Jharkhand,
Through its Chief Secretary, Government of Jharkhand,
1st Floor, Project Building,
Dhurwa, Ranchi- 834004;

2. The Member Secretary,
Jharkhand State Pollution Control Board,
H.E.C., Dhurwa, Ranchi- 834004,
Jharkhand;

3. District Magistrate, Deoghar
Deoghar Samaharnalay,
Williams Town,
Deoghar, Jharkhand- 814112;

4. M/s Sita Ram Soap Works (SITCO Soap Factory)
(Project Proponent)
CP Drolia Road, Shivganga Muhalla,
Near Laxmi Market, Deoghar,
Jharkhand 814112

....Respondent(s)

Date of hearing: 09.05.2024

CORAM: HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant(s) : Mr. Chandrashekar Khawade, in person (in Virtual Mode)

For Respondent(s) : Ms. Aishwarya Rajyashree, Adv. for R-1&3 (in Virtual Mode),
Mr. Dev Aaryan, Advocate for R-2 (in Virtual Mode),
Mr. Anoop Kumar Mehta, Advocate for R-4 (in Virtual Mode)

ORDER

1. The present Original Application No.511/2022 was taken up *suo motu* by the New Delhi Bench of the National Green Tribunal on a letter petition filed before it alleging that SITCO Soap Industry is being run in violation of environmental norms in a thickly populated area near Baidnath Mandir, Laxmi Bazar/Ganesh Market in District Deoghar, Jharkhand. It was also alleged that the said industry which is stated to fall in the green category, emits heavy smoke from its chimney three days a week on every Monday, Wednesday and Friday and untreated polluted industrial effluent is also being discharged in the municipal drain of Deoghar Municipal Corporation.

2. The New Delhi Bench of the NGT constituted a Joint Committee comprising of the representative of the State Pollution Control Board and District Magistrate, Deogarh and directed the Committee to submit its Report with regard to the factual position.

3. A Joint Inspection Report was filed vide email dated 14.03.2023 before the New Delhi Bench of the NGT which reads as under:-

> ***"Action Taken Report (ATR) in light of the directions issued by the Hon'ble National Green Tribunal (NGT), Principal Bench (PB), New Delhi in its order dated 30/08/2022 in 0. A. No. 511/2022 in the matter of Chandrashekhar Khawade Versus State of Jharkhand.***
>
> 1. *In light of the order dated 30/08/2022 issued by the Hon'ble National Green Tribunal (NGT), Principal Bench (PB), New Delhi in O. A. No. 511/2022 in the matter of Chandrashekhar Khawade Versus State of Jharkhand, the Jharkhand State Pollution Control Board (JSPCB) vide its Ref. No. B - 2024 dated 22/09/2022 has informed the Deputy Commissioner, Deoghar about the abovesaid order and nominated the Regional Officer, JSPCB Regional Office - Cum - Laboratory, Dumka as the member of the committee on behalf of the JSPCB to look into the matter.*

The copy of the JSPCB's Ref No. B-2024 dated 22/ 09/2022 is enclosed herewith as ***Annexure `A'.***

2. *The Regional Officer, JSPCB Regional Office — Cum — Laboratory, Dumka has submitted the Inspection Report of the Committee (comprising of the Executive Magistrate, Deoghar and the Regional Officer, JSPCB Regional Office-cum-Laboratory, Dumka) vide Ref. No. 1740 dated 18/10/2022. In view of the observations of the committee it was recommended that the Competent Authority may issue necessary direction to ensure the following: -*

a) *Unit shall install oil trapper at last discharge point for trapping of oil from floor wash /domestic discharge.*
b) *Unit shall do proper Rain Water Harvesting following the implementation of RWH plan.*
c) *Unit shall install stack as per CPCB norms, along with Air Pollution Control Device.*
d) *Unit shall do plantation in vacant land. If land is not available it will be done in several big Unit shall do proper solid waste dumping.*

The copy of the Ref No. 1740 dated 18/ 10/ 2 022is enclosed herewith as ***Annexure 'B'***

3. *In compliance to the directions issued by the Hon'ble NGT, PB, New Delhi, a copy of the Inspection Report submitted by the committee was forwarded to the Incharge, M/s Sitaram Soap Works, Deoghar (Unit) to enable him to comply with the recommendations in the report of the Joint Committee or file objections against the observations/recommendations in the report of the Joint Committee before the Hon'ble Tribunal. Moreover, it was, also directed to submit the time bound action plan to comply with the conditions of the previous CTO as well as the recommendations made in the report of the committee vide Board's Ref. No. B - 2650 dated 19/12/2022.*

The copy of the Board's Ref No. B - 2650 dated 19/ 12/2022 is enclosed herewith as ***Annexure 'C'.***

4. In reply, the Authorized representative of the Unit vide its letter dated 02/01/2023 has informed that the working partner of the firm was admitted in a hospital in Pune and in his absence the complete compliance of the recommendation was getting delayed and has[8] requested for further 30 days' time to report compliance of the recommendations.

The copy of the Unit's letter dated 02/01/2023 is enclosed herewith as ***Annexure 'D'.***

5. *In light of the abovementioned reply submitted by the Unit, the Board vide its Ref. No. B - 234 dated*

31/01/2023 had issued certain directions which are as follows: -

a) *To stop the operation of the Unit with immediate effect till Renewal CTO is accorded.*
b) *To submit the Rain Water Harvesting Scheme (RWHS) within 15 days and implement the RWHS within 2 months.*
c) *To maintain the neat and clean factory premises.*
d) *To make the proper drainage system and the Katcha drain which meets the municipal drain should be made pucca within 15 days of issuance of this letter.*
e) *The Ash which is stored inside the premises, its quantity should be submitted to the Board within 15 days and it should be disposed of properly within 2 months.*
f) *To install the oil trapper at last discharge point for trapping of oil from floor wash/domestic discharge.*
g) *To install the stack as per the CPCB norms, along with the Air Pollution Control Device within 3 months.*
h) *To do plantation in vacant land and if land is not available it should be done in several big baskets.*
i) *To do proper Solid Waste Dumping.*

The copy of the Board's Ref. No. B - 234 dated 31/01/ 2023 is enclosed herewith as ***Annexure `E'.***

6. *The Unit has submitted the compliance of recommendations of the Committee vide its letter dated 02/02/2023.*

The copy of the Unit's letter dated 02/02/2023 is enclosed herewith as Annexure 'F'.

7. *In light of the abovementioned compliance report submitted by the Unit, the Regional Officer, JSPCB Regional Office - Cum - Laboratory, Dumkawas directed vide Board's Ref. No. B - 395 dated 27/02/2023to verify the compliance status of the Unit w.r.t. the directions issued by the Board vide Ref. No. B234 dated 31/01/2023 and submit the Verification Report.*

The copy of the Board's Ref. No. B -395 dated 27/02/ 2023 is enclosed herewith as Annexure 'G'.

8. *The Regional Officer, JSPCB Regional Office - Cum - Laboratory, Dumka vide his Memo. No. 770 dated 10/03/2023 has submitted the Inspection Report of the Unit. The observations of which is as follows: -*

S. N.	Directions issued vide Board's Ref. No. B-234 dated 31/01/2023	Compliance Status
a)	To stop the operation of the Unit with immediate effect till Renewal CTO is accorded.	Complied (Unit was Not under operation)
b)	To submit the Rain Water Harvesting Scheme (RWHS) within 15 days and implement the RWHS within 2 months.	Complied (Two Pit has been constructed fo RWH)
c)	To maintain the neat and clean factory premises.	Complied
d)	To make the proper drainage system and the Katcha drain Which meets the municipal drain should be made pucca within 15 days of issuance of this letter.	All the drain system Found Pucca up to meeting point at municipal drain.
e)	The Ash which is stored inside the premises, its quantity should be submitted to the Board within 15 days and it should be disposed of properly within 2 months.	Unit was not found under operation total coal ash dumped in low lying area after wetting.
f)	To install the oil trapper at last discharge point for trapping of oil from floor wash/domestic discharge.	Oil trapper has been provided.
g)	To install the stack as per the CPCB norms, along with the Air Pollution Control Device within 3 months.	Stack found as per CPCB norms along with scrubbing system.
h)	To do plantation in vacant land and if land is not available it should be done in several big baskets.	30 nos. of plants along with basket found during inspection.
i)	To do proper Solid Waste Dumping.	Solid waste (Mainly ashes 86 domestic waste) is being disposed of by Deoghar Municipal Corporation application and receipt regarding is enclosed with.

The copy of the Memo. No. 770 dated 10/ 03/2023 is enclosed herewith as Annexure 'H'."

4. Considering the Report of the Committee, the Tribunal issued notices to the Respondent Nos.1, 3 & 4.

5. The New Delhi Bench of the NGT by an order dated 15.03.2023, considering the Report of the Committee ordered that the Unit in question of the Respondent No.4, Project Proponent, shall remain closed till further orders.

6. I.A. No.455/2023 was also filed by the Respondent No.4, Project Proponent, praying for earlier hearing of the case.

7. By order dated 23.05.2023, the NGT, New Delhi modified its order dated 15.03.2023 and observed that the Respondent No.4 will be entitled to operate the industry in question on renewal of the Consent to Operate (CTO) by Jharkhand State Pollution Control Board while ensuring strict compliance with the environmental norms. The Tribunal also observed that the Respondent No.4 is using coal which generates fly ash, even though it is stated that the fly ash is being disposed of through Deoghar Municipal Corporation for filling low lying areas. The Tribunal, therefore, observed that it would be appropriate in the circumstances that possibility of use of fly ash for brick manufacturing or supply to some cement manufacturing industry is explored by the Respondent No.4 and appropriate contractual arrangement is made in this regard.

8. The Tribunal also observed that the Respondent No.4 is using caustic soda and edible oils in manufacturing of the soap and the effluent generated is discharged in the municipal drain and though the connecting drain has now been made pucca and oil trapper is also stated to have been installed but remedial measures are required to be taken to ensure that the effluent does not cause any

environmental damage. The Tribunal also directed the Respondent No.4 to explore the possibility of treating effluent by appropriate measures such as construction of settling tanks to ensure that it does not contain any chemicals before it is discharged to the municipal drain.

9. Thereafter, by an order dated 22.08.2023, the case file was transferred to the NGT, Eastern Zone Bench, Kolkata. Upon transfer, the case has been re-numbered as O.A. No.125/2023/EZ.

10. The Respondent No.4, Project Proponent, has filed affidavit dated 06.04.2023 and it is stated that the said industry has been in operation since 10.10.1937 i.e. about 85 years and is involved in the process of making soap. It is also stated that prior to the interim order of the Tribunal dated 16.01.2023, different types of vegetable oils were taken in a pan and then heated by using coal and upon heating of oil for approximately 4 hours, the optimum temperature of 75^0 C is reached. It is further stated that once the oil got heated caustic soda was added which upon chemical reaction, formed soap. The soap so made was allowed to settle in slow heat and allowed to cool for about 6 hours. Thereafter, semi-solid soap was taken out and poured in a small pan and mixed with powder for bonding and then added with silicate for volume/filler. Paragraph-5 of the said affidavit reads as under:-

> *"5. That I say the Respondent No.4 before the order of stoppage dated 16.01.2023 was engaged in the business of manufacture of soap for washing clothes. Manufacture of soap had commenced in the works of the Petitioner about 85 years ago since 10.10.1937 through locally available vegetable oils.*
>
> *The process of soap making in the works of Respondent No.4 had been simple. Different types of vegetable oils were taken in pan and then heated by using coal. Upon heating of oil*

for approximately 4 hrs, the optimum temperature of 75 Degree Celsius is reached. Once oil got heated Caustic Soda was added, which upon chemical reaction, formed soap. Soap so made was allowed to settle in slow heat. Soap so formed was then allowed to coal for about 6 hrs. Therefore, semi solid soap was taken out and poured in small pan and mixed with powder for bonding and then added with silicate for volume/filler. The mixture was then poured into frames and allowed to solidify. The solidified soap was thereafter cut, stamped and packed by hand for sale in nearby shops of small towns/villages."

11. It is stated that the Respondent No.4 does not discharge any water as affluent in the manufacturing process; domestic water used in the operation of the Respondent flows into the Pucca Municipal Drains of Deoghar Municipal corporation; the Respondent uses coal in its refined form namely Briquette, a Special Smokeless Fuel (SSF).

12. The Respondent No.3, District Magistrate, Deoghar in his affidavit has stated that SITCO Soap factory was visited on 13.04.2023 by Shri Animesh Ranjan, IAS and after due physical inspection, Report dated 13.04.2023 was submitted which is as under:-

Sl. No.	***Directions issued vide Board's Ref. No.B-234 dated 31/01/2023***	***Enquiry/Verification Report***
a)	*To stop the operation of the Unit with immediate effect till Renewal CTO is accorded.*	*Complied- Unit was not under operational during the visit and with further enquiry in the local area people confirmed unit is closed. Sales Trend also reflect the same. (Sales Report Enclosed)*
b)	*To submit the Rain Water Harvesting Scheme (RWHS) within 15 days and implement the RWHS within*	*Complied- There are two rain water harvesting project in the premises (twin*

	2 months.	*pit).*
c)	*To maintain the neat and clean factory premises.*	*Complied- Factory premises was neat and clean.*
d)	*To make the proper drainage system and the Katcha drain which meets the municipal drain should be made pucca within 15 days of issuance of this letter.*	*Complied- Newly constructed drainage system was found in the backside linking it to Municipal drain (Slope is form entry/main gate of factory to exit/backside)*
e)	*The Ash which is stored inside the premises, its quantity should be submitted to the Board within 15 days and it should be disposed of properly within 2 months.*	*Complied- Since factory is not under operation coal ash dumping area was empty. Also Municipal Area for transport of waste. They are also having transiting from coal to Briquette.*
f)	*To install the oil trapper at last discharge point for trapping of oil from floor wash/domestic discharge.*	*Complied- Found Oil trapper installed in the premises (Gravitational one)*
g)	*To install the stack as per the CPCB norms, along with the Air Pollution Control Device within 3 months.*	*Complied- Found stack installed in the premises.*
h)	*To do plantation in vacant land and if land is not available it should be done in several big baskets.*	*Found 30 plants in basket during the verification visit.*
i)	*To do proper Solid Waste Dumping.*	*No solid waste now in factory premises as factory is not operational one Solid waste transportation receipt from Deoghar Municipal Corporation was found.*

That during verification the verifying officer found that currently factory is not operational."

13. The Chief Secretary, Govt. of Jharkhand, has filed affidavit stating therein that the Jharkhand State Pollution Control Board issued a

direction on 31.01.2023 directing the Project Proponent to stop operation of the Unit with immediate effect till Consent to Operate (CTO) is renewed.

14. The Jharkhand State Pollution Control Board in its affidavit has stated that the Regional Officer, got the Unit inspected on different dates namely from 14.04.2023 to 17.04.2023. The Unit was inspected by Shri Ravi Kumar, Assistant Scientific Officer, Jharkhand State Pollution Control Board, Regional Office, Dumka and during inspection, the Unit was found closed.

15. The Respondent No.4, SITCO, has filed further affidavit dated 23.07.2023 stating that it was directed by Jharkhand State Pollution Control Board to carry out additional plantation work, disposal of fly ash to brick manufacturers who use fly ash and to construct settling tank so that no effluent is discharged. It is also stated that the Project Proponent vide its letter dated 10.06.2023 submitted its action plan to the Regional Officer, Jharkhand State Pollution Control Board, Dumka and thereafter, Consent to Operate (CTO) dated 15.06.2023 has been granted to the Project Proponent. The said Consent to Operate (CTO) is valid upto 31.12.2023.

16. It is stated that the Respondent No.4 had discussions with number of brick manufacturers and finally one M/s Singhal Infra has agreed to use the fly ash for brick manufacturing and a letter to that effect has also been issued by M/s Singhal Infra. It is also stated that the Respondent No.4 approached M/s Lachhiramka & Associates, Architects and Designers for designing a settling tank for the factory and now the said Respondent has also constructed the settling tank within the factory premises. The bill raised by the Architect dated 01.07.2023 has been filed with the affidavit. It is

also stated that 20 Ashok plants were purchased from the Forest Department and have been planted on 06.07.2023; similar Ashok plants have been planted in the earlier years also. Copy of the Consent to Operate (CTO) dated 15.06.2023 has been filed with the affidavit.

17. Further affidavit dated 07.05.2024 has been filed by Respondent No.4, Jharkhand State Pollution Control Board, stating therein that the Assistant Scientific Officer, JSPCB, Regional Office, Dumka, again inspected the site on 26.04.2024 and submitted his Report which reads as under:-

> ***"Inspection Report of M/s Sitaram Soap Works, (SITCO Soap Factory) in compliance to the directions issued by the Hon'ble NGT, EZB, Kolkata in its order dated 09/04/2024 in O.A. No.125/2023/EZ (Earlier O.A. No.511/2022/PB) in the matter of Chandrashekhar Khawade Versus State of Jharkhand & Ors.***
>
> ---
>
> *In compliance to the directions issued by the Hon'ble NGT, EZB, Kolkata in O.A. No.125/2023/EZ (Earlier O.A. No.511/2022/PB) in the matter of Chandrashekhar Khawade Versus State of Jharkhand & Ors. vide order dated 09/04/2024 the Hon'ble Tribunal was pleased to direct the JSPCB to re-inspect the Unit and submit a fresh inspection report on all environmental parameters including smoke generation, ash generation & consumption of ground water etc.*
>
> *In the light of above direction issued by Hon'ble NGT M/s Sitaram Soap Works (Sitco Soap Factory), C.P. Drolia Road, Deoghar was inspected on 26/04/2024 by Sri Ravi Kumar, Assistant Scientific Officer, JSPCB Regional Ofice-cum-Laboratory, Dumka & findings are as under-*
>
> *a) M/s Sitaram Soap Works (Sitco Soap Factory) is situated in thickly populated area near Ganesh/Lakshmi Market, Deoghar. The Unit is operating since 1937.*
>
> *b) The Unit falls under Green category & is involved in production of handmade soap using Fatty Acid-570 Kg/Day, Soap Stone Powder-10 Kg/Day, Caustic-200 Ltr/Day, Cilicate-20 Kg/Day as raw materials. Approx. 200 liters of water is used for caustic mixing.*
>
> *c) The Unit is now using briquette of Paddy Husk-160 Kg/Day as a fuel. Ash generation is 08-10% of fuel used,*

ash is being sent to fly ash bricks manufacturer (M/s Singhal Infra, Jasidih, Industrial area, Jasidih, Deoghar).

d) The Unit has installed a stack of height 30.43 mtr. Attached with Kiln. Current Stack Monitoring Report done by Envirocheck Lab, Dhanbad, recognized by JSPCB Ranchi is attached herewith. The monitored parameter (SPM-Suspended Particulate Matter) is found under limit.

e) There are 05 nos. of Kiln existing in the Unit, out of which 02 to 03 Kiln is generally operated & rest is Kiln is for standby, as informed by the Unit.

f) There are 30 nos. of Plant (sapling) found inside the plant premises. No more space is available for further plantation.

g) Two Rain Water Harvesting structures has been constructed.

h) 500 ltr/day water is being used for domestic purpose."

18. The Applicant appeared in Virtual Mode in the proceedings before this Tribunal on 20.09.2023 and filed his submissions by email stating therein that the number of workers stated in the affidavit of Respondent No.4 is wrong and that there are more than 16 employees working. We may at the outset point out that the number of employees working with the Respondent No.4 is not an environmental question at all and this Tribunal has no jurisdiction to go into those questions as to whether the labour/staff engaged by Respondent No.4 are adequate or insufficient or in excess. The next point raised by him is that in spite of the factory being ordered to be closed by the Tribunal it was never closed and continued to operate. He has also assailed the Inspection Report of Shri Ravi Kumar, Assistant Scientific Officer, JSPCB, Regional Office, Dumka and it is stated that allegations of corruptions have been made against him. It is also alleged that no inspection was conducted by the Committee constituted by the Tribunal. He has alleged that during inspection he was not informed and Inspection Report has

also not been given to him. The Applicant has also requested that a Committee from some other State other than Jharkhand should be constituted to inspect the premises of the Respondent No.4 and that the Applicant may be permitted to carry out video recording of the inspection.

19. Today when the matter was being argued and the learned Counsel for the parties were being heard, the Applicant was throughout present in the Virtual court proceedings and though we called upon him to make his submissions he did not make any submissions and after the proceedings had closed, he sent an email in the office of the Tribunal stating that he had not been given an opportunity of being heard. He submitted an email dated 09.05.2024 which was received in the Tribunal at 12:43 PM. In addition to complaining that he was not given opportunity of being heard, the Applicant has again raised the issue that the number of employees in the Respondent No.4, Unit is less what has been stated in the affidavit of the Respondent No.4 with the intention to deny them the benefits of Labour Laws and this fact can be verified from the CCTV cameras in the Unit.

20. We are of the view that the issue with regard to number of labour employed by Respondent No.4 whether is in violation Labour Laws or otherwise is beyond the jurisdiction of this Tribunal to consider as it does not relate to violation of environment nor is it an environmental issue.

21. As regards the allegation of the Applicant that he was not informed about the inspection and the Inspection Report has not been given to him, we are of the view that during an inspection the presence of the Applicant is neither mandatory nor denial of the same a

violation of natural justice and, therefore, inspection proceedings cannot be faulted on that ground. His further allegation that the Inspection Report has not been given to him is also without merit since the Inspection Report of inspection carried out on 13.04.2024 and 26.04.2024 has already been filed with the response of the District Magistrate, Deoghar and are already part of the record and any document that the Applicant thought was necessary for his case could have been downloaded by him from the portal of the NGT.

22. In our opinion, it cannot be said that the Applicant has been denied any opportunity to meet the findings of the Inspection Report. We are also satisfied that the submission of the Applicant that the inspection should have been carried out by a Committee from some other State other than Jharkhand has absolutely no merit as we do not find it any illegality or infirmity in the procedure adopted by the respondents in conducting the inspection.

23. So far as the number of trees planted, the Applicant has stated that the same is not sufficient and adequate number of trees could have been planted by the Project Proponent in any neighbouring area.

24. The Applicant has further raised a question that when the factory was started in 1937, the population of the area was much less than what it is today and in fact today the factory has been surrounded by thousands of residential and commercial Units and, therefore, the said factory of the Respondent No.4 should be closed down.

25. So far as the submissions of the Applicant that the Respondent No.4 Unit should be closed down since it has now been surrounded by residential and commercial Units. We may refer to the judgment of the Hon'ble Supreme Court in *Civil Appeal No.3798/2019,*

Container Corporation of India Ltd. Vs. Ajay Khera & Ors., wherein the issue was with regard to pollution created by the Inland Container Depot (for short 'ICD') at Tughlakabad caused due to movements of trucks/trailers and the NGT has observed that there is an option to restrict the entry of diesel vehicles in the said ICDs at Tughlakabad by diverting these vehicles to the ICDs at Dadri, Rewari, Ballabhgarh, Khatuawas or any other ICD around Delhi so as to control pollution in Delhi NCR. The Hon'ble Supreme Court held the observation of the NGT, New Delhi Bench was wholly unjustified and unwarranted and being in complete ignorance of the fact that citizens living in other parts of the country other than Delhi NCR also have a fundamental right to a pollution free environment as guaranteed by Article 21 of the Constitution of India. Paragraph 21 of the said judgment reads as under:-

> *"21. Before we part with the judgment, we must say something about an option mentioned by the NGT in paragraph 7 of the impugned order. The NGT has inter alia observed that there is an option to restrict the entry of diesel vehicles in the said ICDs at Tughlakabad by diverting these vehicles to the ICDs at Dadri, Rewari, Ballabhgarh, Khatuawas or any other ICD around Delhi so as to control the pollution in Delhi NCR, as if only the people living in Delhi NCR alone are entitled to pollution free atmosphere and not those living in other parts of the country. Such an observation by the NGT is in complete ignorance of the fact that citizens living in other parts of the country other than Delhi NCR also have a fundamental right to a pollution free environment as guaranteed by Article 21 of the Constitution of India. Such a fundamental right is equally enforceable by all and is not confined to the people of Delhi NCR. The NGT while protecting/safeguarding the above fundamental right of the people of Delhi NCR cannot allow infringement of the same fundamental right of the citizens living outside Delhi NCR. The observation of the NGT is totally unjustified and unwarranted."*

26. In the present case also no direction can be given for closing down the industry merely because the residential and commercial Units and the population in the surrounding area has increased far beyond what it was in 1937 when the industry of soap manufacturing Respondent No.4 was first started. What is required of the Respondent No.4, Unit is to make it compliant of environmental norms and closure of the unit is only an extreme measure being consequential of failure of the Respondent No.4 to comply with the environmental laws.

27. The submission of the Applicant is misconceived and is rejected.

28. The Action Taken Report filed by the Joint Committee vide its email dated 14.03.2023 mentions that the Competent Authority may issue necessary directions to ensure that the Unit shall install oil trapper at last discharge point for trapping of oil floor wash/domestic discharge; the Unit shall ensure proper Rain Water Harvesting following the implementation of RWH plan; the Unit shall stack as per CPCB norms, along with Air Pollution Control Device; and the Unit shall carry out plantation in vacant land. A copy of the Inspection Report was forwarded to the In-charge, M/s Sitaram Soap Works, Deoghar, Respondent No.4, to enable him to comply with the recommendations or file objections to the same. After considering the reply submitted by the Unit, the State Board vide its order dated 31.01.2023 issued the following directions namely: the Unit was directed to stop operation with immediate effect till renewal of Consent to Operate (CTO) is accorded; to submit Rain Water Harvesting Scheme (RWHS) within 15 days and implement the said scheme within 2 months; to maintain neat and clean factory premises; to make proper drainage system and the

Kacha drain which meets the municipal drain should be made Pucca within 15 days; the ash which is stored inside the premises, its quantity should be submitted to the State Board within 15 days and it should be disposed of properly within 2 months; install oil trapper at last discharge point for trapping of oil from floor wash/domestic discharge; install stack as per CPCB norms along with Air Pollution Control Device within 3 months; to carry out plantation in vacant land and if land is not available it should be done in several big baskets; to ensure proper solid waste dumping.

29. The Unit was again inspected and the Regional Officer, Dumka, submitted his Inspection Report dated 10.03.2023 stating that the Unit was not in operation; the Unit had constructed two pits for Rain Water Harvesting Scheme (RWHS); direction to maintain neat and clean factory premises was complied; all drain systems were found to be pucca upto the meeting point at municipal drain; the Unit was not found in operation:- total coal ash was dumped in low lying area after wetting; oil trapper has been provided; stack found installed as per CPCB norms along with scrubbing system; 30 plants along with basket were planted; solid waste is being disposed of by Deoghar Municipal Corporation.

30. The Inspection Report of Shri Animesh, IAS upon his inspection of the site on 13.04.2023 mentions that there are two Rain Water Harvesting Projects in the premises (twin pit); factory premises were neat and clean; newly constructed drainage system was found in the back portion linking it to the Municipal drain; factory is not under operation/coal ash dumping area was empty and as per receipt produced, Deoghar Municipal Area was transporting the waste; oil trapper has been installed; stack has been installed in

the premises; 30 plants in basket were verified during inspection; solid waste transportation receipt has been issued by the Deoghar Municipal Corporation and no solid waste has been found in the factory.

31. However, from the affidavit of the Respondent No.4, we find that Consent to Operate (CTO) was issued to the Unit only on 15.06.2023 valid upto 31.12.2023 based on the Inspection Report dated 10.06.2023 which is mentioned in the Consent to Operate (CTO) itself. This means that prior to 15.06.2023 the Unit was operating without a valid Consent to Operate (CTO). From the affidavit, we also find that settling tank has been installed only after 01.07.2023 when the Architect submitted drawing plan for two settling tanks which means that prior to this there was no settling tank or tanks.

32. The documents on record would also show that prior to the directions issued by the Board for installing two Rain Water Harvesting Structures, no Rain Water Harvesting Structures had been installed. The documents on record and the Inspection Report also show that though the coal ash dumping area was found empty during the inspection on 13.04.2023, however, the previous inspection dated 10.03.2023 (page no.66 of the paper book) shows that coal ash was dumped in low lying area after wetting and is in violation of Fly Ash Management Rules, 2016 as fly ash cannot allowed to be spread over any area and as to be managed and disposed of as per the Fly Ash Management, Rules, 2016.

33. From the Inspection Report, it is also clear that the drainage system was Kacha for which directions were issued to the Unit to have Pucca drains connecting to the municipal drain which has

been complied only subsequently. The Reports on record also show that oil trapper was installed only after specific directions were issued by the Jharkhand State Pollution Control Board in this regard. As regard trees planted by the Respondent No.4, we find that 30 trees have been planted as per Inspection Report, therefore, adequacy of the number of trees to be planted has to be determined by the State Board. If the area within the Unit premises are insufficient for plantation, the State Board shall demarcate the area elsewhere where Unit Respondent No.4 can carry out tree plantation.

34. We are satisfied that the Unit though may have made itself environmentally compliant subsequent to the various directions issued by the Jharkhand State Pollution Control Board and by this Tribunal it had not been environment compliant in the past and, therefore, this Tribunal had to issue an order on 16.01.2023 directing the Unit to stop its operations. However, we may add that even if the Unit is environmental compliant as of today it would still be liable for payment of environmental compensation for past lapses.

35. We, therefore, dispose of this Original Application with a direction to the Jharkhand State Pollution Control Board to determine environmental compensation payable by the Respondent No.4 for past lapses in accordance with law and the guidelines laid down by the CPCB in this regard. Needless to say, the Respondent No.4 shall be given an opportunity of hearing with regard to determination of environmental compensation after which, if he is still aggrieved he will have a right of statutory appeal as provided

under Section 33B of the Water (Prevention and Control of Pollution) Act, 1974.

36. Interlocutory Applications, if any, stand disposed of accordingly.

37. There shall be no order as to costs.

.....
B. Amit Sthalekar, JM

.....
Dr. Arun Kumar Verma, EM

May 09, 2024,
Original Application No.125/2023/EZ
(Earlier O.A. No.511/2022/PB)
MN

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Present:

Applicant:	**Mr. Sanjay Upadhyay, Adv. and Mr. Vardhman Kaushik, Applicant in person**
Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate, Dr. Rashid Hasan, Advisor and Mr. R.N. Jindal, Director**
Respondent No. 2:	**Ms. Alpana Poddar, Advocate**
Respondent No. 4:	**Mr. Narender Pal Singh, Adv. and Mr. Kulanand Joshi, Member Secy.**
	Dr. S.D. Singh, CEO Parks and Garden Society
	Mr. Kush Sharma, Adv. for DDA
	Ms. Puja Kalra, Adv. for South and North MCD
	Ms. Savitri Pandey, Adv.
	Mr. Balendu Shekhar, Adv. for EDMC
	Mr. Sanjiv Verma, IAS, Director Environment
	Mr. P.C. Meena, IAS, Administrator, HUDA
	Mr. Mahavir Singh, HCS, Addl. Transport Commissioner
	Dr. Yadav, Chief Engineer, ULB Haryana
	Mr. Narender Hooda, Sr. Adv. and Mr. Dinesh Jindal, LO
	Ms. Bano Deswal, AAG Haryana
	Mr. Ardhendumauli Kumar Prasad, Adv.
	Mr. B.V. Niren and Prasouk Jain, Advs.

	Date and Remarks	Orders of the Tribunal
	Item No. 1, December 04, 2014 A	It is undisputable and infact commonly conceded before us that Delhi is one of the worst cities as far as air pollution is concerned. Studies have shown that the air pollution of Delhi is very injurious to human health. Despite various Policies framed by the State and even some of the orders passed by the highest Court of the land the ambient air quality in Delhi is seriously violative of the prescribed standards. The extent of pollution has increased by the day causing varied illnesses to the citizenries of Delhi and even the

		morning walkers are not safe. In order to adopt a consultative and deliberated approach for resolving this serious menace the Tribunal had directed various stakeholders and all concerned Departments of the States to be present at a Chamber meeting that was held at NGT on 02nd December, 2014. Amongst others the following were present:- 1. Dr. S. C. Khuntia, Special Secretary & Financial Advisor, Ministry of Petroleum and Natural Gas 2. Dr. Rashid Hasan, Advisor, MoEF & CC 3. Mr. A. B. Akolkar, Member Secretary, Central Pollution Control Board 4. Mr. Sanjiv Kumar, Secretary, Environment & Forest, NCT of Delhi 5. Ms. Alka Diwan, Secretary Finance, GNCTD, Finance Deptt. 6. Mr. Satish Mathur, SPL Commissioner (Transport), GNCTD 7. Mr. P C Meena, IAS, HUDA 8. Mr. M. K. Meena, IPS, Jt. CP, New Delhi, Delhi Police 9. Dr. M. M. Kully, Member Secretary, Finance, GNCTD 10. Dr. Mukesh Chander, Special Commissioner Incharge Traffic Police Delhi, Delhi Police 11. Mr. P. Kamaraj, Spl. CP/HQ, Delhi 12. Dr. Anil Kumar, Director (Environment), Govt. of Delhi, Environment Dept., Govt. of Delhi 13. Mr. Kulanand Joshi, Member Secretary, Delhi Pollution Control Committee, Govt. of NCT of

		Delhi 14. Mr. Praveen Gupta, Commissioner, Nr. DMC, MCD (North) 15. Mr. Manish Gupta, Commissioner, SDMC, EDMC 16. Mr. Gyanesh Bhati, Secretary Cum Commissioner Transport, Govt. of NCT of Delhi 17. Mr. Debanshu Mukherjee, CMD, Delhi Transport corporation 18. Mr. SCL Das, Secretary (Health), Govt. of NCT of Delhi 19. Mr. Sanjay Bandopadhyaya, Joint Secretary, Ministry of Road Transport & Highways 20. Ms. Durga Shanker Mishra, Addl. Secretary, Ministry of Urban Development 21. Mr. Pramod Kumar Agrawal, ACEO, NOIDA 22. Mr. Anant Kumar, CE, New Delhi Municipal Council 23. Mr. Deepak Gupta, CE, PWD, GMCTD 24. Mr. C. Ekambaram, Chief Engineer, M/o Road Transport Highways 25. Dr. TK Joshi, Delhi Govt. MAML 26. Ms. Puja Kalra, Adv., Counsel for North MCD, South MCD 27. Ms. Savitri Pandey, Adv., Counsel for State of U.P. 28. Mr. Ravindra Kumar, Adv., NOIDA 29. Mr. Surnedra Kumar, Law Officer, South MCD, South MCD 30. MR. Balendu Shekhar, Adv. Of EDMC, EDMC 31. Mr. Kush Sharma, Adv., Delhi Development Authority

		32. Mr. Narender Pal Singh, Adv. For DPCC & GNCTD 33. Mr. Dinesh Jindal, Law Officer, DPCC 34. Dr. M.P. George, Scientist-D, Delhi Pollution Control Committee Reference to various proposals put forward by the various studies carried out by different Departments and preventive and restorative steps that could be taken were deliberated upon extensively. Further, it was also discussed as to how effectively the directions issued by the Tribunal could be implemented effectively and purposefully. There was a serious concern and consensus that the air quality of Delhi needed attention of all concerned and had to be improved, even if necessary by taking harsh steps in accordance with law. The studies have shown that there are three primary sources causing serious air pollution in NCR Delhi as far as PM10 is concerned. They are dust, burning of plastic and other materials including leaves in the open area and vehicular pollution. All these three sources lead to a common evil of air pollution by introducing high particulate matters, hydrocarbon, oxides of sulphur and nitrogen, benzene and ozone in the air. Vehicles emit numerous carcinogenic chemicals, diesel contains benzene, formal dehyde and 1, 3 – butadiene all three are well recognised carcinogenics. All these pollutants are responsible for causing health hazards. Burning of material also causes serious respiratory problems and are even carcinogenic. It is unquestionable that citizens of Delhi are certainly

		entitled to better quality of air and environment. Though, these three sources of pollution are independent of each other and require different and distinct preventive and restorative directions, but have to be dealt with a common object of ensuring attainment of better ambient air quality in NCR Delhi. This necessitated the issuance of Notice to the State of Haryana, State of Uttar Pradesh and State of Rajasthan which have adjacent border with NCR Delhi. Learned counsel appearing for these States have accepted Notice and are present before the Tribunal. They also commonly conceded that adequate measures are required to be taken for prevention and control of pollution and maintenance of air quality. They also further state that all these States would fully cooperate with the Government of NCT of Delhi and would comply with the directions of the Tribunal for attainment of the object aforestated. An argument has been advanced before us to say that banning of 15 years old vehicles in Delhi would be unfair to the owners of the cars and consequently if cars are sent outside Delhi it would mean that they will cause pollution in other cities and hence, it would shift the pollution. This submission is not only misconceived but void of reasoning as well. Foremost, it pre-supposes that the vehicles of more than 15 years age are not causing pollution. The direction for not permitting the 15 years old vehicles to ply in Delhi may cause some hardship but certainly that hardship on individual or group of individuals must give way to the public cause

		of better environment and public health, which as per constitutional mandate is the fundamental right of the public at large. Individual rights must concede in favour of public rights. Furthermore a 15 year old vehicle may have greater adverse impact on the air quality and environment in a congested area with heavy vehicles density in comparison to when it is driven in an area which is open, with thin vehicle density has a greener belt and wider air dispersion possibility. It is an established fact that particulate problem is most severe in the area having dense population coupled with heavy traffic intensity. Although new engine design have come into existence to reduce emission but the gain has got over shadowed the increasing number of vehicles and the increasing miles travelled per vehicle per year (Wargo et al 2006; Environment and Human Health Inc. Connecticut, USA) with heavy engine. We have to give precedence to the environment and public health and, therefore, the directions must be adhered to without delay and default. Having considered various aspects and after seriously pondering over the suggestions made at the Bar or in the Chamber meeting, we are of the considered view that further directions are called for in the larger public interest and to ensure prevention of air pollution emanating from the three primary sources aforestated. It has also been brought to our notice that nearly 30 lakhs litres of petrol is wasted because of traffic jams and held-up-at signals. This data, however, relates to

		the year 2009 which must naturally have increased considerably now. There are certain definite steps that required to be taken by the concerned Authorities to ensure free flow of traffic and avoid traffic congestion on the roads. **Directions:** 1. Our order dated 26th November, 2014 and 28th November, 2014 shall continue to be in force till further orders and shall be strictly enforced by all concerned Authorities. 2. We direct a team of CPCB, DPCC, a Scientist from MoEF, a Scientist from State Boards of State of Rajasthan, State of Haryana and State of Uttar Pradesh to take ambient air quality samples from the entire NCR Delhi at different intervals and times. The samples would be taken during the peak hours as well as non-peak hours. The sample shall definitely be collected in the early morning hours and late evening hours. The complete analysis of this data for all parameters of NAAQS 2006 shall be made and comparison with the national ambient air quality specified in the Notification dated 18th November, 2009 issued by the MoEF in relation to the air quality standards specified therein shall be made. This report shall also identify the environmentally safest period of the day when residents of Delhi would be exposed to minimum injury to their health.

3. The data so collected shall be treated as base line data for issuance of further directions to improve air quality in Delhi. As already indicated these three principle sources of pollution of air have to be separately dealt with. There cannot be any commonality in the issuance of directions and measures to be taken for prevention and control under each head. Thus, we would pass directions specific to each of the above stated sources:

Vehicular Pollution

1. In addition to the directions already issued we further direct concerned Authorities and Administration to consider the proposal for charging of higher parking fee, higher registration fee and imposition of congestion charges. They shall put their respective suggestions on record before the next date of hearing.
2. We direct all the State Governments, particularly NCT Delhi, to take effective steps to enhance public transportation facilities and provide due infrastructure in that behalf. It will be ensured that public transport becomes more user friendly rather than causing waste of energy by plying empty buses on the roads.

   It is a matter of common knowledge that air conditioned buses are being run by DTC for long part of the day ply but without passengers. Thus, DTC should run buses of different capacity and

		size at different timings and on different routes. All such buses would be driven on CNG fuel only. 3. The DTC shall ensure that the buses running by it do not cause congestion. This transport should be of greater utility to the public and distinct incentives should be provided to the general public to encourage use of public transport. 4. The DTC shall ensure that every bus belonging to DTC or operating under its directions is subjected to mechanical check up through computerised system once every month and will be subjected to check for PUC atleast twice a month. 5. The DTC shall formulate a proper group of staff to carry out above directions/functions and submit a compliance report to the Depot Manager who in turn will inform the highest Authority of the DTC. The above regular computerised check will not absolve the DTC from being subjected to random checks by the concerned Authorities for the purposes of issuance of PUC. It shall be ensured that these buses do not exceed the prescribed emissions standard. 6. The Government and all concerned Authorities shall ensure free flow of traffic in Delhi. Parking spaces shall be earmarked. Parking of vehicles in excess and beyond the specified parking area shall be strictly prohibited. In any case, there shall be no parking permitted on metalled roads in Delhi and appropriate Authority shall take due steps for taking penal action against the

		defaulting persons or firms or contractors who violate this direction. **General directions** 1. Obstructions in free flow of traffic result in traffic jams that lead to higher emission of pollutants in the atmosphere. Thus, we direct the Authorities to ensure that there is no unauthorised parking and whenever a vehicle breaks down on the roads, the same should be removed immediately and without any undue delay. Authorities particularly the Police, thus should make the towing cranes easily accessible. 2. The persons who violate these directions besides being liable for different actions that may be taken against them by the Corporation or appropriate Authority under the law in force, would also be liable to pay compensation and the amounts may be determined by the Tribunal on the principle of 'Polluter Pays' for causing and/or abating pollution in NCR Delhi. 3. The ambient air quality of Delhi needs to be improved even if harsh directions within the framework of law are required to be issued. Keeping in view the gravity of harm to human health due to inferior ambient air quality of Delhi. Improvement even by a decimal of the air quality would go long way in air improving public health and environment in Delhi. Thus, we direct the Governments and all public and other Authorities to immediately install air filters in the colleges,

		schools, gardens and other public places which are visited by a greater number of people in the day. 4. The check post, as directed ealier at the entry points to Delhi, would be manned and monitored commonly by Police, transport department and Weight and Measures Department of NCT of Delhi, and also Officers of the similar Department from the concerned States shall accompany. 5. Online weighing machines shall be installed at a short distance away from the entry post of Delhi. Record of online data of weighing machines in respect of goods carrying vehicles would be maintained regularly and checked by the senior Officer of Police and Transport Department who shall sign and verify such data every day. 6. The check post would only let such vehicles pass onwards which are found to be neither overloaded nor polluting. 7. These Check Post Staff shall make all efforts to ensure that there is no congestion at the entry points of Delhi and no vehicle standing at the Border should be allowed to keep its ignition on. 8. The concerned Authorities and Government should take steps to ensure expeditious completion of the project of Kundli-Manesar-Palwal Express Way, which we are informed is likely to be completed by 2016. The completion of the projects would ensure that the vehicular traffic for destinations other than Delhi do not

		enter NCR Delhi, thus, reducing traffic pressure and consequently air pollution, resulting from vehicular traffic in Delhi. 9. We also direct NCT Delhi and DDA particularly to take the project for completion of a flyway and/or to connect all existing flyovers without obstruction and traffic lights on top priority. 10. The authorities concerned of all the States and NCR of Delhi shall also ensure that Eastern Peripheral Express Way should be completed in a time bound manner and the project be taken up with top priority by the concerned States. 11. We direct that the DPCC and the Transport Department shall immediately ensure installation of appropriate 'catalytic convertors', particularly for diesel vehicles, if not already fitted which would ensure reduction of pollutants entering the atmosphere in Delhi. 12. The Government of NCT will take steps to introduce and enforce BS-V vehicles in NCR Delhi. All other neighbouring States would ensure that they also take effective steps to have BS – IV compliant vehicles only. The progress report should be submitted before the next date of hearing to the Tribunal. 13. It was agreed and which we direct that Lajpat Nagar and Karol Bagh should be taken as pilot projects for de-congestion of the traffic resulting from excessive and impermissible parking in the entire area.

		14. We direct Transport Authority, Delhi Police and DPCC to take immediate and effective steps so that parking areas are marked distinctly and no vehicle is permitted to be parked beyond parking areas in Lajpat Nagar and Karol Bagh. It will be ensured that free flow of traffic is maintained in the market and colonies of the pilot projects. In Lajpat Nagar two way dual carriage while in Karol Bagh one way dual carriage flow of traffic shall be maintained. There must not be any parking on the metalled roads. The concerned Police Officers, Officers of the Corporation and other agencies/authorities shall be personally responsible for this compliance. 15. It has been brought to our notice that the forest area of Delhi is 12.12% as against national forest policy that envisaged 33% forest area. However, it may also be noticed that if the green area is added along with forest area then it may come to nearly 20.08% and from whatever point it is viewed, Delhi certainly needs a larger green area and forest cover. Thus, we direct NCR of Delhi, DPCC and Forest Department to increase the forest cover area as well as to maintain the existing green and forest covers in an appropriate manner and ensure that there is no degradation of the forest and/or green area in Delhi. 16. The Forest Department shall submit report before us as to how many trees have been planted from today till the next date of hearing. The Forest

		Department and Corporation should plant variety of trees belonging to native species in the existing open forest area and also, along the roads and other open spaces. 17. It has not been disputed that checking of vehicles and grant of PUC in the entire NCR of Delhi lacks proper functioning and supervision. Thus, we direct all the States to constitute a special team consisting of members from its Transport Department, Environment Department, Pollution Boards and from any other Department as they may consider appropriate to keep serious vigil on the functioning of the service stations or centers empowered to issue PUC. It will ensure that their machines and equipments are duly calibrated on regular intervals and PUC are issued only after checking vehicles in accordance with the norms specified. 18. It has also been seriously deliberated that garbage burning in Delhi may not be the only pollutant but it is most serious pollutant. It causes nearly 29.4% of air pollution with reference to PM10, however, its contribution in terms of pm 2.5 is not placed us which is a serious pollutant and causes health hazards. Therefore, steps should be taken to reduce level of PM 2.5 through appropriate anti pollution devices. 19. The only workable solution to this serious menace is complete prohibition on burning of garbage or other material in the open area.

		20. It has also been brought to the notice of the Tribunal that waste plastic, rubber and materials are burnt openly though prohibitory orders have been issued in the other connected matters by the Tribunal. The police has reported that no such burning is going on particularly in the area of Narela and Mundka but complaints with photographs are still being filed before the Tribunal stating clear violation of this direction. 21. Thus, we direct Police Authority and respective Municipal Corporation and the DPCC to ensure that any waste material, garbage or even leaves are not burnt in the open areas at all. For this purpose, concerned Executive Engineer of the respective organisation responsible for activities of cleanliness shall be personally responsible because this work alone cannot be carried out by the Police with its limited resources. It is important that all the public Authorities including DPCC and the representative of the State Boards effectively supervise the compliance of this direction. If any person is found to be causing such pollution then besides the actions that can be taken against him. We make it clear that such person shall be liable to pay compensation in terms of Section 15 of the National Green Tribunal Act, 2010 under the principle of 'polluter pays'. This compensation may vary depending on facts and circumstances of the case from Rs. 20,000 to Rs. 1 lakh per incident.

		22. Proper steps will be taken to spread education through different sources and even by requiring concerned Schools in the NCR, Delhi to educate students about the need for improvement of air quality and the steps that should be taken. Cooperation of the young generation should be encouraged besides providing a good incentives to the people reporting the same and steps be taken for creating environmental wings in the Capital city of India. 23. Suggestions have been made with regard to putting of cap on total number the vehicles, including cars and all other vehicles. We direct all the concerned Authorities in the respective States to collectively put their views before next date of hearing in this regard. 24. We further direct that there shall be no hot mixing on the road side. All public Authorities particularly the PWD, DDA and others should themselves, during construction and maintenance of road, ensure that coal tar, bitumen and/or asphalt mix is brought in molten condition and the same is neither burnt nor fire is put to melt these substance on the open roads. 25. The NCR Delhi, DDA and Railway Boards shall consider shifting and /or bifurcating of three sites meant for Cargo containers i.e. Tughlakabad, Okhla and area close to Anand Vihar, where heavy containers depot have been

located, 10 or 12 wheeler heavy trailers come to these areas and thus, cause serious traffic jams obstructing free flow of traffic, besides directly causing pollution in the air. If these sites are shifted or bifurcated atleast in the areas in the outskirts of NCR in consultation with the other States will help greatly in improving the air quality of NCR Delhi.

26. A suggestion was also made to fix life of the vehicle especially private and commercial.

27. Now we will be dealing with the air pollution from dust. It primarily results from demolition and construction activity going on in the NCR Delhi. Furthermore, the demolition material and construction material are transported without proper coverage and precautions, thus causing serious air pollution. It is informed that the largest contributor of air pollution is dust in NCR Delhi. This needs to be resolved at the earliest. It is also commonly conceded before us that this is one aspect which can be controlled by taking adequate measures without posing much difficulties. Still it is imperative that there should be definite will and sincerity for complying with the directions contained in this order on the part of all concerned. Hoping that all the concerned Departments of the Government, Police Authorities and Corporation would earnestly execute the directions, we issue following directions:

		1) No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on the metalled road. 2) Beyond the metalled road the area where such construction material or debris can be stored shall be physically demarcated by the Officers of all the concerned Authorities/Corporation. It shall be ensured that such storage does not cause any obstruction to the free flow of traffic and/or inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage. Every builder, contractor or person shall ensure that the construction material is completely covered by tarpaulin. All other precautions should be taken to ensure that no dust particles are permitted to pollute the air quality as a result of such storage. It shall also be ensured that appropriate protection measures are taken by raising of wind breakers of the appropriate height on all the sides of plot/area using plastic and/or other similar material, to ensure that no construction material dust fly outside the plot area and it will be the builder/contractor responsibility to ensure that their activity does not cause any air pollution during the course of the construction and/ or storage of material or construction activity. This condition shall be strictly

		adhered to by every builder, contractor, person or authority whether it relates to construction on small plot or a multistoreyed building. In the event of default they shall be liable to be prosecuted under the law in force, as well as for causing environmental pollution and shall also be liable to pay compensation which would be determined by the Tribunal in accordance with law. 3) All the concerned State Pollution Control Boards and environment departments of the State are hereby directed to maintain strict vigil and supervision over all the stone crushers to ensure that they are operating only after obtaining consent of the board/authority and are strictly conforming to the prescribed norms. 4) The Executive Engineer of each PWD or any other organisation would be personally responsible for effective compliance of these directions who shall submit Report to his Chief Engineer without delay and default every week. This will also apply to construction of all the roads, highways in the NCR Delhi. 5) All the trucks or vehicles of any kind which are used for construction purposes and/or are carrying construction materials like cement, sand and other allied material shall be fully covered. The vehicles would be properly cleaned, shall be dust free and/or other

		precautions would be taken to ensure that enroute their destinations, the dust, sand or other particles are not permitted to be released in the air and/or contaminate air. Any truck which is not complying with these directions would not be permitted to enter NCR Delhi. 6) All Authorities, Corporations of NCR Delhi shall also ensure that there will no burning of any material earmarked at the land fill sites. 7) Crop remnant burning in agricultural field falling in NCR Delhi shall be strictly prohibited. 8) All the authorities i.e. Chief Secretaries, of the respective States and NCR Delhi, Commissioner / DGP, heads of all the public authorities, bodies, organization, including the Director General of PWD, CPWD, Horticulture Department, Vice Chairman of DDA, Commissioner of the respective Corporation, Chairperson of State Pollution Control Board and all Authorities, shall issue directions forthwith for strict compliance of these directions and in default would take disciplinary action under the respective service rules for any of the breach committed by officials to the direction aforestated. 9) We also direct the inspecting team to collect stack and air ambient quality samples from and near the Indraprastha Thermal Power Station Delhi and

Barder Pur Thermal Power Plant. They should specifically provide information to contribution of these two plants to the air pollution in Delhi.

The above directions shall be enforced without delay and default by all the concerned Authorities, Corporation, DDA, DJB, Forest Department, Department of Environment, NCT Delhi, DPCC, Department of Weights and Measures, NCT Delhi and Police Force. The head of the Department of all these would be personally responsible for compliance of these directions. It is further made clear that the head of Departments shall fix responsibility of all the Officers incharge of different areas to ensure that directions are carried out without default and delay.

All the status reports, compliance of which is required above as per directions of this Tribunal would be filed before the Tribunal three days in advance of the date fixed.

Liberty is granted to all the parties, any person aggrieved or otherwise and all the Departments to approach the Tribunal if the occasions so arises for clarification of the orders passed by the Tribunal and/or for issuing further directions.

List this matter on 12th January, 2015 the date already fixed.

……,CP
(Swatanter Kumar)

		……,JM (M.S. Nambiar) ……,EM (Dr. D.K. Agrawal) ……,EM (Prof. A.R. Yousuf)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No.21 of 2014
(M.A. NO. 87 OF 2015, M.A. NO. 90 OF 2015, M.A. NO. 155 OF 2015, M.A. NO. 200 OF 2015, M.A. NO. 203 OF 2015, M.A. NO. 219 OF 2015, M.A. NO. 234 OF 2015, M.A. NO. 247 OF 2015, M.A. NO. 248 OF 2015, M.A. NO. 274 OF 2015, M.A. NO. 283 OF 2015, M.A. NO. 284 OF 2015 & M.A. NO. 317 OF 2015)
AND
Original Application No. 95 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D. SALVI, JUDICIAL MEMBER
HON'BLE MR. DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER
HON'BLE MR. B.S. SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014

Present:	**Applicant:**	**Mr. Sanjay Upadhyay, Mr. Adarsh Srivastava and Mr. Salik Shafique, Advs.**
	Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate for MoEF**
	Respondent No. 2 :	**Ms. Alpana Poddar, Adv.**
	Respondent No. 3:	**Ms. Puja Kalra, Adv.**
	Respondent No. 4 :	**Mr. Rajiv Bansal with Mr. Kush Sharma and Ms. Arpita, Advs. for DDA.**
	Respondent No. 5,6 & 7:	**Mr. Ardhendumauli Kumar Prasad, Adv.**
		Mr. D. Rajeshwar Rao, Adv. for Delhi Police (Traffic)
		Ms. Neha Kurian, Ms. Pallavi Talware, Mr. Aditya N. Prasad, Mr. Amit Verma, Mr. Atif and Mr. Sahil Sangar- Local Commissioners
		Ms. Savitir Pandey, Adv. for State of UP
		Mr. Narender Pal Singh, Adv. for R-2 & 4
		Mr. I.K. Kapka, Ms. Shikha Rai, Mr. A.K. Singh, Mr. S.K. Pabbi, Advs. For Karol Bagh Trader Federation
		Mr. Balendu Shekhar, Adv. for EDMC
		Mr. Sanjay Kumar, EE (P)
		Shri Ruchir Batra, Adv. for Lajpat Nagar Traders Association
		Mr. Chirag M. Shroff, Adv. for NCT, Delhi
		Ms. Sakshi Popli, Adv. for NDMC
		Mr. Ravinder Kumar, Adv. for NOIDA and Gr. NOIDA Authority
		Mr. Pinaki Mishra, Sr. Adv., Mr. Rahul Mehra, Ms. Zubdabegum for GNCTD
		Mr. Avnish Ahlawat, Adv. for DUCIB, DTC, Transport Dept. & GNCT
		Mr. Anil Grover, AAG with Mr. Rahul Khurana, Adv. for State of Haryana
		Mr. Janjeev Ailawali and Ms. Priya Dup, Adv.
		Mr. Ajwal Khan, Adv. for Mr. Beopul Mandal,
		Mr. Deepak Khada Ria, Adv.
		Mr. B.S. Jaiswal, IPS, Dept. Traffic, Southern Range
		Mr. Surya Kant Patil, ACP of Traffic, Southern Range
		Insp. Shailendra S. Chauhan, TI/HKG

Insp. K.C. Sharma, , TI/DFC
Insp Vijay Paal Tomar, TI/KKC
Mr. Ravindra Kumar, ACP/Traffic, Northern Range
Insp. Kailash Bisht, TI/Legal Cell
Insp. Shrender Kumar, TI/KBC
Insp. Dalbir Singh, TI/LNC

Original Application No. 95 of 2014

Present:	**Applicant:**	**Mr. Sanjay Kulshretha (Petitioner in Person), with Mr. Ashish S. Kulshreshtha, Advs.**
	Respondent No. 1:	**Mr. Vikas Malhotra and Mr. M.P. Sahay, MoEF & CC**
	Respondent No. 2 to 6:	**Mr. Ardhendumauli Kumar Prasad, Adv.**
	Respondent No. 7 :	**Ms. Savitri Pandey, Adv. for State of U.P.** **Mr. Mukesh Kumar, Adv. for NHAI** **Mr. N. Yogesh Kanna and Mr. A. Santha Kumar, Adv. for state of Tamil Nadu.** **Mr. Chirag M. Shroff, Adv. for NCT Delhi.**

	Date and Remarks	Orders of the Tribunal
	Item No. 01 & 02 **April 10, 2015**	The Learned Counsel appearing for the state NCT, Delhi has submitted that the Government of NCT, Delhi has taken a policy decision to implement all the directions of the Tribunal to ensure that people of Delhi get cleaner air to live and lead better life environmentally. The Learned Counsel appearing for the Union of India also states that the Government is committed for better environment. For the statements made above, and in any case, which have been widely reported, that there is definite concern and initiative being taken by the Central as well as State Government to clean the air of Delhi and to provide better ambient air quality for a healthy and decent environment to the residents of Delhi, we record our appreciation for this concern and initiative being taken by the respective Governments. We also express a pious hope that in the interest of public health and environment, the directions now being issued by the Tribunal would be implemented without default and delay.

		The Learned Counsel appointed as Commissioners by the Tribunal submitted they have visited the sites (entry point of Delhi) and have prepared their report. They pray for time to file the report during the course of the day. Liberty granted. We also direct the Learned Local Commissioner to file collective report in regard to the recommendations that they wish to make for better implementation of the directions of the Tribunal. Let the copies of the inspection report be furnished to all the Learned Counsel appearing in this case for Government and Public Authority and state, who should file their response within one week from today. The Learned Local Commissioners are directed to visit the entry points whenever they wish to. Police shall provide them due assistance and help to enable them to execute commission without obstruction and inconvenience. Copy of the report be given to all the Learned Counsel appearing for various State authority irrespective whether they are party or not. It is scientifically established fact that the pollutants of ambient air quality are from vehicular pollution, dust pollution, pollution by burning and emission from industry. Today we have decided to deal with this case in phases to prevent and control of air pollution on the one hand and pass directions for restoration of ambient air quality. The matter pertaining to dust emissions from building construction, transportation C&D waste, mining and allied activity is being dealt. Development in all fields is an essential feature of a developing country. If the stake holders carry out the

development activity in fragrent violation as to the principal of sustainable development the results can be disastrous. They may have serious adverse impact not only on environment and ecology of the area but even would raise serious issues of public health. Where construction activity is one of the very significant facet of development there it is one of the serious contributor of air pollution by generating dust. Dust could be generated purely from construction activity, transportation of construction material, construction debris waste and by carrying on mining activity. Dust emission from these activities attain dangerous dimensions when its carried out rampantly and in a unregulated manner. The stack holders for short economic gains do not take environmental preventive and protections measures prescribed under laws exposing not only their workers but the entire population of the area to variety of diseases some of them are even life threatening.

Despite the fact that the Benches of the Tribunal have expert members from diverse fields of environment. The Tribunal had adopted approach of consulting the stack holders while dealing with the issues of air pollution in Delhi and the steps that are required to be taken for improving the air quality.

The Committees were constituted and even deliberations issued vide orders dated 24th November, 2014 and 01st December, 2014 in regard to controlling the polluting and improving the ambient air quality in Delhi. In the Order dated 01st December, 2014 we had issued a set of directions particularly dealing with the requirements of prevention and control of air pollution resulting from emission of dust in the atmosphere. All the directions

contained in that order shall be read and construed as part of this Order and directions issued hereinafter.

The Expert Committee constituted by the Tribunal had collected samples from 36 different sites in Delhi, Haryana and Uttar Pradesh. The analysis reports indicate significant exceeding parameters. For instance nitrogen dioxide as per the prescribed standard is to be 84 $\mu g/m^3$ was found to be between 146-208 $\mu g/m^3$ in Faridabad in Delhi. The particulate matter as against permissible of PM 10 $\mu g/m^3$ were found to be 484-276-948 $\mu g/m^3$ in Delhi and Faridabad and the surroundings areas. The particulate matters with reference to PM 2.5 is excessively violative in Delhi and has gone upto 1284 as against prescribed standard of 60 $\mu g/m^3$. Carbon dioxide in Delhi is found to be 7.81 $\mu g/m^3$ against the prescribed value of 2 $\mu g/m^3$.

Similar data was also taken note by the Tribunal in its order dated 16th March, 2015. Nitrogen dioxide was found to be 367 $\mu g/m^3$ against the prescribed value of 80 $\mu g/m^3$ on 140 occasions on 24 hours basis. The particulate matters PM 2.5 ranged between 30.41 to 1284 $\mu g/m^3$ against the NAAQS value of 60 $\mu g/m^3$. Carbon monoxide and benzene both were found to be exceeded.

This persuaded to pass the certain directions in that behalf. The same should also read as part of this order.

It has been widely reported that massive construction activity is going on without taking any precautionary and preventive measures. There are no covers scaffolding no housing of road to reduce dust dispersal. The construction materials are not covered, the workers are not provided with gadgets to prevent inhaling of dust particles particularly fine particles.

		Thus there is dire need to immediately pass appropriate directions for preventing and controlling the pollution of air from dust and to improve ambient air quality particularly of NCR of Delhi. We are not oblivious of all the difficulties that may come in the way of the bonafide purchaser and the builders for the restrained orders passed by on 16th March, 2015. But it is not only legal but even a social and corporate responsibility of all the builders to carry on construction activity or mining activity strictly in accordance with the prescribed rules. They must ensure that for small economic gains they do not expose the public including their purchasers and workers to serious diseases and adversely effecting the public health at large. The constitutional right to life, decent and clean environment has to take precedent over the right of an individual to carry on business activity. Thus we pass the following directions: (i) No Corporation, authority or instrumentality of the State vested with the power of sanctioning plans, drawings for construction of any commercial, residential and even construction of small plots would impose a clear condition that sanction of plans is subject to the builder, owner or person seeking sanction would strictly comply with the directions contained in this order as well as the MoEF Guidelines, 2010 while raising construction. (ii) Such Authorities shall forth with issue notices to all the builders raising any kind of construction that they should strictly adhere to and comply with the directions contained in this order of the

		Tribunal as well as MoEF Guidelines, 2010 is relation to precautions required to be taken while carrying on construction. (iii) Every builder or owner shall put tarpaulin on scaffolding around the area of construction and the building. No person including builder, owner can be permitted to store any construction material particularly sand on any part of the street, roads in any colony. (iv) The construction material of any kind that is stored in the site will be fully covered in all respects so that it does not disperse in the Air in any form. (v) All the construction material and debris shall be carried in the trucks or other vehicles which are fully covered and protected so as to ensure that the construction debris or the construction material does not get dispersed into the air or atmosphere, in any form whatsoever. (vi) The dust emissions from the construction site should be completely controlled and all precautions taken in that behalf. (vii) The vehicles carrying construction material and construction debris of any kind should be cleaned before it is permitted to ply on the road after unloading of such material. (viii) Every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris shall be provided with mast to prevent inhalation of dust particles.

		(ix) Every owner and or builder shall be under obligation to provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission. (x) It shall be the responsibility of every builder to transport construction material and debris waste to construction site, dumping site or any other place in accordance with rules and in terms of this order. (xi) All to take appropriate measures and to ensure that the terms and conditions of the earlier order and these orders should strictly comply with by fixing sprinklers, creations of green air barriers. (xii) Compulsory use of wetjet in grinding and stone cutting. (xiii) Wind breaking walls around construction site. (xiv) All concerned Government that is state of NCT, Delhi state of U.P., state of Rajasthan and Haryana shall ensure that mining activity if otherwise permitted in accordance with law and orders of the Court is strictly regulated and carry out in a manner prescribed under rules and to ensure that least dust has emitted into air/atmosphere and all steps are taken to prevent the same. (xv) The Corporation, DDA, HUDA, NOIDA, Greater NOIDA Authority and all other Authorities and instrumentalities of the state and its department shall make all efforts to increase the `tree cover' area by planting large number of trees of various species depending upon the quality content of soil

		and other natural attendant circumstances. (xvi) All the builders who are building commercial, residential complexes which are covered under the EIA Notification of 2006 shall provide green belt around the building that they construct. All Authorities shall ensure that such green belts are in existence prior to issuance of occupancy certificate. (xvii) The state Government of NCT, Delhi, Haryana, Uttar Pradesh, state of Rajasthan, all Public Authorities in these states, Corporations, Development Agencies and all other Authorities persons and Departments of the state Government, Pollution Control Boards and Police Authorities shall ensure complete and expeditious compliance of all these directions with immediate effect. a. The Station House Officer, Environmental Engineers, Engineers of the Corporation and of all the Regulatory and Development Authority responsible for sanctioning of plan, granting consent and issuance of completion certificate would be personally and strictly responsible for compliance of these directions in the area/areas that fall under their jurisdiction. In the event of default they shall be liable to pay compensation for such environmental degradation or for pollution of ambient air quality in NCR, Delhi particularly. b. If any person, owner and or builder is found to be violating any of the conditions stated in this order and or for their non-compliance such

person, owner, builder shall be liable to pay compensation of Rs. 50,000/- per default in relation to construction activity at its site and Rs. 5,000/- for each violation during carriage and transportation of construction material, debris through trucks or other vehicles, in terms of Section 15 of the NGT Act on the principle of Polluter Pay. Such action would be in addition not in derogation to the other action that the Authority made take against such builder, owner, person and transporter under the laws in force.

c. The Government of NCT, Delhi shall take immediate step to enhance the capacity of its plant for reutilisation and recycling of C&D waste. It is undisputed on record that NCR, Delhi is generating nearly 4000 MT of C&D waste every day and the capacity of the plant is not able to utilised even 10% of such generated waste. All builders shall ensure that C&D waste is transported in terms of this order to the site in question only and due record in that behalf shall be maintained by the builders, transporters and NCR of Delhi.

d. We make it clear that even if constructions have been started after seeking Environmental Clearance under the EIA notification 2006 and after taking other travel but is being carried out without taking the preventive and protective environmental steps as stated in this order and MoEF guidelines, 2010, the State Government,

SPCB and any officer of any department as aforestated shall be entitled to direct stoppage of work.

In relation to Lajpat Nagar, we make it clear that the cement Jersey Barriers would be placed at both the ends of the road. There shall be no crossing permitted from one end to the road and another end of the road. In other words, there would be no intersection. We are informed that the parking space as provided by the Board is able to accommodate nearly 550 cars which would has provided a great relief to the traffic congestion in Lajpat Nagar. This arrangement would continue in terms of the order of the Tribunal till further order. Police Authorities present before the Tribunal, shall ensure that all the directions issued by the Tribunal in regard to the de-congestion of traffic thus resulting in minimum emissions from vehicular pollution should be carried out strictly without default. The CPCB shall place on record ambient air quality analysis pre orders and post orders. We are informed that data of ambient air quality for 2007 to 2009 have been placed on record. The CPCB shall prepare a comparative table and DPCC shall fully assist in that behalf. Reference in the air quality report shall be also made regarding existing climatic condition at the time of collection of sample. Needless to mention that Delhi Metro is carrying on huge construction activities in Delhi, its public benefit and public importance cannot be denied but still they are required to ensure that they do not cause any air pollution. Therefore we direct Delhi Metro or any other Government or private construction agency carrying on massive construction project that they will strictly adhere to construction activities in terms of this

		order and the guidelines contained in MoEF guidelines, 2010. The Learned Counsel appearing for the State of Haryana, State of U.P., NOIDA and Greater NOIDA submit that they will ensure that the directions of this order and that of 16.03.2015 will be complied with forthwith. The MCD, South will file an affidavit by the next date of hearing positively stating as to which place in Lajpat Nagar they would build the multi level parking. Chief Engineer would be present before the Tribunal on the next date of hearing. List this matter on 17th April, 2015 at 02:00 PM. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. D.K. Agrawal) .....,EM (Prof. A.R. Yousuf) .....,EM (B.S. Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Present:

Applicant:	**Mr. Sanjay Upadhyay, Adv. and Mr. Vardhman Kaushik, Applicant in person**
Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate, Dr. Rashid Hasan, Advisor and Mr. R.N. Jindal, Director**
Respondent No. 2:	**Ms. Alpana Poddar, Advocate**
Respondent No. 4:	**Mr. Narender Pal Singh, Adv. and Mr. Kulanand Joshi, Member Secy.** **Dr. S.D. Singh, CEO Parks and Garden Society** **Mr. Kush Sharma, Adv. for DDA** **Ms. Puja Kalra, Adv. for South and North MCD** **Ms. Savitri Pandey, Adv.** **Mr. Balendu Shekhar, Adv. for EDMC** **Mr. Sanjiv Verma, IAS, Director Environment** **Mr. P.C. Meena, IAS, Administrator, HUDA** **Mr. Mahavir Singh, HCS, Addl. Transport Commissioner** **Dr. Yadav, Chief Engineer, ULB Haryana** **Mr. Narender Hooda, Sr. Adv. and Mr. Dinesh Jindal, LO** **Ms. Bano Deswal, AAG Haryana** **Mr. Ardhendumauli Kumar Prasad, Adv.** **Mr. B.V. Niren and Prasouk Jain, Advs.**

	Date and Remarks	Orders of the Tribunal
	Item No. 1, December 04, 2014 A	It is undisputable and infact commonly conceded before us that Delhi is one of the worst cities as far as air pollution is concerned. Studies have shown that the air pollution of Delhi is very injurious to human health. Despite various Policies framed by the State and even some of the orders passed by the highest Court of the land the ambient air quality in Delhi is seriously violative of the prescribed standards. The extent of pollution has increased by the day causing varied illnesses to the citizenries of Delhi and even the

		morning walkers are not safe. In order to adopt a consultative and deliberated approach for resolving this serious menace the Tribunal had directed various stakeholders and all concerned Departments of the States to be present at a Chamber meeting that was held at NGT on 02nd December, 2014. Amongst others the following were present:- 1. Dr. S. C. Khuntia, Special Secretary & Financial Advisor, Ministry of Petroleum and Natural Gas 2. Dr. Rashid Hasan, Advisor, MoEF & CC 3. Mr. A. B. Akolkar, Member Secretary, Central Pollution Control Board 4. Mr. Sanjiv Kumar, Secretary, Environment & Forest, NCT of Delhi 5. Ms. Alka Diwan, Secretary Finance, GNCTD, Finance Deptt. 6. Mr. Satish Mathur, SPL Commissioner (Transport), GNCTD 7. Mr. P C Meena, IAS, HUDA 8. Mr. M. K. Meena, IPS, Jt. CP, New Delhi, Delhi Police 9. Dr. M. M. Kully, Member Secretary, Finance, GNCTD 10. Dr. Mukesh Chander, Special Commissioner Incharge Traffic Police Delhi, Delhi Police 11. Mr. P. Kamaraj, Spl. CP/HQ, Delhi 12. Dr. Anil Kumar, Director (Environment), Govt. of Delhi, Environment Dept., Govt. of Delhi 13. Mr. Kulanand Joshi, Member Secretary, Delhi Pollution Control Committee, Govt. of NCT of

		Delhi 14. Mr. Praveen Gupta, Commissioner, Nr. DMC, MCD (North) 15. Mr. Manish Gupta, Commissioner, SDMC, EDMC 16. Mr. Gyanesh Bhati, Secretary Cum Commissioner Transport, Govt. of NCT of Delhi 17. Mr. Debanshu Mukherjee, CMD, Delhi Transport corporation 18. Mr. SCL Das, Secretary (Health), Govt. of NCT of Delhi 19. Mr. Sanjay Bandopadhyaya, Joint Secretary, Ministry of Road Transport & Highways 20. Ms. Durga Shanker Mishra, Addl. Secretary, Ministry of Urban Development 21. Mr. Pramod Kumar Agrawal, ACEO, NOIDA 22. Mr. Anant Kumar, CE, New Delhi Municipal Council 23. Mr. Deepak Gupta, CE, PWD, GMCTD 24. Mr. C. Ekambaram, Chief Engineer, M/o Road Transport Highways 25. Dr. TK Joshi, Delhi Govt. MAML 26. Ms. Puja Kalra, Adv., Counsel for North MCD, South MCD 27. Ms. Savitri Pandey, Adv., Counsel for State of U.P. 28. Mr. Ravindra Kumar, Adv., NOIDA 29. Mr. Surnedra Kumar, Law Officer, South MCD, South MCD 30. MR. Balendu Shekhar, Adv. Of EDMC, EDMC 31. Mr. Kush Sharma, Adv., Delhi Development Authority

		32. Mr. Narender Pal Singh, Adv. For DPCC & GNCTD 33. Mr. Dinesh Jindal, Law Officer, DPCC 34. Dr. M.P. George, Scientist-D, Delhi Pollution Control Committee Reference to various proposals put forward by the various studies carried out by different Departments and preventive and restorative steps that could be taken were deliberated upon extensively. Further, it was also discussed as to how effectively the directions issued by the Tribunal could be implemented effectively and purposefully. There was a serious concern and consensus that the air quality of Delhi needed attention of all concerned and had to be improved, even if necessary by taking harsh steps in accordance with law. The studies have shown that there are three primary sources causing serious air pollution in NCR Delhi as far as PM10 is concerned. They are dust, burning of plastic and other materials including leaves in the open area and vehicular pollution. All these three sources lead to a common evil of air pollution by introducing high particulate matters, hydrocarbon, oxides of sulphur and nitrogen, benzene and ozone in the air. Vehicles emit numerous carcinogenic chemicals, diesel contains benzene, formal dehyde and 1, 3 – butadiene all three are well recognised carcinogenics. All these pollutants are responsible for causing health hazards. Burning of material also causes serious respiratory problems and are even carcinogenic. It is unquestionable that citizens of Delhi are certainly

		entitled to better quality of air and environment. Though, these three sources of pollution are independent of each other and require different and distinct preventive and restorative directions, but have to be dealt with a common object of ensuring attainment of better ambient air quality in NCR Delhi. This necessitated the issuance of Notice to the State of Haryana, State of Uttar Pradesh and State of Rajasthan which have adjacent border with NCR Delhi. Learned counsel appearing for these States have accepted Notice and are present before the Tribunal. They also commonly conceded that adequate measures are required to be taken for prevention and control of pollution and maintenance of air quality. They also further state that all these States would fully cooperate with the Government of NCT of Delhi and would comply with the directions of the Tribunal for attainment of the object aforestated. An argument has been advanced before us to say that banning of 15 years old vehicles in Delhi would be unfair to the owners of the cars and consequently if cars are sent outside Delhi it would mean that they will cause pollution in other cities and hence, it would shift the pollution. This submission is not only misconceived but void of reasoning as well. Foremost, it pre-supposes that the vehicles of more than 15 years age are not causing pollution. The direction for not permitting the 15 years old vehicles to ply in Delhi may cause some hardship but certainly that hardship on individual or group of individuals must give way to the public cause

		of better environment and public health, which as per constitutional mandate is the fundamental right of the public at large. Individual rights must concede in favour of public rights. Furthermore a 15 year old vehicle may have greater adverse impact on the air quality and environment in a congested area with heavy vehicles density in comparison to when it is driven in an area which is open, with thin vehicle density has a greener belt and wider air dispersion possibility. It is an established fact that particulate problem is most severe in the area having dense population coupled with heavy traffic intensity. Although new engine design have come into existence to reduce emission but the gain has got over shadowed the increasing number of vehicles and the increasing miles travelled per vehicle per year (Wargo et al 2006; Environment and Human Health Inc. Connecticut, USA) with heavy engine. We have to give precedence to the environment and public health and, therefore, the directions must be adhered to without delay and default. Having considered various aspects and after seriously pondering over the suggestions made at the Bar or in the Chamber meeting, we are of the considered view that further directions are called for in the larger public interest and to ensure prevention of air pollution emanating from the three primary sources aforestated. It has also been brought to our notice that nearly 30 lakhs litres of petrol is wasted because of traffic jams and held-up-at signals. This data, however, relates to

		the year 2009 which must naturally have increased considerably now. There are certain definite steps that required to be taken by the concerned Authorities to ensure free flow of traffic and avoid traffic congestion on the roads. **Directions:** 1. Our order dated 26th November, 2014 and 28th November, 2014 shall continue to be in force till further orders and shall be strictly enforced by all concerned Authorities. 2. We direct a team of CPCB, DPCC, a Scientist from MoEF, a Scientist from State Boards of State of Rajasthan, State of Haryana and State of Uttar Pradesh to take ambient air quality samples from the entire NCR Delhi at different intervals and times. The samples would be taken during the peak hours as well as non-peak hours. The sample shall definitely be collected in the early morning hours and late evening hours. The complete analysis of this data for all parameters of NAAQS 2006 shall be made and comparison with the national ambient air quality specified in the Notification dated 18th November, 2009 issued by the MoEF in relation to the air quality standards specified therein shall be made. This report shall also identify the environmentally safest period of the day when residents of Delhi would be exposed to minimum injury to their health.

3. The data so collected shall be treated as base line data for issuance of further directions to improve air quality in Delhi. As already indicated these three principle sources of pollution of air have to be separately dealt with. There cannot be any commonality in the issuance of directions and measures to be taken for prevention and control under each head. Thus, we would pass directions specific to each of the above stated sources:

Vehicular Pollution

1. In addition to the directions already issued we further direct concerned Authorities and Administration to consider the proposal for charging of higher parking fee, higher registration fee and imposition of congestion charges. They shall put their respective suggestions on record before the next date of hearing.
2. We direct all the State Governments, particularly NCT Delhi, to take effective steps to enhance public transportation facilities and provide due infrastructure in that behalf. It will be ensured that public transport becomes more user friendly rather than causing waste of energy by plying empty buses on the roads.

   It is a matter of common knowledge that air conditioned buses are being run by DTC for long part of the day ply but without passengers. Thus, DTC should run buses of different capacity and

		size at different timings and on different routes. All such buses would be driven on CNG fuel only. 3. The DTC shall ensure that the buses running by it do not cause congestion. This transport should be of greater utility to the public and distinct incentives should be provided to the general public to encourage use of public transport. 4. The DTC shall ensure that every bus belonging to DTC or operating under its directions is subjected to mechanical check up through computerised system once every month and will be subjected to check for PUC atleast twice a month. 5. The DTC shall formulate a proper group of staff to carry out above directions/functions and submit a compliance report to the Depot Manager who in turn will inform the highest Authority of the DTC. The above regular computerised check will not absolve the DTC from being subjected to random checks by the concerned Authorities for the purposes of issuance of PUC. It shall be ensured that these buses do not exceed the prescribed emissions standard. 6. The Government and all concerned Authorities shall ensure free flow of traffic in Delhi. Parking spaces shall be earmarked. Parking of vehicles in excess and beyond the specified parking area shall be strictly prohibited. In any case, there shall be no parking permitted on metalled roads in Delhi and appropriate Authority shall take due steps for taking penal action against the

		defaulting persons or firms or contractors who violate this direction. **General directions** 1. Obstructions in free flow of traffic result in traffic jams that lead to higher emission of pollutants in the atmosphere. Thus, we direct the Authorities to ensure that there is no unauthorised parking and whenever a vehicle breaks down on the roads, the same should be removed immediately and without any undue delay. Authorities particularly the Police, thus should make the towing cranes easily accessible. 2. The persons who violate these directions besides being liable for different actions that may be taken against them by the Corporation or appropriate Authority under the law in force, would also be liable to pay compensation and the amounts may be determined by the Tribunal on the principle of 'Polluter Pays' for causing and/or abating pollution in NCR Delhi. 3. The ambient air quality of Delhi needs to be improved even if harsh directions within the framework of law are required to be issued. Keeping in view the gravity of harm to human health due to inferior ambient air quality of Delhi. Improvement even by a decimal of the air quality would go long way in air improving public health and environment in Delhi. Thus, we direct the Governments and all public and other Authorities to immediately install air filters in the colleges,

		schools, gardens and other public places which are visited by a greater number of people in the day. 4. The check post, as directed ealier at the entry points to Delhi, would be manned and monitored commonly by Police, transport department and Weight and Measures Department of NCT of Delhi, and also Officers of the similar Department from the concerned States shall accompany. 5. Online weighing machines shall be installed at a short distance away from the entry post of Delhi. Record of online data of weighing machines in respect of goods carrying vehicles would be maintained regularly and checked by the senior Officer of Police and Transport Department who shall sign and verify such data every day. 6. The check post would only let such vehicles pass onwards which are found to be neither overloaded nor polluting. 7. These Check Post Staff shall make all efforts to ensure that there is no congestion at the entry points of Delhi and no vehicle standing at the Border should be allowed to keep its ignition on. 8. The concerned Authorities and Government should take steps to ensure expeditious completion of the project of Kundli-Manesar-Palwal Express Way, which we are informed is likely to be completed by 2016. The completion of the projects would ensure that the vehicular traffic for destinations other than Delhi do not

		enter NCR Delhi, thus, reducing traffic pressure and consequently air pollution, resulting from vehicular traffic in Delhi. 9. We also direct NCT Delhi and DDA particularly to take the project for completion of a flyway and/or to connect all existing flyovers without obstruction and traffic lights on top priority. 10. The authorities concerned of all the States and NCR of Delhi shall also ensure that Eastern Peripheral Express Way should be completed in a time bound manner and the project be taken up with top priority by the concerned States. 11. We direct that the DPCC and the Transport Department shall immediately ensure installation of appropriate 'catalytic convertors', particularly for diesel vehicles, if not already fitted which would ensure reduction of pollutants entering the atmosphere in Delhi. 12. The Government of NCT will take steps to introduce and enforce BS-V vehicles in NCR Delhi. All other neighbouring States would ensure that they also take effective steps to have BS – IV compliant vehicles only. The progress report should be submitted before the next date of hearing to the Tribunal. 13. It was agreed and which we direct that Lajpat Nagar and Karol Bagh should be taken as pilot projects for de-congestion of the traffic resulting from excessive and impermissible parking in the entire area.

		14. We direct Transport Authority, Delhi Police and DPCC to take immediate and effective steps so that parking areas are marked distinctly and no vehicle is permitted to be parked beyond parking areas in Lajpat Nagar and Karol Bagh. It will be ensured that free flow of traffic is maintained in the market and colonies of the pilot projects. In Lajpat Nagar two way dual carriage while in Karol Bagh one way dual carriage flow of traffic shall be maintained. There must not be any parking on the metalled roads. The concerned Police Officers, Officers of the Corporation and other agencies/authorities shall be personally responsible for this compliance. 15. It has been brought to our notice that the forest area of Delhi is 12.12% as against national forest policy that envisaged 33% forest area. However, it may also be noticed that if the green area is added along with forest area then it may come to nearly 20.08% and from whatever point it is viewed, Delhi certainly needs a larger green area and forest cover. Thus, we direct NCR of Delhi, DPCC and Forest Department to increase the forest cover area as well as to maintain the existing green and forest covers in an appropriate manner and ensure that there is no degradation of the forest and/or green area in Delhi. 16. The Forest Department shall submit report before us as to how many trees have been planted from today till the next date of hearing. The Forest

		Department and Corporation should plant variety of trees belonging to native species in the existing open forest area and also, along the roads and other open spaces. 17. It has not been disputed that checking of vehicles and grant of PUC in the entire NCR of Delhi lacks proper functioning and supervision. Thus, we direct all the States to constitute a special team consisting of members from its Transport Department, Environment Department, Pollution Boards and from any other Department as they may consider appropriate to keep serious vigil on the functioning of the service stations or centers empowered to issue PUC. It will ensure that their machines and equipments are duly calibrated on regular intervals and PUC are issued only after checking vehicles in accordance with the norms specified. 18. It has also been seriously deliberated that garbage burning in Delhi may not be the only pollutant but it is most serious pollutant. It causes nearly 29.4% of air pollution with reference to PM10, however, its contribution in terms of pm 2.5 is not placed us which is a serious pollutant and causes health hazards. Therefore, steps should be taken to reduce level of PM 2.5 through appropriate anti pollution devices. 19. The only workable solution to this serious menace is complete prohibition on burning of garbage or other material in the open area.

		20. It has also been brought to the notice of the Tribunal that waste plastic, rubber and materials are burnt openly though prohibitory orders have been issued in the other connected matters by the Tribunal. The police has reported that no such burning is going on particularly in the area of Narela and Mundka but complaints with photographs are still being filed before the Tribunal stating clear violation of this direction. 21. Thus, we direct Police Authority and respective Municipal Corporation and the DPCC to ensure that any waste material, garbage or even leaves are not burnt in the open areas at all. For this purpose, concerned Executive Engineer of the respective organisation responsible for activities of cleanliness shall be personally responsible because this work alone cannot be carried out by the Police with its limited resources. It is important that all the public Authorities including DPCC and the representative of the State Boards effectively supervise the compliance of this direction. If any person is found to be causing such pollution then besides the actions that can be taken against him. We make it clear that such person shall be liable to pay compensation in terms of Section 15 of the National Green Tribunal Act, 2010 under the principle of 'polluter pays'. This compensation may vary depending on facts and circumstances of the case from Rs. 20,000 to Rs. 1 lakh per incident.

		22. Proper steps will be taken to spread education through different sources and even by requiring concerned Schools in the NCR, Delhi to educate students about the need for improvement of air quality and the steps that should be taken. Cooperation of the young generation should be encouraged besides providing a good incentives to the people reporting the same and steps be taken for creating environmental wings in the Capital city of India. 23. Suggestions have been made with regard to putting of cap on total number the vehicles, including cars and all other vehicles. We direct all the concerned Authorities in the respective States to collectively put their views before next date of hearing in this regard. 24. We further direct that there shall be no hot mixing on the road side. All public Authorities particularly the PWD, DDA and others should themselves, during construction and maintenance of road, ensure that coal tar, bitumen and/or asphalt mix is brought in molten condition and the same is neither burnt nor fire is put to melt these substance on the open roads. 25. The NCR Delhi, DDA and Railway Boards shall consider shifting and /or bifurcating of three sites meant for Cargo containers i.e. Tughlakabad, Okhla and area close to Anand Vihar, where heavy containers depot have been

located, 10 or 12 wheeler heavy trailers come to these areas and thus, cause serious traffic jams obstructing free flow of traffic, besides directly causing pollution in the air. If these sites are shifted or bifurcated atleast in the areas in the outskirts of NCR in consultation with the other States will help greatly in improving the air quality of NCR Delhi.

26. A suggestion was also made to fix life of the vehicle especially private and commercial.

27. Now we will be dealing with the air pollution from dust. It primarily results from demolition and construction activity going on in the NCR Delhi. Furthermore, the demolition material and construction material are transported without proper coverage and precautions, thus causing serious air pollution. It is informed that the largest contributor of air pollution is dust in NCR Delhi. This needs to be resolved at the earliest. It is also commonly conceded before us that this is one aspect which can be controlled by taking adequate measures without posing much difficulties. Still it is imperative that there should be definite will and sincerity for complying with the directions contained in this order on the part of all concerned. Hoping that all the concerned Departments of the Government, Police Authorities and Corporation would earnestly execute the directions, we issue following directions:

		1) No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on the metalled road. 2) Beyond the metalled road the area where such construction material or debris can be stored shall be physically demarcated by the Officers of all the concerned Authorities/Corporation. It shall be ensured that such storage does not cause any obstruction to the free flow of traffic and/or inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage. Every builder, contractor or person shall ensure that the construction material is completely covered by tarpaulin. All other precautions should be taken to ensure that no dust particles are permitted to pollute the air quality as a result of such storage. It shall also be ensured that appropriate protection measures are taken by raising of wind breakers of the appropriate height on all the sides of plot/area using plastic and/or other similar material, to ensure that no construction material dust fly outside the plot area and it will be the builder/contractor responsibility to ensure that their activity does not cause any air pollution during the course of the construction and/ or storage of material or construction activity. This condition shall be strictly

		adhered to by every builder, contractor, person or authority whether it relates to construction on small plot or a multistoreyed building. In the event of default they shall be liable to be prosecuted under the law in force, as well as for causing environmental pollution and shall also be liable to pay compensation which would be determined by the Tribunal in accordance with law. 3) All the concerned State Pollution Control Boards and environment departments of the State are hereby directed to maintain strict vigil and supervision over all the stone crushers to ensure that they are operating only after obtaining consent of the board/authority and are strictly conforming to the prescribed norms. 4) The Executive Engineer of each PWD or any other organisation would be personally responsible for effective compliance of these directions who shall submit Report to his Chief Engineer without delay and default every week. This will also apply to construction of all the roads, highways in the NCR Delhi. 5) All the trucks or vehicles of any kind which are used for construction purposes and/or are carrying construction materials like cement, sand and other allied material shall be fully covered. The vehicles would be properly cleaned, shall be dust free and/or other

		precautions would be taken to ensure that enroute their destinations, the dust, sand or other particles are not permitted to be released in the air and/or contaminate air. Any truck which is not complying with these directions would not be permitted to enter NCR Delhi. 6) All Authorities, Corporations of NCR Delhi shall also ensure that there will no burning of any material earmarked at the land fill sites. 7) Crop remnant burning in agricultural field falling in NCR Delhi shall be strictly prohibited. 8) All the authorities i.e. Chief Secretaries, of the respective States and NCR Delhi, Commissioner / DGP, heads of all the public authorities, bodies, organization, including the Director General of PWD, CPWD, Horticulture Department, Vice Chairman of DDA, Commissioner of the respective Corporation, Chairperson of State Pollution Control Board and all Authorities, shall issue directions forthwith for strict compliance of these directions and in default would take disciplinary action under the respective service rules for any of the breach committed by officials to the direction aforestated. 9) We also direct the inspecting team to collect stack and air ambient quality samples from and near the Indraprastha Thermal Power Station Delhi and

Barder Pur Thermal Power Plant. They should specifically provide information to contribution of these two plants to the air pollution in Delhi.

The above directions shall be enforced without delay and default by all the concerned Authorities, Corporation, DDA, DJB, Forest Department, Department of Environment, NCT Delhi, DPCC, Department of Weights and Measures, NCT Delhi and Police Force. The head of the Department of all these would be personally responsible for compliance of these directions. It is further made clear that the head of Departments shall fix responsibility of all the Officers incharge of different areas to ensure that directions are carried out without default and delay.

All the status reports, compliance of which is required above as per directions of this Tribunal would be filed before the Tribunal three days in advance of the date fixed.

Liberty is granted to all the parties, any person aggrieved or otherwise and all the Departments to approach the Tribunal if the occasions so arises for clarification of the orders passed by the Tribunal and/or for issuing further directions.

List this matter on 12th January, 2015 the date already fixed.

……,CP
(Swatanter Kumar)

		……,JM (M.S. Nambiar) ……,EM (Dr. D.K. Agrawal) ……,EM (Prof. A.R. Yousuf)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No.21 of 2014
(M.A. NO. 87 OF 2015, M.A. NO. 90 OF 2015, M.A. NO. 155 OF 2015, M.A. NO. 200 OF 2015, M.A. NO. 203 OF 2015, M.A. NO. 219 OF 2015, M.A. NO. 234 OF 2015, M.A. NO. 247 OF 2015, M.A. NO. 248 OF 2015, M.A. NO. 274 OF 2015, M.A. NO. 283 OF 2015, M.A. NO. 284 OF 2015 & M.A. NO. 317 OF 2015)
AND
Original Application No. 95 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D. SALVI, JUDICIAL MEMBER
HON'BLE MR. DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER
HON'BLE MR. B.S. SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014

Present:	**Applicant:**	**Mr. Sanjay Upadhyay, Mr. Adarsh Srivastava and Mr. Salik Shafique, Advs.**
	Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate for MoEF**
	Respondent No. 2 :	**Ms. Alpana Poddar, Adv.**
	Respondent No. 3:	**Ms. Puja Kalra, Adv.**
	Respondent No. 4 :	**Mr. Rajiv Bansal with Mr. Kush Sharma and Ms. Arpita, Advs. for DDA.**
	Respondent No. 5,6 & 7:	**Mr. Ardhendumauli Kumar Prasad, Adv.**
		Mr. D. Rajeshwar Rao, Adv. for Delhi Police (Traffic)
		Ms. Neha Kurian, Ms. Pallavi Talware, Mr. Aditya N. Prasad, Mr. Amit Verma, Mr. Atif and Mr. Sahil Sangar- Local Commissioners
		Ms. Savitir Pandey, Adv. for State of UP
		Mr. Narender Pal Singh, Adv. for R-2 & 4
		Mr. I.K. Kapka, Ms. Shikha Rai, Mr. A.K. Singh, Mr. S.K. Pabbi, Advs. For Karol Bagh Trader Federation
		Mr. Balendu Shekhar, Adv. for EDMC
		Mr. Sanjay Kumar, EE (P)
		Shri Ruchir Batra, Adv. for Lajpat Nagar Traders Association
		Mr. Chirag M. Shroff, Adv. for NCT, Delhi
		Ms. Sakshi Popli, Adv. for NDMC
		Mr. Ravinder Kumar, Adv. for NOIDA and Gr. NOIDA Authority
		Mr. Pinaki Mishra, Sr. Adv., Mr. Rahul Mehra, Ms. Zubdabegum for GNCTD
		Mr. Avnish Ahlawat, Adv. for DUCIB, DTC, Transport Dept. & GNCT
		Mr. Anil Grover, AAG with Mr. Rahul Khurana, Adv. for State of Haryana
		Mr. Janjeev Ailawali and Ms. Priya Dup, Adv.
		Mr. Ajwal Khan, Adv. for Mr. Beopul Mandal,
		Mr. Deepak Khada Ria, Adv.
		Mr. B.S. Jaiswal, IPS, Dept. Traffic, Southern Range
		Mr. Surya Kant Patil, ACP of Traffic, Southern Range
		Insp. Shailendra S. Chauhan, TI/HKG

Insp. K.C. Sharma, , TI/DFC
Insp Vijay Paal Tomar, TI/KKC
Mr. Ravindra Kumar, ACP/Traffic, Northern Range
Insp. Kailash Bisht, TI/Legal Cell
Insp. Shrender Kumar, TI/KBC
Insp. Dalbir Singh, TI/LNC

Original Application No. 95 of 2014

Present:	**Applicant:**	**Mr. Sanjay Kulshretha (Petitioner in Person), with Mr. Ashish S. Kulshreshtha, Advs.**
	Respondent No. 1:	**Mr. Vikas Malhotra and Mr. M.P. Sahay, MoEF & CC**
	Respondent No. 2 to 6:	**Mr. Ardhendumauli Kumar Prasad, Adv.**
	Respondent No. 7 :	**Ms. Savitri Pandey, Adv. for State of U.P.** **Mr. Mukesh Kumar, Adv. for NHAI** **Mr. N. Yogesh Kanna and Mr. A. Santha Kumar, Adv. for state of Tamil Nadu.** **Mr. Chirag M. Shroff, Adv. for NCT Delhi.**

	Date and Remarks	**Orders of the Tribunal**
	Item No. 01 & 02 **April 10, 2015**	The Learned Counsel appearing for the state NCT, Delhi has submitted that the Government of NCT, Delhi has taken a policy decision to implement all the directions of the Tribunal to ensure that people of Delhi get cleaner air to live and lead better life environmentally. The Learned Counsel appearing for the Union of India also states that the Government is committed for better environment. For the statements made above, and in any case, which have been widely reported, that there is definite concern and initiative being taken by the Central as well as State Government to clean the air of Delhi and to provide better ambient air quality for a healthy and decent environment to the residents of Delhi, we record our appreciation for this concern and initiative being taken by the respective Governments. We also express a pious hope that in the interest of public health and environment, the directions now being issued by the Tribunal would be implemented without default and delay.

		The Learned Counsel appointed as Commissioners by the Tribunal submitted they have visited the sites (entry point of Delhi) and have prepared their report. They pray for time to file the report during the course of the day. Liberty granted. We also direct the Learned Local Commissioner to file collective report in regard to the recommendations that they wish to make for better implementation of the directions of the Tribunal. Let the copies of the inspection report be furnished to all the Learned Counsel appearing in this case for Government and Public Authority and state, who should file their response within one week from today. The Learned Local Commissioners are directed to visit the entry points whenever they wish to. Police shall provide them due assistance and help to enable them to execute commission without obstruction and inconvenience. Copy of the report be given to all the Learned Counsel appearing for various State authority irrespective whether they are party or not. It is scientifically established fact that the pollutants of ambient air quality are from vehicular pollution, dust pollution, pollution by burning and emission from industry. Today we have decided to deal with this case in phases to prevent and control of air pollution on the one hand and pass directions for restoration of ambient air quality. The matter pertaining to dust emissions from building construction, transportation C&D waste, mining and allied activity is being dealt. Development in all fields is an essential feature of a developing country. If the stake holders carry out the

development activity in fragrent violation as to the principal of sustainable development the results can be disastrous. They may have serious adverse impact not only on environment and ecology of the area but even would raise serious issues of public health. Where construction activity is one of the very significant facet of development there it is one of the serious contributor of air pollution by generating dust. Dust could be generated purely from construction activity, transportation of construction material, construction debris waste and by carrying on mining activity. Dust emission from these activities attain dangerous dimensions when its carried out rampantly and in a unregulated manner. The stack holders for short economic gains do not take environmental preventive and protections measures prescribed under laws exposing not only their workers but the entire population of the area to variety of diseases some of them are even life threatening.

Despite the fact that the Benches of the Tribunal have expert members from diverse fields of environment. The Tribunal had adopted approach of consulting the stack holders while dealing with the issues of air pollution in Delhi and the steps that are required to be taken for improving the air quality.

The Committees were constituted and even deliberations issued vide orders dated 24th November, 2014 and 01st December, 2014 in regard to controlling the polluting and improving the ambient air quality in Delhi. In the Order dated 01st December, 2014 we had issued a set of directions particularly dealing with the requirements of prevention and control of air pollution resulting from emission of dust in the atmosphere. All the directions

contained in that order shall be read and construed as part of this Order and directions issued hereinafter.

The Expert Committee constituted by the Tribunal had collected samples from 36 different sites in Delhi, Haryana and Uttar Pradesh. The analysis reports indicate significant exceeding parameters. For instance nitrogen dioxide as per the prescribed standard is to be 84 $\mu g/m^3$ was found to be between 146-208 $\mu g/m^3$ in Faridabad in Delhi. The particulate matter as against permissible of PM 10 $\mu g/m^3$ were found to be 484-276-948 $\mu g/m^3$ in Delhi and Faridabad and the surroundings areas. The particulate matters with reference to PM 2.5 is excessively violative in Delhi and has gone upto 1284 as against prescribed standard of 60 $\mu g/m^3$. Carbon dioxide in Delhi is found to be 7.81 $\mu g/m^3$ against the prescribed value of 2 $\mu g/m^3$.

Similar data was also taken note by the Tribunal in its order dated 16th March, 2015. Nitrogen dioxide was found to be 367 $\mu g/m^3$ against the prescribed value of 80 $\mu g/m^3$ on 140 occasions on 24 hours basis. The particulate matters PM 2.5 ranged between 30.41 to 1284 $\mu g/m^3$ against the NAAQS value of 60 $\mu g/m^3$. Carbon monoxide and benzene both were found to be exceeded.

This persuaded to pass the certain directions in that behalf. The same should also read as part of this order.

It has been widely reported that massive construction activity is going on without taking any precautionary and preventive measures. There are no covers scaffolding no housing of road to reduce dust dispersal. The construction materials are not covered, the workers are not provided with gadgets to prevent inhaling of dust particles particularly fine particles.

Thus there is dire need to immediately pass appropriate directions for preventing and controlling the pollution of air from dust and to improve ambient air quality particularly of NCR of Delhi.

We are not oblivious of all the difficulties that may come in the way of the bonafide purchaser and the builders for the restrained orders passed by on 16th March, 2015. But it is not only legal but even a social and corporate responsibility of all the builders to carry on construction activity or mining activity strictly in accordance with the prescribed rules. They must ensure that for small economic gains they do not expose the public including their purchasers and workers to serious diseases and adversely effecting the public health at large. The constitutional right to life, decent and clean environment has to take precedent over the right of an individual to carry on business activity.

Thus we pass the following directions:

(i) No Corporation, authority or instrumentality of the State vested with the power of sanctioning plans, drawings for construction of any commercial, residential and even construction of small plots would impose a clear condition that sanction of plans is subject to the builder, owner or person seeking sanction would strictly comply with the directions contained in this order as well as the MoEF Guidelines, 2010 while raising construction.

(ii) Such Authorities shall forth with issue notices to all the builders raising any kind of construction that they should strictly adhere to and comply with the directions contained in this order of the

		Tribunal as well as MoEF Guidelines, 2010 is relation to precautions required to be taken while carrying on construction. (iii) Every builder or owner shall put tarpaulin on scaffolding around the area of construction and the building. No person including builder, owner can be permitted to store any construction material particularly sand on any part of the street, roads in any colony. (iv) The construction material of any kind that is stored in the site will be fully covered in all respects so that it does not disperse in the Air in any form. (v) All the construction material and debris shall be carried in the trucks or other vehicles which are fully covered and protected so as to ensure that the construction debris or the construction material does not get dispersed into the air or atmosphere, in any form whatsoever. (vi) The dust emissions from the construction site should be completely controlled and all precautions taken in that behalf. (vii) The vehicles carrying construction material and construction debris of any kind should be cleaned before it is permitted to ply on the road after unloading of such material. (viii) Every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris shall be provided with mast to prevent inhalation of dust particles.

		(ix) Every owner and or builder shall be under obligation to provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission. (x) It shall be the responsibility of every builder to transport construction material and debris waste to construction site, dumping site or any other place in accordance with rules and in terms of this order. (xi) All to take appropriate measures and to ensure that the terms and conditions of the earlier order and these orders should strictly comply with by fixing sprinklers, creations of green air barriers. (xii) Compulsory use of wetjet in grinding and stone cutting. (xiii) Wind breaking walls around construction site. (xiv) All concerned Government that is state of NCT, Delhi state of U.P., state of Rajasthan and Haryana shall ensure that mining activity if otherwise permitted in accordance with law and orders of the Court is strictly regulated and carry out in a manner prescribed under rules and to ensure that least dust has emitted into air/atmosphere and all steps are taken to prevent the same. (xv) The Corporation, DDA, HUDA, NOIDA, Greater NOIDA Authority and all other Authorities and instrumentalities of the state and its department shall make all efforts to increase the `tree cover' area by planting large number of trees of various species depending upon the quality content of soil

		and other natural attendant circumstances. (xvi) All the builders who are building commercial, residential complexes which are covered under the EIA Notification of 2006 shall provide green belt around the building that they construct. All Authorities shall ensure that such green belts are in existence prior to issuance of occupancy certificate. (xvii) The state Government of NCT, Delhi, Haryana, Uttar Pradesh, state of Rajasthan, all Public Authorities in these states, Corporations, Development Agencies and all other Authorities persons and Departments of the state Government, Pollution Control Boards and Police Authorities shall ensure complete and expeditious compliance of all these directions with immediate effect. a. The Station House Officer, Environmental Engineers, Engineers of the Corporation and of all the Regulatory and Development Authority responsible for sanctioning of plan, granting consent and issuance of completion certificate would be personally and strictly responsible for compliance of these directions in the area/areas that fall under their jurisdiction. In the event of default they shall be liable to pay compensation for such environmental degradation or for pollution of ambient air quality in NCR, Delhi particularly. b. If any person, owner and or builder is found to be violating any of the conditions stated in this order and or for their non-compliance such

person, owner, builder shall be liable to pay compensation of Rs. 50,000/- per default in relation to construction activity at its site and Rs. 5,000/- for each violation during carriage and transportation of construction material, debris through trucks or other vehicles, in terms of Section 15 of the NGT Act on the principle of Polluter Pay. Such action would be in addition not in derogation to the other action that the Authority made take against such builder, owner, person and transporter under the laws in force.

c. The Government of NCT, Delhi shall take immediate step to enhance the capacity of its plant for reutilisation and recycling of C&D waste. It is undisputed on record that NCR, Delhi is generating nearly 4000 MT of C&D waste every day and the capacity of the plant is not able to utilised even 10% of such generated waste. All builders shall ensure that C&D waste is transported in terms of this order to the site in question only and due record in that behalf shall be maintained by the builders, transporters and NCR of Delhi.

d. We make it clear that even if constructions have been started after seeking Environmental Clearance under the EIA notification 2006 and after taking other travel but is being carried out without taking the preventive and protective environmental steps as stated in this order and MoEF guidelines, 2010, the State Government,

SPCB and any officer of any department as aforestated shall be entitled to direct stoppage of work.

In relation to Lajpat Nagar, we make it clear that the cement Jersey Barriers would be placed at both the ends of the road. There shall be no crossing permitted from one end to the road and another end of the road. In other words, there would be no intersection. We are informed that the parking space as provided by the Board is able to accommodate nearly 550 cars which would has provided a great relief to the traffic congestion in Lajpat Nagar. This arrangement would continue in terms of the order of the Tribunal till further order. Police Authorities present before the Tribunal, shall ensure that all the directions issued by the Tribunal in regard to the de-congestion of traffic thus resulting in minimum emissions from vehicular pollution should be carried out strictly without default. The CPCB shall place on record ambient air quality analysis pre orders and post orders. We are informed that data of ambient air quality for 2007 to 2009 have been placed on record. The CPCB shall prepare a comparative table and DPCC shall fully assist in that behalf. Reference in the air quality report shall be also made regarding existing climatic condition at the time of collection of sample. Needless to mention that Delhi Metro is carrying on huge construction activities in Delhi, its public benefit and public importance cannot be denied but still they are required to ensure that they do not cause any air pollution. Therefore we direct Delhi Metro or any other Government or private construction agency carrying on massive construction project that they will strictly adhere to construction activities in terms of this

		order and the guidelines contained in MoEF guidelines, 2010. The Learned Counsel appearing for the State of Haryana, State of U.P., NOIDA and Greater NOIDA submit that they will ensure that the directions of this order and that of 16.03.2015 will be complied with forthwith. The MCD, South will file an affidavit by the next date of hearing positively stating as to which place in Lajpat Nagar they would build the multi level parking. Chief Engineer would be present before the Tribunal on the next date of hearing. List this matter on 17th April, 2015 at 02:00 PM. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. D.K. Agrawal) .....,EM (Prof. A.R. Yousuf) .....,EM (B.S. Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO.21 OF 2014
(M.A NO. 155/2015, M.A NO. 284/2015, M.A NO. 394/2015, M.A NO. 412/2015 TO M.A NO. 414/2015, M.A NO. 420/2015, M.A NO. 482/2015, M.A NO. 502/2015, M.A NO. 618/2015, M.A NO. 631/2015, M.A NO. 683/2015, M.A. NO. 778/2015 & M.A. NO. 812/2015)
AND
Original Application No. 95 of 2014
And
Original Application No. 303 of 2015

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Original Application No.21 of 2014

Present: Applicant: Mr. Vardhman Kaushik, Adv. – in Person
Respondent No. 1: Ms. Panchajanya Batra Singh, Adv. For MoEF & CC
Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi
Mr. Rajiv Bansal and Mr. Kush Sharma, Advs. (DDA)
Narender Pal Singh, Adv. For DPCC and for GNCT Environment
Mr. Dinesh Jindal, LO, DPCC AND Dr. M.P. George, Sr. Scientist
Ms. Puja Kalra, Adv. For SDMC and North MCD
Mr. Tanjel Ahmed, Adv.
Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.
Mr. K.V. Jagdishvaran, Mrs. G. Indira, and Mr. Pawan Kishore Singh, Advs. For UT of Andaman & Nicobar Islands Administration
Mr. Sunil Satayarth and Mr. Ashok Kumar, Advs. For Delhi Cantonment Board
Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs. for NOIDA & Greater NOIDA
Ms. Soumyajit Pani, Adv. For State of Odisha
Mr. Mohd. Ouais, Adv. For Applicant in MA 631
Prerna Singh and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. P. Venkat Reddy, Adv. For State of Telangana
Mr. Rudreshwar Singh, Mr. Gautam Singh and Ms. Divya Singh for State of Bihar and BSPCB

	Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P. **Mr. Jayesh Gaurav, Advs. For State of Jharkhand & JSPCB** **Mrs. Avnish Ahlawat and Mr. Nitesh Kumar Singh, Adv. For DTC/SIBU along with Mr. M.K. Sharm, Sr. Mgr.** **Ms. Sakshi Popli, Adv.** **Mr. D.K. Thakur and Mr. Deepak Jain, Mr. Alok Kumar, Advs. For UT of Daman & Diu and Dadara & Nagar Haweli** **Mr. Om Prakash, Adv. for MoR (Northern Railway)** **Ms. Pinky Anand, ASG, Ms. Tavinder Sidhu, Mr. I.K. Pandey, CGM and Mr. P.K. Kashik, Manager for NHAI** **Ms. Pinky Anand, ASG for CONCORN** **Ms. Pinky Anand, Sr. Adv., ASG, Mr. Rajesh Ranjan and Mr. Balendu Shekhar, Advs. For Ministry of Road & Transport & Highway** **Mr. Balendu Shekhar & Mr. Akshay Abrol, Advs. for EDMC**
Respondent No.1:	**Mr. Vikas Malhotra and Mr. M.P. Sahay, Advs.**
Respondent No. 2 to 6 :	**Mr. Ardhendumauli Kr. Prasad, Adv. & For MoUD & MoPNG**
Respondent No. 7 :	**Mr. Rahul Coudhary and Ms. Maneka Kaur, Advs.** **Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P.** **Mr. Anil Grover, AAG and Mr. Rahul Khurana, Advs. For State of Haryana** **Mr. M. Yogesh Kanna and Mr. Jayant Patel, Advs. For State of Tamil Nadu** **Mr. Sapam Biswajit Meitei and Mr. Kalyani Goswami, Adv for State of Manipur** **Mr. Apoorv Mishra with Ms. Pallavi Mohan, Advs. for BRPL/BYPL** **Mrs. Aruna Mathur and Mr. K. Vijay Kumar, Advs. For State of Sikkim** **Mr. Ruchir Batra, Adv. For Lajpat Nagar Traders Association** **Mr. Anil Shrivastav and Mr. Sanyam Saxena, Advs. For State of Arunachal Pradesh & PCB** **Mr. K.V. Jagdishvaran and Mrs. G. Indira, Advs. For UT of Andaman & Nicobar Islands** **Mrs. K. Enatoli Sema, Adv. for State of Nagaland** **Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana**
Respondent No. 5 :	**Ms. Savitri Pandey along with Ms. Azma Parveen, Advs. for State of UP.**
Respondent No. 7 :	**Mr. Rahul Choudhary and Ms. Maneka Kaur, Advs.** **Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police & GNCT, Delhi**
Applicant :	**Ms. Bhakti Pasrija Sethi, Ms. Prerna Kumari and Ms. Mamta Rani, Advs.**
Respondent No. 1 :	**Mr. Vishwendra Verma, Adv. For MoEF** **Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana**

Respondent No. 5 : **Ms. Savitri Pandey along with Ms. Azma Parveen, Advs. for State of UP.**

	Date and Remarks	Orders of the Tribunal
	Item No. 26 to 28 **August 14, 2015** **ss**	We have specifically requested all the Learned Counsel appearing for the Central Government, NCT, Delhi, Central Pollution Control Board, Delhi Pollution Control Committee, all Public Authorities of NCT, Delhi, Applicants and Interveners, if they have any arguments to address the Tribunal in relation to the pollution caused by dust and burning. They submit that the directions already passed by the Tribunal should be properly implemented and enforced in all situations. However, they have nothing further to argue. Another suggestion that has been moved is that all the authorities concerned including police should act in coordination with each other and consultative efforts should be made to implement the directions of the Tribunal without any default in future. The Learned Counsel appearing for the Ministry of Environment and Forests has filed an Affidavit stating that NHAI, DMRC and PWD are carrying on projects of huge dimension in Delhi-Faridabad (Mathura Road) and are violating each direction issued by the Tribunal. Photographs have been annexed where hot mixing plants are seen operating at the road side without any protection. Photographs show that construction materials are lying on the road and there are no provisions on the site to protect the construction dust flying into the air. Roads have been stuck where soil have been thrown on the highways or its side itself which is causing lot of dust pollution.

		It is further stated that the hot-mix plants are emitting into the air, Organic compounds, Smoke, Black Carbons, Sulphur Dioxide and Nitrogen Oxide etc. which are very injurious to human health. Let Notice be issued to NHAI, Delhi Metro Rail Corporation and Public Works Department. The Learned Counsel appearing for the NHAI and PWD accept notice. Let them file the replies within one week from today. Notice be issued to DMRC by Dasti. All these authorities shall show cause, why we should not direct punitive action be taken against the Senior most Officers of these organizations and Officers In-charge of the construction site. They shall further show cause, why Environmental Compensation be not ordered to be paid by them in terms of the Section 15 of the NGT Act, 2010. They shall also show cause why proceedings as contemplated order XXI of the Code of Civil Proceedure,1908 and Section 19 of the NGT Act, 2010 be not taken against them for violating the directions of the Tribunal, in this regard. List these matters for hearing on 28th August, 2015. As far as the pollution by dust and burning material are concerned the case is closed for judgment. List these matters with regard to hearing on Air Pollution caused by Vehicular Pollution including Commercial vehicles plying in Delhi and/or transited to Delhi on 17th August, 2015. .....,CP (Swatanter Kumar)

		……,JM (M.S. Nambiar) ……,EM (Dr. D.K. Agrawal) ……,EM (Prof. A.R. Yousuf)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(M.A. Nos. 155, 248, 394, 412 to 414, 420, 502, 618, 631, 683, 778, 778, 812, 1014, 1015, 1029 of 2015 & 1086 of 2015)
And
Original Application No. 95/2014
And
Original Application No. 303/2015

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014 and 95 of 2014

Present: Applicant: Mr. Sanjay Upadhyay along with Ms. Divya Sharma, Advs. Mr. Syed Meesam and Mr. Vardhman Kaushik.

Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Respondent No. 6 & 7 : Mr. Ardhendumuali Kumar Prasad, Mr. Jigdal G. Chankapa and Mr. Pryanka Swami, Advs. for MoUD & MoPNG

Mr. Narender Pal Singh, Adv, Dr. M.P. George, Sr. Scientist Kulanad Joshi, Member Secretary,. and Mr. Dinesh Jindal, LO For DPCC and for GNCT Environment

Mr. Om Prakash, Adv. MoR Northern Railway

Mr. D. Rajeshwar Rao and Mr. Charanjeet Sing, Advs. for Transport Deptt. and Delhi Police, GNCT, Delhi

Ms. Pinky Anand, ASG, Mr. Balendu Shekhar, Mr. Irene Cheiran Director for MoRTH(NHAI)

Ms. Pinky Anand, ASG and Mr. Akshay Abrol, Advs. for CONCOR

Ms. Aprajita Mukherjee and Mr. Upendra Mishra, Advs. For State of Meghalaya

Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.

Ms. K. Enatoli Sema and Mr. Amit Kumar Singh, Adv. State of Nagaland

Mr. Atul Jha, Adv. for State of Chhattisgarh

Mr. Apoorv Kurup and Mr. A.C. Boxipatro, Advs. for State of Chhattisgarh.

Mr. Rajiv Bansal and Mr. Kush Sharma, Advs. (DDA)

Ms. Aruna Mathur, Standing Counsel, Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. For State of Sikkim

Mr. Sapam Biswajit Meitei, Ms. Kalyani and Mr. Z.H. Issaac Haiding, Advs. for State of Manipur & PCB

Ms. Vinakshi Kadar and Ms. Hemantika Wahi, Advs. For State of Gujarat

Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs. for NOIDA and Gr. NOIDA
Ms. Abhisaar Bairagi, Adv.
Mr. Gopal Singh, Mr. Rituraj Biswas, and Ms. Versha Poddar, Advs. for the State of Tripura
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Rudreshwar Singh, Mr. Gautam Singh and Mr. Divya Singh, Advs. for State of Bihar and BSPCB
Ms. Nandini Gore, Ms. Natasha Sehrawat, Ms. Khushboo Bari, Mr. Bipin, Mr. Shermendra Choudhary, Advs. for Tata Motors
Mr. A.N.S. Nandkarni, Ag, Mr. Dattaprasad Lawande, Mr. S. S. Rebello, Ms. Purna Bhandari, Mr. Anshuman Shrivastava and Mr. Debarshi Bhuyan, Advs.
Mr. Kabir Shankar Bose and Mr. Saakar Sardana and Ms. Holika Sukhavi, Advs. For State of W.B. & WBPCB.
Mr. Gaurav Agarwal and Mr. Akshat Srivastava, Advs. for IGL
Mrs. G. Indira, Mr. Sumit Kumar and Mr. K.V. Jagdishvaran, Advs. For UT of Andaman & Nicobar Islands Administration
Mr. G. Indira, Mr. Sumit Kumar and Mr. K.V. Jagdivaram, Advs.
Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P.
Mr. Anil Grover, AAG and Mr. Rahul Khurana, Advs. For State of Haryana
Mr. Balendu Shekhar & Mr. Akshay Abrol, Advs. for MCD and EDMC
Mr. Naushad Ahmed Khan, Standing Counsel for Delhi Transport Corporation
Mr. Jogy Scaria and Ms. Beena Vicky, Advs.
Mr. Saurav Agarwal and Ms. Akshat Srivastava, Advs.
Ms. Sakshi Popli, Advs. for NDMC
Ms. Puja Kalra, Adv. for South Delhi Municipal Corporation and North Delhi Municipal Corporation
Mr. Ravikant Pal, Mr. Pulkit Prakash and Mr. Pragyan Sharma, Advs. for State of Mizoram
Mr. Shiv Mangal Sharma, AAG, Mr. Saurabh Sharma and Mr. Adhiraj Rajawat, Advs. For State of Rajasthan.
Mr. Sunil Satayarth, Adv. and Mr. Ashok Kumar, Adv s. For Delhi Cantonment Board
Mr. P. Venkat Reddy, Adv. for State of Telangana
Ms. Natasha Sahrawat, Ms. Nandini Gore and Mr. Aditi Bhatt, Advs. With Mr. Sharmendra Choudhary, Legal Manager, Mr. Bipin Das, Legal Manager
Mr. Avijit Roy, Ms. Kankara Arandhara and Ms. Deepika Ghatowar, Advs. For State of Assam.
Ms. Pinky Anand, Sr. Adv., ASG with Mr. Tavinder Sidhu and Ms. Gunjan Sinha Jain, Advs. for NHAI
Mr. Diljeet Titus and Mr. Utkarsh Goel, Advs., Advs. For HMCI
Mr. Om Prakash, Adv. for MoR Northern Railway
Mr. Devraj Ashok, Adv. for State of Karnataka
Ms. Soumya Jit Pani and Mr. P. Venkatesan, Advs. for State of Odhisa
Mr. Dinesh Kumar Garg and Mr. Parv Kumar Garg, Advs. AOR for State of Uttarakhand
Mr. Anil Shrivastav, Standing Counsel and Mr. Sanyam Saxena and Mr. Pranav Rishi, Advs. For State of Arunachal Pradesh & PCB

Mrs. Avnish Ahlawat and Mr. N.K. Singh, Advs for DSIU and PWD
Mr. Guntur Prabakar and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. Yogesh Kanna and Mr. Jayant Patel, Advs. for Tamil Nadu State
Mr. Atmaram. N. S. Nadkarni, Adv. General, Mr. Purna Bhandari, Ms. S.S. Rebello, Mr. Anshuman Srivastava and Mr. Debarshi Bhuyan, Advs. for State of Goa and Goa SPCB.
Ms. Alpana Poddar, Adv. along with Mr. S.L. Gundli, Sr. LO, Central Pollution Control Board
Mr. Anuj Sharma and Mr. Santosh S. Rebello, Adv.
Ms. Puja Singh, Adv.
Mr. Soumyajit Pani and Mr. P. Venkatesan, Advs.
Mr. Jeevan B. Panda and Ms. Abhisaar Bairagi, Advs.

Present: Applicant:
Respondent No.1: **Mr. Vikas Malhotra, with M. P. Sahay,Advs.**
Respondent Nos. 2 to 6: **Mr. Ardhendumuali Kumar Prasad, Mr. Pryanka Swami and Mr. Jigdal G. Chankapa, Advs.**
Mr. Rahul Choudhary, Adv. for Invenor
Ms. Prerna Singh and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. M. Yogesh Kanna and Mr. Jayant Patel, Advs. For State of Tamil Nadu & TNPCB
Mr. Kabir Shankar Bose and Mr. Saakar Sardana and Holika Sukhalu, Advs. For State of W.B. & WBPCB.
Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P.
Ms. K. Enatoli Sema and Mr. Amit Kumar Singh, Adv. State of Nagaland
Mrs. G. Indira and Mr. K.V. Jagdishvaran, Advs. For UT of Andaman & Nicobar Islands Administration and Mr. Sumit Kumar, Adv.
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Devraj Ashok, Adv. for State of Karnataka
Ms. Aruna Mathur, Standing Counsel, Mr. Shobhit Nanda, Advs. For State of Sikkim
Mr. Sapam Biswajit Meitei, Mr. S. Vijayanand Sharma and Mr. Kalyani Goswami, Mr. Vijayanand Advs. for State of Manipur & PCB
Mr. Anil Shrivastav, Standing Counsel and Mr. Sanyam Saxena and Mr. Pranav Rishi, Advs. For State of Arunachal Pradesh & PCB
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana, Managing Director, HSIIDC, Haryana, DSP, Panipat & DSP, Rewari, Chief Engineer, HUDA adn Regional Officer, HSPCB, Gurgaon, North
Mr. Ravikant Pal, Mr. Pulkit Prakash and Mr. Pragyan Sharma, Advs. for State of Mizoram
Mr. Jayesh, Adv. for JSPCB
Ms. Puja Kalra, Adv. NDMC
Mr.Tariq Adeeb, Adv. in M.A. No. 1029 of 2015
Mr. Deepak Jain, Mr. Alok Misra, Mr. D.K. Thakur, Ms. Shantala Sankriti and Ms. Aditi Toma, Advs.
Mr. Shubham Jaiswal and Mr. Sarthak Chaturvedy, Advs.

<u>Original Application No. 303 of 2015</u>
Applicant : **Ms. Bhakti Pasrija Sethi, Ms. Prerna Kumari, Ms. Mamta Rani and Ms. Sudha Pal, Advs.**
Respondent No. 1 : **Mr. Vishwendra Verma, Mr. Pranav Verma and Mr. Karan Sinha, Advs. For MoEF**

Respondent No. 3 : **Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi**

Respondent No. 4 : **Ms. Savitri Pandey along with Ms. Azma Parveen, Advs. for State of UP.**
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana
Ms. Alpanna Poddar, Adv. with Mr. SL Gundli, SLO for CPCB

	Date and Remarks	Orders of the Tribunal
	Item No. 28 to 30 **December 11, 2015** **ss**	It is not only undisputable, but in fact the conceded position, that there are 3 prime sources of air pollution in NCT, Delhi as well as NCR, the burning of Municipal Solid Waste and other waste in open, dust generated by construction and allied activities including sweeping of roads and finally vehicular pollution. In regard to all these three aspects, Tribunal had already passed comprehensive directions vide its order dated 26th November, 2014, 04th December, 2014, 07th April, 2015, 28th April, 2015, 07th July, 2015, 17th April, 2015, 14th July, 2015, , 27th July, 2015, 30th July, 2015, and 02nd December, 2015. The Learned Additional Solicitor General appearing for Union of India has stated the aspect on capping of vehicles, it is primarily for the NCT, Delhi to take a stand before Tribunal and as far as end of life of vehicle is concerned, Ministry has already taken the stand that commercial diesel vehicles attaining age of 10 years should be directed to take PUC certificate every 6 months and after 15 years they should be condemned. However, in relation to petrol vehicles, the Union of India does not favour scrapping of vehicle on ageing or otherwise. The Learned Counsel appearing for NCT, Delhi submits in relation to various queries raised by the Tribunal for implementation of the directions already issued that he

needs further time. He further states that the clear stand of the Government is to impose even and odd car system on the alternative days and for considering all other aspects which would be simultaneously operative to achieve the objective and reduction in air pollution in Delhi, he prays for some time.

We think that the authorities concerned must sit together and clearly answer the queries raised by the Tribunal as well as relation to the compliance of the directions already issued which in their considered opinion if implemented simultaneously with the odd and even car system proposed to be introduced would make it for more effective and result oriented. We direct that by way of last opportunity, we grant time to all the Learned Counsel appearing in the case to seek instructions and report to the Tribunal on those aspects. The Learned Additional Solicitor General submits that the Central Government's view of providing certain special benefits for condemnation/scrapping of vehicles have been favorable as has been stated in the note put up before the Tribunal today. Let the Government of NCT, Delhi, consider this view and clearly take stand as to the system to be adopted for scrapping of vehicles particularly diesel vehicles which are more than 10 years of age and the consequential benefits in registration, scrapping, incentive and other incidental benefits that would be granted to the owner of the vehicle in respect of new vehicle like Registration fee/excise duty. Let these instructions be taken by the next date of hearing.

The Learned Counsel appearing for NCT, Delhi submits that in all the RTOs in Delhi around 1300 to

		1400 vehicles are being registered everyday which include all types of vehicles heavy and light including two wheelers. Obviously, reasonably good number of vehicle are also being registered at Gurgaon, Bahadurgarh, Ghaziabad and NOIDA. These are over and above the vehicles registered in Delhi. In view of the serious contribution of vehicular pollution to the air quality of NCT, Delhi it is important that the Government should take a serious view and a decision, whether any vehicle particularly Diesel Vehicle (old or new) should be registered in the NCT, Delhi. As an interim measure till next date of posting subject to hearing of all the concerned parties, we direct that Diesel Vehicles of more than 10 years of age as already directed, as well as new diesel vehicle would not be registered in NCT, Delhi. We also direct the Government to take a conscientious decision in regard to not buying any diesel vehicle, whether by the Central or the State Government. The Learned Counsel should take clear instructions in that regard. We direct all the Public Authorities, Corporation, DDA, Police and other Public Department to prepare an Action Plan for phasing out of diesel vehicles particularly the trucks being used by all these bodies. Let this Action Plan be placed before the Tribunal on the next date of hearing. Another very serious aspect is that incidents of waste burning in the open have been brought to the Notice of the Tribunal and they are even widely reported. In furtherance to the Directions, we hereby direct all the

		Corporations, DDA, Cantonments and SHOs of the concerned Police Stations that they would ensure that no waste is burnt in the open and none is disobeying the directions, besides rendering himself liable for punitive action under law and to pay Environmental Compensation as per Section 15 and 16 of NGT, Act, 2010 at the rate of Rs. 5,000/- per event. Similarly, it would also apply to dumping of construction and other waste material in public places and on the river bed. We hereby also direct that builders who keep their dust, sand, cement, brick and other construction materials on the public place and road, as per the directions of the Tribunal already issued, would not be permitted to do so. Besides, seizing such materials under the provision of the Municipal Corporation Act of the Delhi, they would be liable to pay environmental compensation at the rate of Rs. 50,000/- per incident as already directed. Even the construction material which is stored within the building should be covered, and it should be ensured that there is no emission and it does not disperse into the atmosphere. This will also apply to transportation of construction materials. These directions will be applicable to NCR Delhi as afore indicated. All the Authorities may file list of offenders before the next date of hearing. Let all concerned authorities issue public Notice and these directions should be brought into the public domain by the concerned authorities before they take punitive action. In relation to taking of adequate measures for preventing air pollution in schools particularly Government, Corporation Schools, NCT Delhi is directed to submit a proposal for creating green belt,

		converting the ground by grass and installation of air filters in the schools. The DDA, all Bodies including NDMC, Delhi Cantonment Board and Government should also examine the possibilities of sprinkling water. List this matter on 06th January, 2016. .....,CP (Swatanter Kumar) .....,JM (M.S. Nambiar) .....,EM (Prof. A.R. Yousuf) .....,EM (B.S. Sajwan)

.

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(M.A. Nos. 155, 248, 394, 412 to 414, 420, 502, 618, 631, 683, 778, 812, 1014, 1015, 1029 of 2015, 1086 of 2015 & 1313 of 2015)
And
Original Application No. 95/2014
And
Original Application No. 303/2015

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014 and 95 of 2014

Present: Applicant: Mr. Vardhaman Kaushik, Mr. Nishant Gautam, Mr. Syed Meesam and Mr. Sanjay Upadhyay and Mr. Salik Shafique.

Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Respondent No. 2 & 4 : Mr. Narender Pal Singh, Adv, with Mr. Dinesh Jindal, LO For DPCC.

Respondent No. 6 & 7 : Mr. Ardhendumuali Kumar Prasad, Mr. Jigdal G. Chankapa and Mr. Pryanka Swami, Advs. for MoUD & MoPNG
Mr. D. Rajeshwar Rao, Advs. for Transport Deptt. and Delhi Police, GNCT, Delhi
Mr. Vivek Jaiswal & Ms. Somya Rathore, Adv. for EDMC
Ms. Pinky Anand, ASG, Mr. Balendu Shekhar, Mr. Vivek Paul Oriel, Mr. M.V. Kiwi and Mr. Rajesh Ranjan, Advs. for MoRTH(NHAI)
Ms. Pinky Anand, ASG and Mr. Akshay Abrol, Advs. for CONCOR
Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Apoorv Kurup and Mr. A.C. Boxipatro, Advs. for State of Chhattisgarh.
Mr. Rajiv Bansal and Mr. Kush Sharma, Mr. Jasmeet Singh and Mr. Amit Bansal, Advs. (DDA)
Ms. Aruna Mathur, Standing Counsel, Ms. Anuradha Arputham and Mr. Yusuf Khan, Advs. For State of Sikkim
Mr. Sapam Biswajit Meitei and Ms. Kalyani, Advs. for State of Manipur & PCB
Ms. Vinakshi Kadar and Ms. Hemantika Wahi, Advs. For State of Gujarat & GPCB
Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs. for NOIDA and Gr. NOIDA
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Ms. Anu Tyagi, Adv.
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Rudreshwar Singh, Mr. Gautam Singh and Mr. Divya Singh, Advs. for State of Bihar and BSPCB
Ms. Nandini Gore, Ms. Natasha Sehrawat, Mr. Bipin and Mr. Shermendra Choudhary, Advs. for Tata Motors
Mrs. G. Indira and Mr. K.V. Jagdishvaran, Advs. For UT of Andaman & Nicobar Islands Administration

Ms. Indira Unninayar, Adv. for Intervener Miscellaneous Application 248/2015
Mr. Anil Grover, AAG and Mr. Rahul Khurana, Advs. For State of Haryana
Mr. Balendu Shekhar & Mr. Akshay Abrol, Advs. for MCD and EDMC
Mr. Jogy Scaria, Adv. and Ms. Beena Vicky, Advs. for State of Kerala
Ms. Sakshi Popli, Advs. for NDMC
Ms. Puja Kalra, Adv. for South Delhi Municipal Corporation and North Delhi Municipal Corporation
Mr. Sunil Satayarth, Adv. and Mr. Ashok Kumar, Adv s. For Delhi Cantonment Board
Mr. P. Venkat Reddy, Adv. for State of Telangana
Mr. Prashant Tyagi, Adv.
Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi
Mr. Utkarsh Goel, Advs., Advs. For HMCI
Mr. Jai Prakash Singh, S.O. Hort., PWD
Mr. Tarunvir Singh Khehar, Adv. for GNCTD
Mr. Om Prakash, Adv. for MoR Northern Railway
Ms. Soumya Jit Pani, Adv. for State of Odhisa
Mr. Dinesh Kumar Garg and Mr. Dhananjay Garg, Advs. for State of Uttarakhand
Mr. Guntur Prabakar and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. Yogesh Kanna and Mr. Jayant Patel, Advs. for Tamil Nadu State
Mr. Atmaram. N. S. Nadkarni, Adv. General, Ms. S.S. Rebello, Mr. Anshuman Srivastava and Mr. Debarshi Bhuyan, Advs. for State of Goa and Goa SPCB.
Mr. D.K. Thakur, Mr. Deepak Jain and Mr. Alok Kumar, Adv. for UT of Daman Diu & Dadar & Nagar Haveli
Mr. Shubham Bhall, Adv. for UT of Chandigarh
Ms. Alpana Poddar, Adv. along with Mr. Bhupender Kumar, LA, Central Pollution Control Board
Mr. Vishwendra Verma, Advs. For MoEF

Present: Applicant: Dr. Sanjay Kulshreshtha
Respondent No.1: Mr. Vikas Malhotra, with M. P. Sahay,Advs.
Respondent Nos. 2 to 6: Mr. Ardhendumuali Kumar Prasad, Mr. Pryanka Swami and Mr. Jigdal G. Chankapa, Advs.
Respondent No. 10 : Mr. Rahul Choudhary, Adv. for Invenor
Mr. Guntur Prabakar and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. Rudreshwar Singh, Mr. Gautam Singh and Mr. Divya Singh, Advs. for State of Bihar and BSPCB
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. M. Yogesh Kanna and Mr. Jayant Patel, Advs. For State of Tamil Nadu & TNPCB
Mr. Dinesh Kumar Garg and Mr. Dhananjay Garg, Advs. for State of Uttarakhand
Mr. Shubham Bhall, Adv. for UT of Chandigarh
Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.
Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi
Mr. Apoorv Kurup and Mr. A.C. Boxipatro, Advs. for State of Chhattisgarh.
Mrs. G. Indira and Mr. K.V. Jagdishvaran, Advs. For UT of Andaman & Nicobar Islands Administration.
Mr. Jayesh Gaurav, Adv. for JSPCB
Ms. Aruna Mathur, with Ms. Anuradha Arputham, Advs. For State of Sikkim
Mr. Sapam Biswajit Meitei and Ms. Kalyani, Advs. for State of Manipur & PCB
Mr. Alok Kumar, Mr. Dinesh Kr. Thakur and Ms. Vernika Singh, Advs. for Daman & Diu & Dadra & Nagar Haveli

Mr. Sarthak Chaturvedy and Mr. Rohit Pandey, Advs. with Mr. D.N. Tripathi, Adv.

Original Application No. 303 of 2015

Applicant :
Respondent No. 1 : **Mr. Vishwendra Verma, Advs. For MoEF**
Respondent No. 3 : **Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi**
Respondent No. 4 : **Mr. Tarunvir Singh Khehar, Adv. for GNCTD**
Respondent No. 5 : **Ms. Savitri Pandey along with Ms. Azma Parveen, Advs. for State of UP.**
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana

	Date and Remarks	**Orders of the Tribunal**
	Item No. 22 to 24 **January 06, 2016** **ss**	The Tribunal is concerned with the three Original Applications i.e. Original Application No. 21 of 2014 – Vardhaman Kaushik Vs. Union of India & Ors., Original Application No. 95 of 2014 – Sanjay Kulshrestha Vs. Union of India & Ors. and Original Application No. 303 of 2015 – Supreme Court Women Lawyers Association Vs. Union of India & Ors. In the first Application, the Applicant has pleaded general facts of air pollution particularly in NCT, Delhi. However the prayer is generally applicable to the entire country. In the case of Sanjay Kulshrestha; the Applicant is more children oriented that is young infant suffering from different diseases as a result of pollution majorly generated by air pollution. This petition relates to major cities of India including Delhi. The Original Application No. 303 of 2015 deals with the matter relating to air pollution in NCT, Delhi. In view of the fact that the matter is pending before the Hon'ble Supreme Court of India, particularly the order dated 16th December, 2015 in relation to matter relating to air pollution in NCT, Delhi, we are of the considered view that Tribunal should not pass any directions in this

		regard at this stage. Therefore we would restrict these petitions for the present only to the places other than Delhi, in relation to air pollution by different sources and subject to such orders as may be passed by the Hon'ble Supreme Court of India. We therefore have to decide the matter relating to air pollution in other major cities like Bombay, Kolkata, Bangalore, Patna, Lucknow, Allahabad, Kanpur, Varanasi, Pune, Nagpur, Chennai, Hyderabad, Ludhiana, Jallandhar and Amritsar. Let Notice be issued to all the Learned Counsel appearing for the respective states relating to these cities. The Learned Counsel appearing for State of Gujarat, State of Bihar, State of Punjab, State of U.P., State of Telangana, State of Odisha, State of Chhatisgarh, State of Maharashtra, State of Karnataka and State of Jharkand are present. All these States would file a comprehensive affidavit stating the steps taken by the respective states in the respective cities, for prevention and control of air pollution. The ambient air quality samples will be taken and analysis report be submitted before the Tribunal. They shall also state the steps they are taking for controlling and preventing the air pollution, resulting from dust emission because of the constructions and other activities, emission from burning of Municipal Solid Waste and other waste including burning of agriculture residue and vehicular pollution. The Pollution Control Board of the respective States in consultation with the Central Pollution Control Board shall prepare a report and analyse the ambient air quality samples forthwith in the related cities as indicated.

		The Miscellaneous Application No. 284 of 2015 be listed separately for hearing. This order would be read in conjunction with the order dated 17th April, 2015. The Central Pollution Control Board is directed to be added as Respondent No. 7 in Original Application No. 303 of 2015. List this matter on 09th February, 2016. .....,CP (Swatanter Kumar) .....,JM (M.S. Nambiar) .....,EM (B.S. Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

(M.A. No. 284 of 2015)
In
Original Application No. 21/2014
And
Original Application No. 21/2014
(M.A. No. 155 of 2015, M.A. No. 394 of 2015, M.A. No. 412 of 2015, M.A. No. 414 of 2015, M.A. No. 420 of 2015, M.A. No. 502 of 2015, M.A. No. 618 of 2015, M.A. No. 631 of 2015, M.A. No. 683 of 2015, M.A. No. 778 of 2015, M.A. No. 812 of 2015, M.A. No. 1014 of 2015, M.A. No. 1015 of 2015, M.A. No. 1029 of 2015, M.A. No. 1086 of 2015, M.A. No. 1313 of 2015, M.A. No. 125 of 2015, & M.A. No. 172 of 2016)
And
Original Application No. 95/2014
And
Original Application No. 303/2015

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE DR. JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014 and 95 of 2014

Present:	**Applicant:**	**Mr. Sanjay Upadhyay, Ms. Divya Sharma and Mr. Salik Shafique**
	Respondent No. 1:	**Ms. Panchajanya Batra Singh, Advs. For MoEF & CC**
	Respondent No. 4:	**Mr. Anil Soni, AAG and Mr. Rahul Khurana, Advs. for State of Punjab**
	Respondent No. 5:	**Mr. Ashish Negi, Adv., with Ms.Richa Kapoor for PPCB**
	Respondent No. 6:	**Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.**
		Mr. Ardhendumuali Kumar Prasad, Mr. Jigdal G. Chankapa and Mr. Pryanka Swami, Advs. for MoUD & MoPNG
		Mr. Devraj for State of Karnataka
		Mr. Joydeep Mazumdar, Mr.Parijat Sinha & Ms. Somya Dutta, Advs. For State of West Bengal
		Mr. D. Rajeshwar Rao & Mr. Charanjit Singh, Advs. for Transport Deptt. and Delhi Police, GNCT, Delhi
		Mr. Akshat Kulsheshtra & Mr. Karan Singh khanuja, Advs. For HMCI
		Mr. Narender Pal Singh, Adv. & Mr. Dinesh Jindal, LO for DPCC
		Ms. Avni Mittal, JLO, South MCD
		Mr. Mukesh Verma, Adv. For MPCB
		Mr. Upendra Mishra & Ms. Aprajita Mukherjee, Advs. For State of Meghalya
		Mr. Amit Agarwal& Ms. Asha N Bajo, Advs. For West Bengal P.C.B.
		Ms. Pinky Anand, ASG, Mr. Balendu Shekharand Mr. Rajesh Ranjan, Advs. for MoRTH(NHAI), CONCOR
		Mr. Atul Jha, Adv. for State of Chhattisgarh

Mr. Rajiv Bansal, Mr. Keshav Datta and Mr. Kush Sharma, Advs. (DDA)
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. For State of Sikkim
Mr. Preshit Surshe, Adv. For State of Maharashtra
Mr. Sapam Biswajit Meitei, Mr. S. Vijayanand Sharma and Ms. Kalyani, Advs. for State of Manipur & PCB
Ms. Vinakshi Kadan and Ms. Hemantika Wahi, Advs. For State of Gujarat& GPCB
Mr. Enatoli Sema & Mr. Amit Kumar Singh, Advs. For State of Nagaland and PCB
Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs. for NOIDA and Gr. NOIDA
Ms. Priyanka Sinha &Ms. Anu Tyagi and Mr. Deepak Saxena, Adv.
Advs. for State of Jharkhand
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Rudreshwar Singh & Mr. Gautam Singh Advs. for State of Bihar and BSPCB
Mr. Pinaki Mishra, Sr. Adv., Mr. Sandeep Narain, Mrs. Nalini Gore, Ms. Natasha sehrawat, Ms. Tahira Karajewala, Ms. Khushboo Bhain, Bipin, Advs. for Tata Motors
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.For State of A.P.
Ms. Pinky Anand, ASG, Mr. Balendu Shekhar and Mr. Rajesh Ranjan, Eshaan Bahugauna and Ms. Sumya Rathore, Advs. For Delhi Police
Mr. Anil Grover, AAG and Mr. Rahul Khurana, Advs. For State of Haryana
Mr. Jogy Scaria, Adv. and Ms. Beena Vicky, Advs. for State of Kerala
Ms. Sakshi Popli, Advs. for NDMC
Mr. Dinesh Kumar Garg, and Mr. Deepak Mishra, Advs. For State of Uttrakhand
Mr. Sunil Satayarth, Adv. For Delhi Cantonment Board
Mr. P. Venkat Reddy and Mr. Prasthan Tyagi, Advs. for State of Telangana
Mr. Om Prakash, Adv. for Ministry of Railways
Ms. Soumya Jit Pani & Mr. P. Venkatesan Advs. for State of Odisha
Mr. Dinesh Kumar Garg Adv. for State of Uttarakhand
Mr. Sarthak Chaturvedy and Mr. Rohit Pandey, Advs. with Mr. D.N. Tripathi, Adv. For Andaman & Nicobar
Mr. Anil Shrivastav & Mr. Sanyam Saxena, Advs. For State of Arunachal Pradesh& A.P.P.C.B.
Mr. Yogesh Kanna and Mr. Jayant Patel, Advs. for State of Tamil Nadu and TNPCB
Mr. Debarshi Bhuyan, Mr. Keene Sardinha and Mr. Anshuman Shrivastava, Advs. for State of Goa and Goa SPCB.
Mr. D.K. Thakur &Mr. Deepak Jain Adv. for UT of Daman Diu & Dadar & Nagar Haveli
Mr. Gopal Singh & Mr. Varsha Poddar, Advs. For State of Tripura
Mr. Naushad Ahmed Khan, Standing Counsel with Mr. Tarique Yazdani, Advs. For DTC
Mr. Rajkumar, Adv. along with Mr. Bhupender Kumar, LA, Central Pollution Control Board

Present: Applicant: **Mr. Rahul Choudhary, Adv.**
Respondent No.1: **Mr. Vikas Malhotra, with M. P. Sahay,Advs.**
Respondent Nos. 2 to 6: **Mr. Ardhendumuali Kumar Prasad, Mr. Panshul Chandraa, Advs.**

Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. M. Yogesh Kanna and Mr. Jayant Patel, Advs. For State of Tamil Nadu & TNPCB

Mr. Ravi Kant & Mr. Pragyan Sharma, Advs. For State of Mizoram
Mr. P. Venkat Reddy, Adv. for State of Telangana
Mr. Anil Shrivastav & Mr. Sanyam Saxena, Advs. For State of Arunachal Pradesh & A.P.P.C.B.
Mr. Atmaram N.S. Nadkarni, Adv. Genl, Ms. Purna Bhandari, Mr. Debarshi Bhuyan & Mr. Santosh Rebello Advs. for State of Goa and Goa SPCB.
Ms. Soumya Jit Pani & Mr. P. Venkatesan Advs. for State of Odisha
Mr. Enatoli Sema & Mr. Amit Kumar Singh, Advs. For State of Nagaland and PCB
Mr. Dinesh Kumar GargAdv. for State of Uttarakhand
Ms. Savitri Pandey, Adv. for State of U.P.
Mr. Joydeep Mazumdar, Mr.Parijat Sinha & Ms. Somya Dutta, Advs. For State of West Bengal
Mr. Suryanarayana Singh, Sr. AAG for State of Himachal Pradesh
Mr. Apoorv Kurup and Mr. Abhik Cimni, Advs. for State of Chhattisgarh
Mr. Sapam Biswajit Meitei, Mr. S. Vijayanand Sharma and Ms. Kalyani, Advs. for State of Manipur & PCB

Applicant :

Respondent No. 3 : Mr. D. Rajeshwar Rao and Mr. Charanjeet Singh, Advs. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi

Respondent No. 5 : Ms. Savitri Pandey along with Ms. Azma Parveen, Advs. for State of UP.
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana
Ms. Alpana Poddar, Adv. along with Mr. Bhupender Kumar, LA, Central Pollution Control Board
Mr. Deepak Jain, Adv.
MR. Syed Hassan, Adv.
Mr. Shubham Karnwal, Adv.
Mr. Raman Yadav and Mr. Dalsher Singh, Adv. for GDA
MR. Narayan Krishan, Adv.
Mr. Suraj Prakash Singh on behalf of Ms. Priyanka Shwearni, Adv.
Mr. Anshuman Adv, for Delhi Cantonment Board
MR. Varnika Singh, Mr. Deepak Jaina and Alok Kumar, Advs.
Mr. Rajul Shrivastava, Adv. MP PCB
Mr. Naushad Ahmed Khan and Ms. Neelam Kholiya, advs. fot DTC
Mr. Tarunvir Singh Khehar, Adv. for Transport and GNCTD
Ms. G. Indira and Mr. Sumit Kumar, Advs.
Mr. Kailash Ji, Adv and Mr. Vardhman Kaushik
Mr. Shubhada Phatankar, Advs.
Mr. Vivek Paul Oriel, Adv.
Mr. Jai Prakash Singh,
Mr. Vishwendra Verma on behalf of MoEF
Ms. Puja Kalra, Adv.
Mr. Shiv Mangal and Mr. Saurabh Rajpal, Advs.
Mr. Devendra Nath Tripathi and Mr. Rohit Pandey, Advs.
Mr. KTS Tulsi, Sr. Adv. Mr. Diljeet Titus and Mr. Akshat Kulshrestha and Ms. Pallavi Malhotra, Advs.
Ms. Pallavi parth, Adv.
Mr. Narayan Krishan, Adv.

	Date and Remarks	Orders of the Tribunal
	Item Nos. 10 to 13 **March 01, 2016**	All the Corporations including the State of Uttar Pradesh, State of Haryana, NOIDA Development Authority will file complete status reports with regard to the steps taken by them in relation to the prevention and control of air pollution being caused by burning of waste of all kind and dust emissions resulting from transportation and construction activity. They must also state as to whether the conditions stipulated in the NGT Order have been complied. These status reports should be filed by 12th March, 2016. The list of all the builders who are constructing structure building in excess of 2000 sqft. and who have violated the orders and the conditions imposed under the guidelines governing by them shall be furnished. The List shall be along with the explanation whether such builders have been directed to pay Environmental compensation in terms of the order of the Tribunal or not, if not. If it is not there reasons thereof should be stated in the report. All the States cities of which have been indicated in our order dated 06th January, 2016 are granted last opportunity to file their status reports before the Tribunal. List these matters on 14th March, 2016. .....,CP (Swatanter Kumar)

		……,JM (Dr. Jawad Rahim) ……,EM (Dr. D. K. Agrawal) ……,EM (B.S. Sajwan)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

M.A. No. 284 of 2015, M.A. No. 755 of 2016, M.A. No. 756 of 2016, M.A. No.766 of 2016, M.A. No. 847 of 2016, M.A. No. 848 of 2016, M.A. No. 924 of 2016, M.A. No. 892 of 2016, M.A. No. 974 of 2016, M.A. No. 979 of 2016, M.A. No. 983 of 2016, M.A. No. 984 of 2016, M.A. No. 967 of 2016, M.A. No. 986 of 2016 & M.A. No. 1050 of 2016
In
Original Application No. 21/2014
And
M.A. No. 156 of 2016
In
Original Application No. 21/2014
And
Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016 & M.A. NO. 1142/2016)
And
Original Application No. 95/2014
And
Original Application No. 303/2015
And
Original Application No. 181 /2013
(M.A. No. 824/2015)

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. Of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Present:	**Applicant:**	**Mr. Salik Shafique, Adv.**
	Respondent No. 1:	**Ms. Panchajanya Batra Singh, Advs. For MoEF & CC** **Mr. Rajiv Bansal, Mr. Kush Sharma and Mr. Anirudh Chhadha, Advs.** **Ms. Panchajanya Batra Singh, Adv. for MoEF** **Mr. D. Rajeshwar Rao, Mr. Charajeet Singh, Advs. with Sh. Dinesh Kr. Gupta, DCP traffic south for PWD, Delhi Police and Transport Deptt.** **Mr. Rajul Shrivastava, with Ms Ayushi Sharma, Advs. MPPCB**

Ms. Sakshi Popli, Adv. NDMC
Mr, Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. for State of A.P.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Atul Jha Adv. for State of Chattisgarh
Mr. Devraj Ashok, Adv. for State of Karnataka
Mr. Ardhendumauli Kumar Prasad, Mr. Panshul Chandrachud and Mr. Jaydip Pati, Advs.
Mr. Balendu Shekhar, Adv. for EDMC
Mr. Pinky Anand, ASG with Mr. Balendu Shekhar, Mr. Rajesh Ranjan, Ms. Somya Rathore and Ms. Smidha Mehra, Advs. for MoRTH and Ministry of Heavy Industries, MoEF
Mr. Edward Balho, Ms. Elix Gangmel and Mr. K. Luikang Michael, Advs.
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advs.
Ms. Puja Kalra, Adv. for NDMC, SDMC
Mr. T.S. Sidhu and Ms. Bhavana Duhoon, Advs. for National Highways Authority of India
Mr. Sanjeev Ralli with Mr. Ravin Kapur, Advs. for Intervener (Chandni Chowk Vyapar Mandal)
Mr. Raj Kamal and Mr. Sachin Ghai, Advs. for HMCI
Mr. Jogy Scaria and Ms. Beena Victor, Advs. for Kerala Pollution Control Board
Mr. Mahesh Dutt Tripathi, adv. for Delhi cantonment Board
Mr. Ashish Negi, Adv. for Mr. Anil Soni, AAG for State of Punjab
Mr. Ashish Negi, Adv. for Ms. Richa Kapoor, Advs. for State of Punjab
Mr. Abhishek Yadav, Adv. for State of U.P.
Mr. Ashish Rana, Adv. for HPCL
Mr. Suryanarayan Singh, Addl. AAG
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for GNCTD
Ms. Alpana Poddar, Adv. and Mr. Bhupinder Kr. LA., CPCB
Mr. Mukesh Verma, Mr. Devesh Kr. Agnihotri, Advs.for MPCB
Ms. Priyanka Swami, Adv. for Nagar Nigam Ghaziabad
Mr. Vinay P. Singh, Adv. for Mercedese Benz.
Mr. Amit Agarwal and Ms. Asha Basu, Adv. for West Bengal Pollution Control Board
Ms. Puja Singh, Adv. for Hemantika Wahi, Adv. for State of Gujarat & GSPCB
Mr. Hemant Jain, Ms. Usha Jain and Mr. K. Sunil, and Mr. Aviral Mittal, Advs.
Mr. Sumit Kishore, Adv. for PNGRB
Mr. P. Venkat Reddy and Mr. Prashant Kr. Tyani, Advs. for State of Telengana
Mr. Ravindra Kr. Kashyap, Adv. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K2 International
Ms. Priyanka Sinha Advs for State of Jharkhand
Mr. Sandeep Narain and Ms. Natasha Sarawat and Ms. Khushboo Bari and Mr. Bipin Das, Advs. for Tata Motors Ltd.M. A. No. 172 of 2016
Mr. Gopal Singh, AOR, Mr. Rituraj Biswas and Mr. Sagar Chakravarty, Advs.
Mr. Anil Grover AAG and Mr. Rahul Khurana, Adv. for State of Haryana, HSPCB, MCF, MCG, HUDA
Mr. Narender Pal Singh, Adv. and Mr. Dinesh Jindel, LO, DPCC
Mr. Shiv Mangal Sharma, AAG, Mr. Sarurabh Rajpal, and Mr. Adhiraj Singh, Advs. for Rajasthan PCB
Mr. Taruna A. Prasad, adv. for MoEF
Mr. R. Rakesh Sharma and Mr. M. Marutha Samy, Advs. for State of Tamil Nadu and TNPCB
Mr. V.K. Shukla, with Ms. Vijay Lakshmi, Advs. from State of M.P.
Mr. Hemant Jain with Ms. Usha Jain and Mr. K. Sunil and Mr. Amiral Mittal, Advs.

Mrs. Rani chhbra and Ms. Priyanka Samy, Advs. In MA 358/2016 and 545/2016
Mr. Yatendra Sharma and Mr. Satyarat Sharma, adv. in M. A. No. 979/2016
Ms. Rasna Kaukat, adv. for Manushi Sangathan
Mr. Anoop Verma, adv. in M. A. Nos. 983 & 984
Ms. Arushi Khandelwal, adv. in M. A. No. 976/16
Mr. Sunil K. Jain AOR and Mr. Punya Garg, adv. in M. A. No. 949/16
Mr. Darpan Wadhwa and Mr. Arjun Syal, Advs. in M. A. Nos. 1078/1097/1080/1091/1092
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. for State of Sikkim
Mr. Soumyajit Pani, Adv. for State of Odisha
Mr. Vijay K. Sondhi and M,s. Cauveri Birbal Ms. Durga Sharma Ms. Avantika and Mr. Aranyak Pathak, advs.

	Date and Remarks	**Orders of the Tribunal**
	Item No. 20 to 26 **November 04, 2016** ss	Issue Notice to the Secretary of Environment and Urban Development of State of Punjab, State of Haryana, State of Rajasthan, State of Uttar Pradesh and Delhi to be present before the Tribunal on the next date of hearing. The Learned ASG has appeared and prayed for time to place the Status Report on record as to the minutes of the meetings that was held by the Chief Secretary of Delhi, under the order of the Tribunal. She further submits that they would ensure that not only meetings will be held but immediate steps are taken to prevent and control pollution in the area of NCT, Delhi. Let the Status report be filed by 08th November, 2016. All the concerned States shall place on record the action taken in furtherance to the order of the Tribunal in relation to prohibition on burning of agricultural residue. Complaints have been received by the Registry of the Tribunal where various instances of construction material lying in the open, uncovered and construction activity is being carried on in violation of the earlier orders of the Tribunal. It is also brought to the notice of the Tribunal that the waste burning particularly plastic is quite rampant and causing serious air pollution. Let the

	Item No. 20 to 26 **November 04, 2016** ss	authority particularly deal with this aspect. All the corporations must ensure that construction material is not kept on the road and that the directions contained in our previous orders should be fully complied with, without default whatsoever. On 08th November, 2016 they will report as to the compliance of the directions issued by the Tribunal in relation of three main sources of air pollution i.e. construction activity, burning of agricultural residue and other waste and vehicular pollution. List this matter on 08th November, 2016. Copy of this order be furnished Dasti. .....,CP (Swatanter Kumar) .....,JM (Raghuvendra S. Rathore) .....,EM (Bikram Singh Sajwan)

NATIONAL GREEN TRIBUNAL NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

M.A. No. 284 of 2015, M.A. No. 755 of 2016, M.A. No. 756 of 2016, M.A. No.766 of 2016, M.A. No. 847 of 2016, M.A. No. 848 of 2016, M.A. No. 924 of 2016, M.A. No. 892 of 2016, M.A. No. 974 of 2016, M.A. No. 979 of 2016, M.A. No. 983 of 2016, M.A. No. 984 of 2016, M.A. No. 967 of 2016, M.A. No. 986 of 2016 & M.A. No. 1050 of 2016
In
Original Application No. 21/2014
And
M.A. No. 156 of 2016
In
Original Application No. 21/2014
And
Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016, M.A. NO. 1142/2016, M.A. NO. 1134/2016, M.A. NO. 1135/2016, M.A. NO. 1136/2016, M.A. NO. 1137/2016, M.A. NO. 1138/2016, M.A. NO. 1155/2016 & M.A. NO. 1162/2016)
And
Original Application No. 95/2014
(M.A. No. 1156/2016)
And
Original Application No. 303/2015
And
Original Application No. 181 /2013
(M.A. No. 824/2015)

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. Of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Present:	**Applicant:**	**Mr. Sanjay Upadhyay and Mr. Salik Shafique, Advs.**
	Respondent No. 1:	**Ms. Panchajanya Batra Singh, Advs. For MoEF & CC** **Mr. Rajiv Bansal, Mr. Kush Sharma and Mr. Anurag Tripathi, Advs.** **Mr. D. Rajeshwar Rao, Mr. Charajeet Singh, Advs. with Sh. Dinesh Kr. Gupta, DCP traffic south for PWD, Delhi Police and Transport Deptt.** **Mr. Rajul Shrivastava, with Ms Ayushi Sharma, Advs. MPPCB** **Ms. Sakshi Popli, Adv. NDMC**

Mr, Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. for State of A.P.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Atul Jha Adv. for State of Chattisgarh
Mr. Devraj Ashok, Adv. for State of Karnataka
Mr. Ardhendumauli Kumar Prasad, Mr. Panshul Chandrachud and Mr. Jaydip Pati, Advs.
Mr. Balendu Shekhar and Mr. Vivek Jaiswal, Advs. for EDMC
Mr. Pinky Anand, ASG with Mr. Balendu Shekhar, Mr. Rajesh Ranjan, Ms. Somya Rathore and Ms. Smidha Mehra, Mr. Ansh S. Luthra, Advs. for MoRTH and Ministry of Heavy Industries, MoEF
Mr. Edward Balho, Ms. Elix Gangmel and Mr. K. Luikang Michael, Advs.
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advs.
Ms. Puja Kalra, Adv. for NDMC, SDMC
Ms. Bhavana Duhoon, Advs. for National Highways Authority of India
Mr. Sanjeev Ralli with Mr. Trinayan Sonowal, Advs. for Intervener (Chandni Chowk Vyapar Mandal)
Mr. Raj Kamal and Mr. Sachin Ghai, Advs. for HMCI
Mr. Jogy Scaria, Adv. for Kerala Pollution Control Board
Mr. Mahesh Dutt Tripathi, adv. for Delhi cantonment Board
Mr. Anil Soni, AAG and Mr. Naginder Beniwal, Advs. for State of Punjab
Mr. Ashish Negi, Adv. for Ms. Richa Kapoor, Advs. for State of Punjab
Mr. Abhishek Yadav, Adv. for State of U.P.
Mr. Ashish Rana, Adv. for HPCL
Mr. Suryanarayan Singh, Addl. AAG
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for GNCTD, Mr. C. Bharti, Secy. (Env.), Mrs. Varsha Joshi, Secy. (UD) adn Mr. Dinesh Jindal, LO
Ms. Alpana Poddar, Adv. and Mr. Bhupinder Kr. LA., CPCB
Mr. Mukesh Verma, Mr. Devesh Kr. Agnihotri, Advs.for MPCB
Mr. Vinay P. Singh, Adv. for Mercedese Benz.
Mr. Amit Agarwal and Ms. Asha Basu, Adv. for West Bengal Pollution Control Board
Ms. Puja Singh, Adv. for Hemantika Wahi, Adv. for State of Gujarat & GSPCB
Mr. Hemant Jain, Ms. Usha Jain and Mr. K. Sunil, and Mr. Aviral Mittal, Advs.
Mr. Sumit Kishore, Adv. for PNGRB
Mr. P. Venkat Reddy and Mr. Prashant Kr. Tyani, Advs. for State of Telengana
Mr. Ravindra Kr. Kashyap and Mr. Gudipti G. Kashyap, Advs. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K2 International
Ms. Priyanka Sinha Advs for State of Jharkhand
Mr. Sandeep Narain and Ms. Natasha Sarawat and Ms. Khushboo Bari and Mr. Bipin Das, Advs. for Tata Motors Ltd.M. A. No. 172 of 2016
Mr. Gopal Singh and Ms. Varsha Poddar, Advs.
Mr. Anil Grover AAG and Mr. Rahul Khurana, Adv. Mr. Sandeep Yadav, Adv. Mr. Mohan Saram, IAS Principal Secy and Mr. Shri Kant Walgad, IAS, Principal Secy., for State of Haryana, HSPCB, MCF, MCG, HUDA
Mr. Narender Pal Singh, Adv. and Mr. Dinesh Jindel, LO, DPCC
Mr. Rahul Khurana, Adv. for Mr. Priyanaka Swami, Adv.
Mr. Shiv Mangal Sharma, AAG, Mr. Sarurabh Rajpal, and Mr. Adhiraj Singh, Advs. for Rajasthan PCB
Mr. Taruna A. Prasad, adv. for MoEF
Mr. R. Rakesh Sharma and Mr. M. Marutha Samy, Advs. for State of Tamil Nadu and TNPCB
Mr. V.K. Shukla, with Ms. Vijay Lakshmi, Advs. from State of M.P.
Mr. Hemant Jain with Ms. Usha Jain and Mr. K. Sunil and Mr. Amiral Mittal, Advs.

Mrs. Rani chhbra and Ms. Priyanka Samy, Advs. In MA 358/2016 and 545/2016
Mr. Yatendra Sharma and Mr. Satyarat Sharma, adv. in M. A. No. 979/2016
Ms. Rasna Kaukat, adv. for Manushi Sangathan
Mr. Anoop Verma, adv. in M. A. Nos. 983 & 984
Ms. Arushi Khandelwal, adv. in M. A. No. 976/16
Mr. Sunil K. Jain AOR and Mr. Punya Garg, adv. in M. A. No. 949/16
Mr. Darpan Wadhwa, Mr. Shlok Chandra and Mr. Arjun Syal, Advs. in M. A. Nos. 1078/1097/1080/1091/1092
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. for State of Sikkim
Mr. Soumyajit Pani, Adv. for State of Odisha
Mr. Vijay K. Sondhi and M,s. Cauveri Birbal Ms. Durga Sharma Ms. Avantika and Mr. Aranyak Pathak, advs.
Mr. Sapam Biswajit Meiti and Mr. Naresh Kumar Gaur, Advs.
Mr. Om Prakash, Adv.
Ms. Neha Makhija, Adv. for Mr. Gaurav Dubey, Adv. in MA Nos. 1082 & 1083
Mr. Pranav A. Kapur, Mr. Siju Thomas and Mr. Amit Kumar, Advs. in MA 783/2016
Mr. Vinod S. Bhardwaj, Adv.
Mr. A.R. Takkar, Mr. Ankur Sharma and Ms. Shriya Takkar, Advs.
Mr. Joydeep Mazumdar and Mr. Debojyoti Bhattacharya, Advs.
Mr. Nishe Rajen Shonker and Mr. Gajendra Khichi, Advs.
Mr. Manoj Mittal and Mr. Tahay Ayde, Advs.
Mr. Pragyan Sharma and Ms. Ananditi Kumar, Advs.
Mr. Sarthak Chaturvedi, Mr. Rohit Pandey and Mr. D.N. Tripathi, Advs.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority

	Date and Remarks	**Orders of the Tribunal**
	Item No. 25 to 31 **November 08, 2016** ss	We have heard the matter at some length. Various senior officers of the State of Punjab, State of Rajasthan, State of Uttar Pradesh and Delhi are present. They seek some time to answer the queries raised by the Tribunal, particularly in relation to implementation of five Judgments that had been passed by the Tribunal with regard to prevention and control of air pollution and adhere to the prescribed ambient Air Quality Standards. This has greater reference to the rising pollution of air in Delhi and the surrounding States. At their request we direct the matter be listed tomorrow for further submissions and orders. In the meanwhile we direct the following:- 1. No Stone Crusher would operate in NCR, Delhi and

	Item No. 25 to 31 **November 08, 2016** ss	the aforesaid States concerned for a period of one week from today. There shall not be transportation whatsoever of any construction material. 2. All the officers of the respective Corporations, DDA, Municipal Corporation Committee and Corporations in the respective district of NCR, Delhi shall ensure that half of their staff is sent to field duty for inspection and ensuring that there is no burning of Municipal Solid Waste or any other waste; no pollution is generated by the construction activity and all the protection/measures are taken as directed in the earlier Judgments of the Tribunal in relation to control of air pollution by construction activity and the concerned department staff shall also see there is not crop residue burning anywhere in these five states. The Judgment of the Tribunal in regard to the punitive directions, incentives, collection and utilization of agricultural residue are to be implemented without default. Such staff of the Corporations will report back to their senior officer and submit report in regard to compliance and defaulters as afore-indicated. 3. We also prohibit all brick kiln operating in NCR, Delhi for a period of one week from today. 4. There shall not be any construction activity for a period of one week from today. 5. We direct Central Pollution Control Board to jointly prepare Ambient Air Quality Data currently; last one week and in future with the Pollution Control Board of the respective States. This data would not only give an Ambient Air Quality Standard but would

	Item No. 25 to 31 **November 08, 2016** ss	also give apparent causes of pollution. Let this report be submitted to the Tribunal. 6. Proposals in relation to mechanized cleaning of dust from the roads shall be examined in terms of our Judgment. We should be informed about it by the authority concerned by tomorrow. List these matters tomorrow i.e. on 09th November, 2016 at the 02:00 PM. .....,CP (Swatanter Kumar) .....,JM (Raghuvendra S. Rathore) .....,EM (Bikram Singh Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

M.A. No. 284 of 2015, M.A. No. 755 of 2016, M.A. No. 756 of 2016, M.A. No.766 of 2016, M.A. No. 847 of 2016, M.A. No. 848 of 2016, M.A. No. 924 of 2016, M.A. No. 892 of 2016, M.A. No. 974 of 2016, M.A. No. 979 of 2016, M.A. No. 983 of 2016, M.A. No. 984 of 2016, M.A. No. 967 of 2016, M.A. No. 986 of 2016 & M.A. No. 1050 of 2016
In
Original Application No. 21/2014
And
M.A. No. 156 of 2016
In
Original Application No. 21/2014
And
Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016, M.A. NO. 1142/2016, M.A. NO. 1134/2016, M.A. NO. 1135/2016, M.A. NO. 1136/2016, M.A. NO. 1137/2016, M.A. NO. 1138/2016, M.A. NO. 1155/2016 & M.A. NO. 1162/2016)
And
Original Application No. 95/2014
(M.A. No. 1156/2016)
And
Original Application No. 303/2015
And
Original Application No. 181 /2013
(M.A. No. 824/2015)
And
Original Application No. 609 /2016

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. Of NCT of Delhi & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. RANJAN CHATTERJEE, EXPERT MEMBER

Present: Applicant: Mr. Sanjay Upadhyay and Mr. Salik Shafiq, Advs.
Ms. Diya Kapur, Adv. And Petitioner in Person and Mr. Nikhil Ratti Kapoor, Advs.
Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Mr. Rajiv Bansal, Mr. Kush Sharma, Mr. Anurag Tripathi and Mr. Anirudh, Advs. for DDA
Mr. Pritpal Singh Nijjar, Mr. Amit Kumar and Mr. Siju Thomas, Advs.
Mr. Himanshu Kaushik, Adv.
Mr. D. Rajeshwar Rao, Mr. Charajeet Singh, Advs., Delhi Police and Transport Deptt.
Mr. Rajul Shrivastava, with Ms Ayushi Sharma, Advs. MPPCB
Mr. Anurag Kumar, Adv. For Ms. Sakshi Popli, Adv. NDMC
Mr, Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. for State of A.P.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Atul Jha Adv. for State of Chattisgarh
Mr. Devraj Ashok, Adv. for State of Karnataka
Mr. Ardhendumauli Kumar Prasad, Mr. Panshul Chandrachud and Mr. Jaydip Pati, Advs.
Mr. Balendu Shekhar and Mr. Vivek Jaiswal, Advs. for EDMC
Mr. Ram Sajivan Maurya, SMD and Minining Officer and Mr. Ajit Kumar Pandey District Gonda
Mr. Pinky Anand, ASG with Mr. Balendu Shekhar, Mr. Rajesh Ranjan, Ms. Somya Rathore and Ms. Smidha Mehra, Advs. for MoRTH and Ministry of Heavy Industries, MoEF
Mr. Edward Balho, Ms. Elix Gangmel and Mr. K. Luikang Michael, Advs. for State of Nagaland
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advs.
Ms. Puja Kalra, Adv. for NDMC, SDMC
Ms. Bhavana Duhoon, Advs. for National Highways Authority of India
Mr. Sanjeev Ralli with Mr. Trinayan Sonowal, Advs. for Intervener (Chandni Chowk Vyapar Mandal)
Mr. Mahesh Dutt Tripathi, Adv. for Delhi cantonment Board
Mr. Anil Soni, AAG and Mr. Naginder Beniwal, Advs. for State of Punjab
Mr. Ashish Negi, Adv. for Ms. Richa Kapoor, Advs. for State of Punjab
Mr. Suryanarayan Singh, Addl. AAG
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for GNCTD,
Mr. Narender Pal Singh with Dr. M.P. George and Mr. Dinesh Jindal, LO, DPCC
Ms. Alpana Poddar, Adv. and Mr. Bhupinder Kr. LA., Central Pollution Control Board
Mr. Mukesh Verma, Adv.for MPCB
Mr. Vinay P. Singh, Adv. for Mercedese Benz.
Mr. Amit Agarwal and Ms. Asha Basu, Adv. for West Bengal Pollution Control Board
Ms. Puja Singh, Adv. for Hemantika Wahi, Adv. for State of Gujarat & GSPCB
Mr. Hemant Jain, Ms. Usha Jain and Mr. K. Sunil, and Mr. Aviral Mittal, Advs.
Mr. Sumit Kishore, Adv. for PNGRB
Mr. P. Venkat Reddy and Mr. Prashant Kr. Tyani, Advs. for State of Telengana
Mr. Ravindra Kr. Kashyap and Mr. Gudipti G. Kashyap, Advs. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K2 International
Ms. Priyanka Sinha Advs for State of Jharkhand
Mr. Anuj Sarma, Adv. For State of Goa
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advs.
Mr. Sandeep Narain and Ms. Natasha Sarawat and Ms. Khushboo Bari and Mr. Bipin Das, Advs. for Tata Motors Ltd.M. A. No. 172 of 2016
Mr. Gopal Singh and Ms. Varsha Poddar, Advs.
Mr. Anil Grover AAG and Mr. Rahul Khurana, Adv. Mr. Sandeep Yadav, Adv. for State of Haryana, HSPCB, MCF, MCG, HUDA
Mr. Raj Kumar, Adv.

Mr. Narender Pal Singh, Adv. and Mr. Dinesh Jindel, LO, DPCC
Mr. Priyanaka Swami, Adv. for Nagar Nigam Ghaziabad
Mr. Sarurabh Rajpal, and Mr. Adhiraj Singh, Advs. for Rajasthan Pollution Control Board with Secretary Environment, Rajasthan Mr. R.K. Grover
Mr. Taruna A. Prasad, adv. for MoEF
Mr. R. Rakesh Sharma and Mr. M. Marutha Samy, Advs. for State of Tamil Nadu and TNPCB
Mr. V.K. Shukla, Adv. from State of M.P.
Mr. Hemant Jain with Ms. Usha Jain and Mr. K. Sunil and Mr. Amiral Mittal, Advs.
Mrs. Rani Chhabra and Ms. Priyanka Samy, Advs. In MA 358/2016 and 545/2016
Mr. Yatendra Sharma and Mr. Satyarat Sharma, adv. in M. A. No. 979/2016
Ms. Rasna Kaukat, adv. for Manushi Sangathan
Mr. Anoop Verma, Mr. Anil Soni, AAG with Mr. Naginder Benipal, Adv. in M. A. Nos. 983 & 984
Ms. Arushi Khandelwal, Adv. in M. A. No. 976/16
Mr. Ankit Verma, Adv. For State of Uttar Pradesh
Mr. Sunil K. Jain AOR and Mr. Punya Garg, adv. in M. A. No. 949/16
Mr. Darpan Wadhwa, and Mr. Arjun Syal, Advs. in M.A. 1078/1097/1080/1091/1092, 1134, 1135, 1136, 1137, 1138/2016, Mr.Yatender Sharma and Satyajeet 979/16
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. for State of Sikkim
Mr. Soumyajit Pani, Adv. for State of Odisha
Mr. Vijay K. Sondhi and M,s. Cauveri Birbal Ms. Divya Sharma Ms. Avantika, Mr. Aranyak Pathak and Ms. Nayamat Sistani, Advs.
Mr. Sapam Biswajit Meiti and Mr. Naresh Kumar Gaur, Advs. for State of Manipur
Mr. Om Prakash, Adv. Ministry of Railways
Ms. Neha Makhija, Adv. for Mr. Gaurav Dubey, Adv. in MA Nos. 1082 & 1083
Mr. Pranav A. Kapur, Mr. Siju Thomas and Mr. Amit Kumar, Advs. in MA 783/2016
Mr. Vinod S. Bhardwaj, Adv.
Mr. A.R. Takkar, Mr. Ankur Sharma and Ms. Shriya Takkar, Advs.
Mr. Joydeep Mazumdar and Mr. Debojyoti Bhattacharya, Advs.
Mr. Nishe Rajen Shonker and Mr. Gajendra Khichi, Advs.
Mr. Manoj Mittal and Mr. Tahay Ayde, Advs.
Mr. Pragyan Sharma and Ms. Ananditi Kumar, Advs. For State of Mizoram
Mr. Sarthak Chaturvedi and Mr. Rohit Pandey, Advs. for Andaman & Nicobar Administration
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Anand S. Pathak, Mr. Amit Kumar Mishra and Ms. Hima Lawrence, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Air quality in Delhi and its surrounding areas touched a new height in the last 10 days or so. It adversely affected the public health and persons of all generations without exception. The Ambient Air Quality was so hazardous that it affected the Eyes, ENT, upper Respiratory track and Lungs, particularly to school going

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	children, infants, office going persons and obviously the poor strata of society suffered endlessly. It is appropriate at this stage to refer to the Ambient Air Quality parameters that were recorded by the Central Pollution Control Board, Delhi Pollution Control Committee and the State Boards of the neighbouring States particularly Haryana, Uttar Pradesh, Punjab and Rajasthan. The standard norms for PM_{10} is 100 µg/m^3 and for $PM_{2.5}$ 60 µg/m^3. These values were found to be utterly violated and it recorded the value of PM_{10} as 1690 µg/m^3 and $PM_{2.5}$ as 885 µg/m^3 at Anand Vihar, Delhi The average value recorded for Delhi for PM_{10} were 950 µg/m^3 and for $PM_{2.5}$ 590 µg/m^3 on 30th October, 2016. According to the NCT, Delhi on 31st October, 2016 recorded value of PM_{10} 1684 µg/m^3 and 1331 µg/m^3, respectively. In Faridabad, even on 07th November, 2016 the recorded values were 414 µg/m^3 and 985 µg/m^3 respectively. In Ghaziabad and NOIDA on different dates, the value recorded for PM_{10} was 720 µg/m^3, 820 µg/m^3 and 910 µg/m3 respectively. Even on Mandir Marg, New Delhi on 02nd November, 2016 the $PM_{2.5}$ value recorded was 985 µg/m^3. In district Alwar, Rajasthan the value recorded was 188 µg/m^3 for PM_{10}. However, the Learned Counsel appearing for the State of Rajasthan submits that they do not have instruments available for measuring $PM_{2.5}$. In Bhiwari on 28th October, 2016 the value of PM10 was recorded as 508 µg/m^3. This data provided by different States shows that Ambient Air Quality in all these areas is hazardous to human health. In the light of the above statistics, the Tribunal was compelled to direct personal appearance of the concerned

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Secretaries from each State and NCT, Delhi. All these officers appeared before the Tribunal and the matter was heard for three days continuously. One major disclosure that came to the forefront was that all concerned officers conceded that there was hardly any proper enforcement and implementation of the laws in force and the Judgments of the Hon'ble Supreme Court of India and this Tribunal. However, hardly any suggestions came forward from any quarters as to how the implementation should be made more effective and result oriented. There are seven major contributors of air pollution in all these States more particularly NCT, Delhi. These are:- 1. Construction activity and carriage of construction material. 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. All these contributory pollutants were deliberated upon at length before this Tribunal from time to time and detailed orders covering all the facets of air pollution were covered under different orders of the Tribunal. We may refer to the orders of the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015, 10th April,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2015, 28th April, 2015, 18th May, 2015 and 11th December, 2015. All these orders/judgments dealt with the various sources of pollution except agriculture residue burning. This aspect was dealt with in the comprehensive judgment of the Tribunal in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors in Execution Application No. 12 of 2016 In Original Application No. 118 of 2013 decided on 10th December, 2015. The judgment in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors provided for precautionary, preventive as well as incentive oriented steps that the State of Punjab was required to take to ensure that this menace would be stopped at the earliest. The judgement provided for punitive action, and incentive to farmers to stop burning of Crop/Agriculture residue. The State of Punjab was called upon to provide incentive including the requisite machines as stated in the Judgment for extraction of agriculture residue from the field and its transportation to power generation plants, Cement Plants, Companies manufacturing Board from agriculture residue and from Bio-mass plants including reducing ethanol. We must notice at this stage itself that all the States particularly the State of Punjab has not been able to implement the Judgment in its true spirit and substance. It is conceded before us that the residue of nearly 70% of the agricultural land under paddy cultivation was put on fire during the period immediately after the harvesting. Similarly in Haryana there was burning of agricultural residue but may be at a little lower scale. This committee shall work specifically under the orders of the Tribunal.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The State of Uttar Pradesh and State of Rajasthan were no exception, though their contribution to the pollution was not greater than other States. This aspect needs to be examined and rigorous steps need to be taken by the respective States to ensure that there is no agriculture/crop burning any more in the future. We would be passing directions in that behalf separately. We may also notice here that the World Health Organisation (for short 'WHO') has published its report in September, 2016. They have published a list of 20 most polluted cities in the world. Out of these 10 cities are located in India. These are Delhi, heading the table, Gwalior, Patna, Kanpur, Allahabad, Alwar, Firozabad, Raipur, Ludhiana and Khanna. A study has also been conducted by I.I.T., Kanpur, on behalf of NCT, Delhi, and it is stated that out of the sources of pollution which we have already mentioned, above 22.70% has been contributed by the transport sector. It is estimated that 66 % of this pollution is resulting from diesel trucks, buses and diesel vehicles. The study also shows, along with other studies, that level of $PM_{2.5}$ and PM_{10} is almost 17 times of the prescribed limits and has serious adverse impact on the public health. The Ministry of Environment, Forest and Climate Change has also brought out the air quality index and it has termed 431 $\mu g/m^3$ PM_{10} as 'severe pollution' as stated by the Learned ASG. This shows that the 'severe category' carved out by Ministry of Environment, Forest and Climate Change has been left much behind as the value of PM_{10} has touched the value of 1990 $\mu g/m^3$ in Delhi. This is the extent and kind of pollution that the citizens of Delhi are exposed to.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The basic and fundamental question that arises for consideration of this Tribunal is whether the State Government and more particularly NCT, Delhi can provide any justification acceptable scientifically in law as to why the people of Delhi should be exposed to such severe pollution and have endlessly suffered from one disease or the other. This equally applies to other States as well. The Hon'ble Supreme Court of India decades back had declared that Article 21 of Constitution of India has to be expanded so as to include right to decent and clean environment as a fundamental right. Fundamental right is the right provided by the Constitution to the citizens and it could claim its enforcement to which the State can hardly raise a defense particularly of its inability to enforce laws on an environmental front. We must say that since past three days not even a single point has been raised before the Tribunal which could even be remotely comprehended and be a reasonable ground on the part of these authorities for not protecting environment in relation to this zone of the country and particularly in NCT, Delhi. The main plank of the officers who were present in person along with their learned counsel of respective States had only expressed their inability to implement. This ought to be the last submission that could be made in response to an action for enforcement of fundamental rights. We find no merit in any of the submissions advanced to express inability to enforce the law. The judgment of the Hon'ble Supreme Court of India and the Tribunal particularly when they are specific, unambiguous and have provided complete mechanism for enforcement of judgments and orders. The State owes a

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	constitutional duty to protect public health and to provide at least clean air for its citizens to breathe. The principle of inter-generational equity does not support any development even if it is carried under the doctrine of sustainable development where the next generation would be exposed to the worst environmental and ecological environment. The children of today have a right to breathe clean air and play in the play ground rather than be ordered to be shut down in their respective homes. The present generation in any field including in the field of Governance owes a duty in law and on morality to provide cleaner and better earth to its next generation. Times have come where all concerned authorities irrespective of their stature must show concern to improve the environment and Ambient Air Quality in these States and more particularly in the NCT, Delhi. As we have already noticed, the Ambient Air Quality in these States and particularly in NCT, Delhi/NCR, Delhi have reached the limit which are unimaginable, unacceptable and are a clear indication of negligence on the part of the concerned authority to the disadvantage of the human health of the citizens. The prescribed limit of PM_{10} and $PM_{2.5}$ is 100 $\mu g/m^3$ and 60 $\mu g/m^3$ respectively have been grossly exceeded. The experts appearing before us submit that the daily average of these values is even lower that is 60 $\mu g/m^3$ and 40 $\mu g/m^3$ respectively. If the daily average is to be taken into consideration then the violation is nearly 20 times in excess. Viewed from any rational angle, this is disastrous. It may be appropriate that the concerned authoirities including the Central Pollution Control Board has located

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	at the air pollution in somewhat different way. It appears that to attain the prescribed standards as of now would be a dream difficult to achieve as of today. The normal pollution in contra distinction to severe or Environmental Emergency has to be examined and controlled by taking different and distinct measures, depending upon the situation e.g. where the Particulate Matters values are in excess of 431 $\mu g/m^3$ in case of PM_{10} and 251 $\mu g/m^3$ in the case of $PM_{2.5}$. Therefore, the pollution has to be treated as severe. To put it in other words, emergent measures have to be taken to control the air pollution in any of these States particularly in NCT, Delhi, once it crosses the above limits. These limits have been suggested by the expert appearing before the Tribunal with reference to the Air Quality Index of NCT, Delhi. Normal steps to be taken to prevent and control air pollution and providing cleaner air quality to the people of these States and Delhi. Even if they are below the above standards, but once they cross the prescribed standards, then it must be the duty of the States and NCT, Delhi to take emergent measures which would even include the providing of such emergent preventive measures that may require enforceability of highest degree in the interest of public health and environment. In the light of the above discussion, now we proceed to record the directions that has to be passed in the interest of environment, public health and tranquility of Ambient Air Quality and to implement the fundamental right that is granted to the citizens of India. All the judgments and orders passed by the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015,

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	10th April, 2015, 18th May, 2015, 28th April, 2015 and 11th December, 2015 in the of Vardhaman Kaushik Vs. Union of India & Ors. In Original Application No. 21/2014 and 10th December, 2015 in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention Control) Authority & Ors. shall be applicable, mutatis mutandis, to the orders passed in the case of respective States and NCT, Delhi. All the States of Punjab, Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi as already noticed, these directions and orders provided for all preventive, precautionary, punitive and enforceable directions which would protect and ensure that the sources of pollution as afore-indicated do not cause air pollution and bring the Ambient Air Quality to the values as has been seen in the last 10 days in the States and particularly NCT, Delhi. All the concerned Officers, Authorities, Legal Authorities, Pollution Control Boards and other Corporations etc. would be responsible for proper implementation and enforcement of the directions contained in these orders in relation to different sources of pollution. We constitute the following centralized monitoring Committee and State Monitoring Committee for ensuring proper implementation of the judgments and the laws relating to prevention and control of air pollution :- 1. The Centralised Monitoring Committee shall consist of:- a. Secretary, Ministry of Environment, Forest and Climate Change (Chairman). b. Chief Secretaries of the States of Punjab,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi. c. Member Secretary of the Central Pollution Control Board and the Member Secretaries of the State Pollution Control Boards. d. Professor Mukesh Khare from I.I.T., Delhi. e. Member Secretary of each State Pollution Boards would be at liberty to bring one expert with him, if they so desire. f. Additional Director General of Health Services to be nominated by the Union Secretary, Health. This committee would meet once in two months and by rotation in all the States including NCT, Delhi, where the first meeting would be held. a. This Committee would supervise implementation of all the directions contained in the judgment of the Tribunal in relation to various sources of pollution, particularly agriculture residue burning. b. It shall also provide guidelines or directions to the State Committee for prevention and control of air pollution in relation to all its aspects, not limiting to the directions contained hereinabove and in the orders referred above. c. The Committee shall take implementation Status Report from the State Committees, and if necessary, get it verified through

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	independent sources and then submit its final report after every three months to the Tribunal. The Committee will also record its satisfaction or otherwise with regard to implementation and enforcement of the directions issued. d. In the event the Committee finds that any officer belonging to any cadre, authority, Pollution Control Board or even by independent statutory body has failed to implement the directions, orders, judgments and the law in relation to control of air pollution, it shall recommend initiation of disciplinary proceedings against that official without hesitation or reservation. We make it clear that the officer against whom such a Committee recommends disciplinary, should be independent of the proceeding that this Tribunal may initiate against such defaulting officials/officer of any State/NCT, Delhi. If technical experts of the Committee make any suggestion and the same is found relevant, then the committee shall record and bring it to the notice of the Tribunal. **<u>State Level Committee.</u>** Following shall be the composition of State Level Committees: 1. Chief Secretary as the Chairperson,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2. Secretary Environment, 3. Secretary Urban Development and Housing, 4. Member Secretary of the Pollution Control Board of the States, 5. Chairman of the Development Authority of the District/State, 6. Secretary of the Department responsible for Developing Agency and Corporations of the State, 7. Director of Medical Services who is a professional shall be the Member of the Committee, Commissioner/Additional DG of Delhi Police of NCT of Delhi and similar officers from the other States. This Committee shall be responsible for enforcement of the directions/orders/judgments and the law in relation to prevention and control of air pollution more particularly judgment afore-referred. It will be the duty of this Committee to verify that the directions are actually implemented at the ground level and would not leave the things on mere paper. This Committee shall prepare action plan in consonance with the advance circular the same and ensure their implementation. The Committee shall also publicise requisite matter through media or otherwise, particularly in relation to burning of agriculture residue. It will inform the farmers of the benefits and the incentives that are available to them in consonance with the orders afore-referred for not burning of agriculture residue. It should be informed to them that it is not a mere liablity but could become useable asset and bring

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	financial benefit to them. We also direct that the concerned State/NCT, Delhi and the State Committees shall constitute a special task force to ensure that there is no burning of waste of any kind, roads are mechanically cleaned and there is no undue traffic congestion in the city particularly during the period of environmental emergency. The Chairman of the Centralised as well as State Committee shall be at liberty to invite or summon any Officer/Expert/ Official from any other department or Ministry or Research Organisation for carrying on the business and object of the Committee more effectively. If invited no officer/Expert of any department or Ministry or Research Organisation would avoid to appear before the Committee and provide its required input. The state level committee shall hold its meeting every month. The First meeting of the centralised Committee Leaded by Secretary Environment would be held on 17th November, 2016 while that of the State Level Committees would be held on 24th November, 2016. The State level committee shall submit the report to the centralised committee at least three days in advance to the date of the meeting of that committee. **<u>Independent Clause</u>** The most important aspect in relation to which we require to issue directions is the situation of the States

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	and particularly NCT of Delhi as faced in the last 10 days where the air pollution enters an alarming situation that is severe pollution. Then immediate steps are required to be taken as an 'environmental emergency'. We have already noticed on the advice of experts that where $P.M_{10}$ exceeds the value of 431µ/M^3 and $P.M_{2.5}$ 251 Microgram Per Cubic Meter, then it is a situation of 'severe pollution'. If we exceed those of values reached 500 or 300 respectively then it is a case of 'environmental emergency'. The State owes a Constitutional Statutory and public law obligation to protect the Air Pollution and provide to its citizen at least breathable air if not absolute clean air to breathe. If the situation reaches that level of these States and particularly NCT of Delhi shall take besides all other preventive and controlling measures of pollution as indicated in the orders/judgments and law particularly orders afore-referred inter-alia but more particularly it would take following measures without delay and default. 1. It shall ensure that the water is sprinkled through helicopters all over the city and other areas where the values are found to be in excess of the above standards. 2. It shall immediately provide happy seeders in the agricultural fields to ensure removal of agricultural residue and its utilization at the concerned quarters including Power Generation Plants, Bio-Mass Plants, and Cement plants, Industries manufacturing Building and allied products. 3. The State Government and NCT of Delhi shall issue

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	the order to all such companies, plants and public undertakings to discharge their Corporate Social responsibility and collect the agriculture residue from the field of farmers while providing them with money as consideration for lifting of the agricultural residue. 4. All the stone crusher working in the area shall be directed to shutdown forthwith. 5. All the Power Generation Plants, Brick kiln, Hot Mix Plant, if found to be emitting in excess of prescribed standards, should be ordered to be shut down temporarily and till they take remedial measures and bring the standards within particular limit. Thermal plants, Waste to Energy Plants also may be shut down only if they violate the parameters or otherwise. 6. All the construction, demolition activities and transportation of construction material shall be stopped temporarily till the ambient air quality standards are brought down below the severe pollution standards afore-stated. 7. The authority would ensure that the DG sets if in operation anywhere should be adhering to the prescribed norms. In the event of default they should be not only shut down but even confiscated. **General Directions.** 1. The committee afore-referred shall prepare a complete action plan for environmental emergency as well as prevention and control of air pollution, wherever parameters are found to

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	be in excess of prescribed standards. 2. This action plan should be strictly in consonance with the judgement and orders afore-referred. Of course the Committees are at liberty to provide any additional measures that are required to be taken. 3. The action plan so prepared shall be submitted to the Central Committee which will approve the same and fix the period for its implementation in regular course of business of the concerned authority, Corporations, etc. 4. Each of the states shall in its very first meeting notify one district which has major land use as agriculture. This district could be taken as a model district for implementation of the direction and orders in relation to complete stoppage of burning of agriculture/crop residue. The Committee will ensure that all the incentive in terms of the judgement are provided with utmost priority. 5. There should be all preventive, precautionary and effective steps taken well in advance to the next harvest season. 6. It shall then submit a specific report upon field inspection whether there has been complete extinguishment of the practice of crop burning in that area or not, and the reasons thereof. Then it shall implement the scheme in rest of the States in a gradual manner. 7. All the States Governments, Public Authorities and Development Agencies shall introduce

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	vacuum cleaning machines for removal of dust and waste from the roads in a gradual manner. Cleaning of dust manually should be stopped. Mechanical cleaning of the roads should be introduced. Manual cleaning of dust only helps in re-generation of pollution and does not effectively cause cleaning of roads or air either. 8. Police Authorities and the local bodies should ensure that wherever mechanised cleaning of dust is introduced, at the relevant time the vehicles ought not to be parked on either side of the roads. 9. It should be ensured that there should be no leaves, municipal solid waste, plastic, agriculture residue, oil and oil products are burnt in open or otherwise. Strict punitive action should be taken in accordance with the orders of the Tribunal, if any person is found to be violating these directions and orders passed by the Tribunal. 10. 50% of the staff of the Corporations, Committees, Development Agencies and the concerned department of the Government should be on field inspection to ensure proper and effective implementation of the directions. The staff on field duty shall submit a report to the Officer in-charge, who would then submit a report to the State Committee, bring to its notice whether the implementation and effectiveness of the orders and directions by the said authorities was satisfactory or not.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	11. The Traffic Police, PWD and all public authorities shall ensure that there is free flow of traffic and there are no undue jams on the traffic lights or otherwise. 12. The person who violates the directions of the Tribunal in regard to vehicular pollution should be strictly made liable in terms of the judgement of the Tribunal for payment of environmental compensation. This compensation could be recovered by the concerned department and representative of the authorities including the Police. 13. We have already noticed in our judgement that on the basis of the data available, nearly three lakhs litres of petrol is burnt in NCT of Delhi everyday by stationery vehicles in the traffic jam or the traffic light. The Committee shall consider this aspect with utmost priority and submit its suggestion to the Tribunal for orders. 14. We direct all the State Governments, NCT of Delhi also to issue guidelines with regard to manufacturing, sale and burning of crackers in the jurisdiction of the respective States/NCT of Delhi. Such direction must be taken into consideration that the crackers if permitted are of the nature which would generate least smoke and produce least noise. It should be within the prescribed parameters. 15. All authorities concerned should create social awareness particularly in schools and colleges

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	as to the dis-advantage and adverse impact on public health of indiscriminate burning of crackers on different festive seasons. 16. We also direct the State Governments and NCT of Delhi particularly the State of Punjab to consider withdrawal of incentive provided to the agriculturists who are found to be defaulting and burning agriculture/crop residue. We take note of the fact that the Government of Punjab has already issued Notification dated 22nd October, 2013, wherein burning of agriculture/crop residue has been prohibited. 17. The order of the Tribunal in relation to all diesel vehicles more than 10 years of age and petrol vehicles which are more than 15 years of age shall not ply on the roads of NCT of Delhi, shall be enforced rigorously. The other States are directed to take decision, in relation particularly to diesel vehicles which are of more than 10 years of age. 18. We direct NCT of Delhi, DDA, all Corporations and PWD to ensure that all its parks, flyovers, roads around the government building, there is greenery and study has been conducted and found that if greenery is spread over all the flyovers and roads of NCT of Delhi, it will help in increasing of oxygen by 20%. It will help a large number of people to breathe fresh air. Efforts should be made to cover open land with green grass.

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	19. All the concerned authorities shall ensure that the waste dumping sites are not put on fire, under any circumstances. 20. We grant liberty to all the government departments, PWD etc to bring before the Tribunal offenders or defaulting persons with complete details. If such list is filed, the Tribunal shall issue notice to them for payment of environmental compensation and for passing of such other punitive orders as may be necessary in the facts and circumstances of the case. 21. The Committee would also recommend the steps that various authorities are required to take for providing health care and immediate treatment to the public who suffer from effects of air pollution. 22. All the amounts collected under the orders of the Tribunal for environmental compensation should be utilized only for the purpose of prevention and control of air and water pollution in NCT of Delhi and the concerned States subject to the orders of the Tribunal. The copy of this order be furnished by dasti. List the matter for further directions on 9th January, 2017. List all the miscellaneous applications of 16th November, 2016 at 3 PM. ……,CP (Swatanter Kumar)

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	.....,JM (Dr. Jawad Rahim) .....,JM (Raghuvendra S. Rathore) .....,EM (Ranjan Chatterjee)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

(M.A. NO. 284/2015, M.A. NO. 755/2016, M.A. NO. 756/2016, M.A. NO. 766/2016, M.A. NO. 847/2016, M.A. NO. 848/2016, M.A. NO. 924/2016, M.A. NO. 892/2016, M.A. M.A. NO. 974/2016, NO. 979 /2016, M.A. NO. 983/2016, M.A. NO. 984/2016, M.A. NO. 967/2016, M.A. NO. 986/2016 & M.A. NO. 1050 /2016)
In
Original Application No. 21/2014
AND
M.A. NO. 156/2016
IN
Original Application No.21 OF 2014
AND
Original Application No. 21/2014
(Only Notices)
AND
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016, M.A. NO. 1142/2016, M.A. NO. 1134/2016, M.A. NO. 1135/2016, M.A. NO. 1136/2016, M.A. NO. 1137/2016, M.A. NO. 1138/2016, M.A. NO. 1155/2016, M.A. NO. 1162/2016, M.A. NO. 1180/2016, M.A. NO. 1184/2016, M.A. NO. 1185/2016, M.A. NO. 1186/2016, M.A. NO. 1187/2016, M.A. NO. 1188/2016, M.A. NO. 1189/2016, M.A. NO. 1190/2016, M.A. NO. 1191/2016 & M.A. NO. 1192/2016)
And
Original Application No. 95/2014
And
Original Application No. 303/2015
And
Original Application No. 181/2013
(M.A. No. 824/2015)
And
Original Application No. 609/2016

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. of NCT of Delhi & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D.SALVI, JUDICIAL MEMBER
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER
HON'BLE DR. AJAY A DESHPANDE, EXPERT MEMBER

Present:

Applicant : Mr. Sanjay Upadhyay, Mr. Salik Shafique and Ms. Pirya Sharma, Advs.
Mr. Sanjay Upadhyay, Adv.
Mr. Yatendra Sharma, Satyav. Sharma and Mr. Sachin Sharma, Adv.
Mr. Ashish Negi and Mr. Richa Kapoor and Mr. Munal Ananchal, Adv. for PPCB
Ms. Natasha Sahrawat, Ms. Khushboo Bari, Advs. and Mr. Bipin, Legal Manager for Tata Motors

Respondent No. 2 & 4 Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO, DPCC

Respondent No. 5 & 6 Mr. Balendu Shekhar & Mr. Vivek Jaiswal, Advs. For EDMC.
Ms. Panchajanya Batra Singh, Adv. for Ministry of Environment & Forest, & CC
Mr. Anil Soni, AAG for State of Punjab and Mr. Naginder Benipal, Advs.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam
Ms. Bhavna Duhoon, Adv., adv. for NHAI
Ms. Taruna A. Prasad, Adv. for MoEF
Mr. Rajiv Bansal, Mr. Kush Sharma, Mr. Anurag Tripathi and Mr. Anirudh Chadha, Advs. (DDA)
Ms. Nishe Rajen Shonker and Mr. Gajendra Khichi, Adv. for State of Kerala
Mr. Sanjeev Ralli and Mr. Ravin Kapur, Advs. for Chandni Chowk Sarv Vyapar Mandal - Intervener
Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs.for NOIDA & Greater NOIDA.
Ms. Sakshi Popli, Adv. for NDMC
Mr. A.K. Prasad and Mr. Panshul Chandra, Advs. For MoUD/PNG & Respondent No.2-6
Mr. Rudreshwar Singh and Mr. Krishna Kant Dubey, Adv. For State of Bihar and BSPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K-2
Mr. Sarthak Chaturvedi, Mr. Rohit Pandey and Mr. Devender Nath Tirpathi, Adv. for Andman and Nicobar Admin
Mr. Rajul Shrivastav with Mr. Ayushi Sharma, Advs.
Mr. Rahul Pratap, Adv. For MoEF
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA, CPCB
Mr. Mukesh Verma, Advs. for MPCB & State
Ms. Yogmaya Agnihotri, Adv.
Mr. Sarvesh Kumar and Mr. Ghanshyam Dwidi, Adv. For Uttar Pradesh Jal Nigam
Mr. Om Prakash, Adv. for Ministry of Railway
Mr. Sakshi Popli, Adv. for NDMC

Mr. Edward Belho, Mr. K. Luikang Michael and Ms. Elix Gangmei, Advs. For State of Nagaland and PCB

Ms. M.S. Priyanka Sinha, Adv. for State of Jharkhand

Mr. Anil Grover, AAG, Haryana with Mr. Rahul Khurana, Adv. and Mr. Sandeep Yadav, Advs. for Haryana, HSPCB, MCF, MCG & HUDA

Sapam Biswajit Meitei, Adv. For State of Manipur.

Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. For State of Sikkim & Pollution Control Board

Mr. Pradeep Misra and Mr. Daleep Kumar Dhyani, Advs.

Mrs. Rani Chhabra and Ms. Priyanka Sony, Advs.

Mr. Abhishek Yadav, Adv. for State of U.P.

Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. For State of Andhra Pradesh

Mr. V.K. Shukla with Ms. Vijay Laxmi, Advs. For State of M.P.

Mr. Narayan Krishan, Adv. With Mr. Rasna Kalkat, Advs. For Manushi Sangathan

Mr. Raman Yadav, Adv. for Ghaziabad Development Authority

Ms. Alpana Poddar, Adv. with Mr. Bhupender Kumar, LA, CPCB

Mr. R. Rakesh Sharma, Adv. for State of Tamil Nadu & TNPCB and Mr. Marutha Samy, Adv.

Mr. D. Rajeshwar Rao and Mr. Charanjeet Singh, Advs. for PWD, Transport Deptt. and Delhi Police

Mr. Abhishek Atrey, Adv. For MoEF & CC

Mr. Joydeep Mazumdar, Adv. For State of West Bengal

Mr. Setu Niket and Ms. Esha Mazumdar, Adv.

Mr. Anoop Verma, Adv.

Ms. Puja Kalra, Adv. For SDMC and NDMC

Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P.

Ms. Pinky Anand, Sr. Adv., ASG, with Mr. Balendu Shekhar and Mr. Rajesh Ranjan, Ms. Sridha Mehra and Ms. Somya Rathore, Advs. For MoRTH and Ministry of Heavy Industries and Highway

Ms. Pinky Anand, ASG and Mr. K.K. Singh, Advs. for MoEF

Ms. Pinky Anand, Sr. Adv., ASG, with Mr. Balendu Shekhar, Advs. For Ministry of Road and Transport Highway

Mr. Balendu Shekhar with Mr. Vivek Jaiswal, Advs. For Ministry of Road & Transport and EDMC

Mr. Aman Shukla and Mr. Santosh Rebello, Adv. for State of Goa & PCB

Mr. Devraj Ashok, Adv. for State of Karanataka & KSPCB

Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for Transport Deptt. & GNCTD
Mr. Saurabh Rajpal and Mr. Adhiraj Singh, Advs.
Mr. Sumit Kishore and Ms. Aparna Vohra, Advs. for PNGRB

	Date and Remarks	Orders of the Tribunal
	Item No. 01 to 08 **November 17, 2016** ss	We are of the considered view that yesterday's Court proceedings were not appropriately reported by the Media. It would have been in the public interest to correctly report these proceedings and the observations. Be that as it may, we direct NCT, Delhi to place before the Competent Authority a copy of the order dated 10th November, 2016 along with the data on ambient air quality that was submitted before the Tribunal by the Delhi Pollution Control Committee and also informed by the Central Pollution Control Board. As per the data and the graph submitted before the Tribunal, on 14th November, 2016 there was increase in PM_{10} which is primarily generated by construction and dust activity. The data before us demonstrated that $PM_{2.5}$ and PM_{10} both were four to five times higher than the prescribed value. Even today we are informed by the counsel appearing for the Applicant that as per today's status of Anand Vihar: PM_{10} is 606 $\mu g/m^3$ and $PM_{2.5}$ is 147 $\mu g/m^3$, and it is stated that Anand Vihar infact is worst polluted area in Delhi. Further more all the Corporations had to comply with the directions contained in the order of the Tribunal dated 10th November, 2016. However Status Reports have not been filed by the concerned parties. We are informed that the meeting to be taken up by the Secretary, Ministry

	Item No. 01 to 08 **November 17, 2016** ss	of Environment, Forest and Climate Change is fixed today at 03:00 PM. Let the Minutes of that Meeting be placed on record. All the above materials except the Minutes of the Meeting being taken up by the Secretary, Ministry of Environment, Forest and Climate Change should be placed before the Competent Authority. The Competent Authority may take independent decision and pass appropriate orders in regard to the matters relating to air pollution in Delhi. We may further notice that it is a settled rule of environmental jurisprudence that Polluter Pays' Principle covers all consequential effects of pollution. Further it is a polluter who is expected to take all precautions and pay for pollution and all its consequences. If a builder is causing pollution and due to his default and violation of law undue contribution to the pollution of ambient air quality occurs, he has to bear the burden of all the consequences in terms of remedial/restorative liabilities as well as consequential losses suffered due to its adverse impacts. In other words builder cannot deny wages fully or partially to the labourers during the period in which work is stopped for causing air pollution. All these factors are required to be taken into consideration by the Competent Authority. The air pollution in Delhi has to be controlled promptly and effectively, and for that purpose coercive directions would be necessary. In our order main sources of pollution have been stated and various measures that are required to be taken are also recorded in the order. Let the matter be placed before the Competent Authority.

	Item No. 01 to 08 **November 17, 2016** ss	All Corporations, Delhi Pollution Control Committee and NCT, Delhi would place before the Competent Authority afore-referred documents by tomorrow. Copy of the order be furnished Dasti. List these matters tomorrow i.e. on 18th November, 2016. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,JM (Dr. Jawad Rahim) .....,EM (Bikram Singh Sajwan) .....,EM (Dr. Ajay A Deshpande)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. No. 156/2016 M.A. No. 172/2016, M.A. No. 949/2016, M.A. No. 567/2016 M.A. No. 1220/2016, M.A. No. 22/2017, M.A. No. 47/2017, M.A. No. 52/2017, M.A. No. 71/2017, M.A. No. 63/2017, M.A. No. 82/2017, M.A. No. 104/2017, M.A. No. 147/2017, M.A. No. 177/2017, M.A. No. 180/2017, M.A. No. 185/2017, MA. No. 218/2017, MA. No. 219/2017, MA. No. 238/2017, MA. No. 264/2017, MA. No. 265/2017, MA. No. 294/2017, MA. No. 352/2017, MA. No. 367/2017, MA. No. 375/2017, MA. No. 383/2017, MA. No. 385/2017, MA. No. 386/2017, MA. No. 434/2017, MA. No. 435/2017, MA. No. 436/2017, MA. No. 437/2017, MA. No. 443/2017, MA. No. 444/2017, MA. No. 446/2017, MA. No. 447/2017, MA. No. 448/2017, MA. No. 449/2017, MA. No. 450/2017, MA. No. 453/2017, MA. No. 454/2017, MA. No. 455/2017, MA. No. 456/2017, MA. No. 457/2017, MA. No. 458/2017 & MA. No. 459/2017)

And
Original Application No. 95/2014
(M.A. NO. 1156/2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER
HON'BLE DR. AJAY A DESHPANDE, EXPERT MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: Applicant:

Mr. Salik Shafiq, Mr. Sart Mitara Jaiswal and Ms. Upama Bhattacharjee, Advs.
Mr. Rishabh Sharma, Adv. for the Applicant in O.A. No. 609/2016
Mr. Hitesh Kuar, Mr. Maish Garg, Advs. in M.A.
Mr. Ruchir Batra and Mr. Hitesh Batra, Adv. in M.A. 444 of 2017
Ms. Bhumika Kapoor, Adv. in M.A. 63/2017
Mr. Harvinder Sekhon appearing in person
Mr. Sunil K. Jain and Mr. Punya Garg, Advs. in M.A. 82 of 2017
Mr. Nasam Khurshid, Adv. in M.A. No. 265 of 2017
Mr. Rahul Khurana, Adv. in M.A. 459 of 2017
Mr. Arjun Syal, Adv., for M.A. No. 287 & 288/2017

Mr. Sameer Kulshreshtal, Adv. for Applicant in MA. No. 264/2017
Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO
Mr. Sumit Kishore, Adv. for PNGRB
Mr. S.S. Panicker, Adv and Mr. Anmol Diwan for Applicant in MA. No. 294 of 2017
Mr. Rajiv Bansal, Mr. Kush Sharma, and Ms. Arpita, Advs. for Delhi Development Authority
Ms. Khushboo Bari, Advs. for Tata Motors in MA. No. 172/2017
Mr. D. Rajeshwar Rao and Mr. Gyanendra Chaturvedi, Adv., Delhi Police, PWD and Transport Deptt.
Ms. Sakshi Popli, Adv. For NDMC
Mr. Atul Jha, Adv. for State of Chattisgarh
Mr. Anchit Sharma & Ms. Satamita Ghosh, Advs. for DCB
Mr. Balendu Shekhar, with Mr. Vivek Jaiswal, Mr. R.K. Maurya, Advs. for EDMC in MA. NO. 350/2017
Mr. Sanjeev Ralli and Mr. Trinayan Sonowal, Advs. for Chandni Chowk Sarv Vyapar Mandal
Mr. Ashish Rana & Mr. Shaveer Ahmed, Advs.
Mr. Edward Balho, and Mr. K. Luikang Michael, Ms. Elix Gangmei, Advs. for State of Nagaland
Mr. Rudreswar Singh and Mr. Gautam Singh, Advs. for State of Bihar and Bihar PCB
Mr. Nishe Rajen Shonker, Adv. for State of Kerala
Mr. Vibhav Misra and Ms. Saumya Misra, Advs.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, and Mr. Charan Jeet Singh, Advs. GNCTD
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. Mukesh Verma, and Mr. Bikash Kr. Sinha, Advs.
Mr. Jogy Scaria, Adv. for State of Kerala State Pollution Control Board
Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Ms. Priyanka Gupta, Adv. for State of Jharkhand
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advs. UPPCB
Mr. Sapam Biswajit Meitei, Adv. for State of Manipur
Mr. Guntur Prabhakar, Mr. Guntur Pramod Kumar and Prashan Mathur, Advs. for State of AP
Mr. Gopal Singh and Ms. Varsha Poddar, for State of Tripura and State Pollution Control Board
Mr. Anil Shrivastav, Mr. Rituraj Biswas and Ms. Sujaya Bardhan, Advs. for State of Arunachal Pradesh
Mr. V. K. Shukla, Adv. with Ms. Vijay Lakshmi, Advs.
Mr. Abhishek Yadav, Adv. with Mr. Amit Kumar, SDM Dadri for State of Uttar Pradesh
Mr. Raja Chatterjee, Mr. Chanchal Ganguli, Mr. Piyush Sachdev and Mr. Adeel Ahmed, Advs. for State of WB
Mr. Ashish Negi and Ms. Richa Kapoor, Advs. for PPCB
Mr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Mr. Vishwendra Verma, Adv. for MoEF
Ms. Alpana Poddar, Adv. with Ms. Niti Chaudhary, LA Central Pollution Control Board
Mr. Anil Soni, AAG and Mr. Naginder Benipal,Adv. for State of Punjab
Mr. R. Rakesh Sharma, Adv. for State of Tamil Nadu and TNPCB
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Mr. Amit Arora, Advs. for State of Sikkim
Mr. Shiv Mangal Sharma, AAG with Mr. Saurabh Rajpal and Mr. Adhiraj Singh, Advs. for State of Rajasthan and RSPCB
Ms. Priyanka Swami, adv. For Nagar Nigam Ghaziabad
Mr. A. K. Prasad and Mr. Jaydip Pati and Mr. Namit Saxena Advs. for MoUD and PNG
Mr. Taruna A. Prasad, Adv.
Mrs. Rani Chhabra and Ms. Priyanka Sony, Advs. in M.A. Nos. 47, 71 & 238 of 2017
Mr. Vijay K. Sondhi, Mr. Arnav Sanyal and Ms. Cauveri Birbal, Advs.
Mr. Soumyajit Pani, Adv.
Mr. Amit Agarwal and Ms. Asha N. Basu, Adv. for WBPCB
Mr. Dinesh Kumar Garg and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Ms. Yogmaya Agnihotri, Adv. for CECB
Mr. Somayajit Pani, Adv.

	Date and Remarks	Orders of the Tribunal
	Item No. 24 to 29 **April 20, 2017**	The Learned Counsel appearing for NCT Delhi submitted that in principle, the Government has already decided to experiment destination buses. He has submitted before us today a Status Report on the existing system of buses and the proposed destination bus system to be introduced. After hearing the Learned Counsel appearing for the parties, including NCT Delhi, we direct as follows: 1. That as proposed, the NCT Delhi, all other concerning Departments and the instrumentalities of the State shall introduce destination buses with effect from 1st May, 2017, as suggested and without default. 2. The destination buses would mean the buses which will start from point A and shall go non-stop to the destination point B. 3. The buses initially, on experimental basis, would start from Dwarka, Rohini, Janak Puri, CGO Complex and Badarpur Border. The destination buses, from these points, will start from the main bus stand of the sectors or spots which are convenient for the public at large, to board these buses. They will start preferably in the early hours of the day to ensure that the persons travelling by such bus is able to reach their respective offices on time. These buses would be directed towards Central Secretariat, Shashtri Bhawan, Krishi Bhawan, Connaught Place, Nehru Place and such other centres where large number of offices are

	Item No. 24 to 29 **April 20, 2017**	located. These destination buses would in the evening; coinciding with the office hours, return from the point of their destination to the starting point i.e. the places from where they had carried the passengers in the morning. 4. We direct the Director, Transport of NCT Delhi to ensure that all these buses reach on time without default and to the convenience of the public at large. The Director of Transport along with the Joint Commissioner of Police, Traffic would submit a Report in respect of the reduction of individual cars as a result of introduction of the destination buses. If necessary, they can make enquiry from the persons of the buses, whether they were earlier travelling by their own cars. 5. The destination vehicles would be maintained properly and DTC would depute special officers from their circle who would be responsible for cleaning, for maintaining hygiene of the vehicles as well as that they would operate punctually and the staff would treat the passengers with respect and decency. The Status Report shall be filed by the Director and Joint Commissioner of Police to the Tribunal after a period of three weeks of running of these destination buses. 6. The NCT Delhi and Joint Commissioner of Police, Traffic shall duly advertise, w.e.f. 25th April, 2017 information daily for the public at large. It is brought to our notice that the Committee has been constituted by NCT Delhi. The Report of that Committee shall be implemented only subject to orders of

	Item No. 24 to 29 **April 20, 2017**	the Tribunal. We direct NCT Delhi and all the Corporations to ensure that vacuum cleaning machines start operating in areas of Delhi where the roads are wide enough, positively by 1st May, 2017. The Joint Commissioner of Police is directed to ensure construction of appropriate walls at Rao Tula Road (RTR) and fix red light blinkers. The wall, at the point where the bridge starts, should be extended by at least 2-3 mtr. Wherever U-turns have been provided, the red light blinkers shall be fixed to ensure there is no unruly overtaking and traffic jams at such points. List these matters tomorrow i.e. on 21st April, 2017. .....,CP (Swatanter Kumar) .....,JM (Dr. Jawad Rahim) .....,JM (Raghuvendra S. Rathore) .....,EM (Bikram Singh Sajwan) .....,EM (Dr. Ajay A Deshpande) .....,EM (Dr. Nagin Nanda)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, 1341/2017, 1342/2017, 1343/2017, 1344/2017, 1345/2017, 1346/2017, 1347/2017, 1348/2017, 1349/2017, 1350/2017, 1351/2017, 1356/2017, 1357/2017 & M.A. No. 1358/2017 and M.A. No. 1324 of 2017, M.A. No. 1325 of 2017 and M.A. No. 1332 of 2017)

And

Original Application No. 95/2014
(M.A. No. 1156 of 2016)

And

Original Application No. 303/2015

And

Original Application No. 609 /2016

And

Original Application No. 179 of 2016

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.

And

Sanjay Kulshrestha Vs. Union of India & Ors.

And

Supreme Court Women Lawyers Association Vs. Union of India & Ors.

And

Diya Kapur & Ors. Vs. Union of India & Ors.

And

Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Present: Applicant :

Ms. Upama Bhattacharjee and MR. Saumitra Jaiswal, Advs. for Mr. Sanjay Upadhyay, Adv.
Ms. Divya Kapur and Ms. Shqel Trehan and Mr. Ruhabh Sharma Advs.
Mr. Vijay Sondhi, Ms. Cauvery Birbal and Mr. Sarvajeet Kumar Thakur, Advs. for Toyota
Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Ms. Priyam Mehta, Adv. in M.A. 1291 of 2017
Mr. Sumeer Sodhi, Mr. Arjun Nanda Advs. in M.A. 1301 OF 2017
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Raman Yadav, Adv. for GDA
Mr. Amit Agarwal, Ms Asha Basu, Advs. for WBPCB
Mr. Shuvodeep Roy and Mr. Sayooj Mohandas, Advs. for State of Assam
Mr. V. K. Shukla, Adv and Mr. Vijay Laxmi, Adv for State of M.P.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, Adv
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Gaurav Dubey, Adv. in M.A. No. 1324, 1325 & 1332
Mr. Rajesh Bhardwaj, Adv. in M.A. No. 1332/2017
Mr. Sapam B. Meitei and Mr. Naresh Kumar Gaur, Advs.
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Shashank Bajpai and Mr. Shakun S. Shakla, Advs.
Mr. Kamaljeet Singh, Adv.
Mr. Devraj Ashok, Adv.

Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Chanchal Kr. Ganguli, Advs. for State of West Bengal
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajkumar, Adv with Mr. Bhupender L.A for CPCB
Mr. Shubham Bhalla and Ms. Roopam Rai, Advs.
Mr. Soumyajit Pani and Mr. Chittaranjan Singh, Advs.
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. in M.A.
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv. for NDMC
Mr. Rakesh Sharma and Mr. V. Mowli, Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas & Mr. Kumar Milind, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma and Mr. Pawan Kr. Shukla, Advs.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. Parminder Chauhan Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeepn Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Ms. Kanika Singhal and Ms. Vasudha Trivedi Mr. Kush Sharma and Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Archit Sharma, Ms. Satamita Ghosh and Mr. Rahul Singhal, Advs.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, Adv. and Ms. Prity, Adv. for CECB
Mr. Arun Monga, Adv.
Mr. Aman Shukla and Mr. S. S. Rebello, Advs.
Mr. Abhimanyu Garg and Ms. Preety Makkar, Advs.
Mr. Anchit Sharma, Mr. Satumita Ghosh and Mr. Dipankar Wadhwa, Advs.
Mr. Om Prakash, Adv.
Mr. Nishe Rajen Shonker, Adv. for State of Kerala.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Mr. Reeghan S. Bal, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya and Mr. Ravi Gopal, Advs. for EDMC
Mr. S.A. Zaidi and Ms. Mansi Chahal, Advs. in M.A.
Mr. Debarshi Bhuyan Adv.
Ms. Rani Chhabra, Ms. Priyanka Soni, Advs. in MAs
Mr. Shiv Mangal Sharma (AAG), Ms. Shikha Sandhu & Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. Nikhil Singhvi, Mr. Arjun Syal and Mr. Mohit Seth, Advs.
Mr. D. Rajeshwar Rao, Adv.
Mr. Gaurav Dubey, Adv. in MA 1289, 1324 and 1325
Mr. Rajul Shrivastav, Adv.

Ms. Alpana Poddar and Mrs. Preeti Goyal, Advs.
Ms. Puja Kalra, Adv.
MS. Shruti Munjal and Mr. Ankur Chhibber, Advs.
MR. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhuj, Mr. Raj Kishan Gaur, Mr. Rahul Sharma and Mr. Tarun Aggarwal, Advs.
Mr. Preet Pal Singh and Ms. Priyam Mehta, Advs.

	Date and Remarks	**Orders of the Tribunal**
	Item No. 53-57 **November 09, 2017**	The Supreme Court of India has declared right to decent and clean environment as a fundamental right within the ambit and scope of Article 21 of the Constitution of India. The Legislature enacted the laws for protection of environment and natural resources. The Constitution of India in terms of Article 47 (A) and 15 (A) (g) read with Article 21 mandated the State to protect the environment imposed and fundament duty upon the citizens to protect the environment and the natural resources and the judiciary to ensure the protection of the fundamental rights granted to the citizens of India. That is the stature provided to protection of environment and ecology of natural resources in our country. The right to life has been infringed with impunity by the persons, Authorities and States upon whom lay Constitutional and statutory obligations to provide decent and clean environment to the public at large particularly in relation to breathing of clean air and drinking of clean water. The Central Pollution Control Board has provided monitoring stations in various parts of NCT of Delhi, the analysis reports clearly show persistent hazardous ambient air quality not only in NCT of Delhi but even in NCR of Delhi and other parts of the country. The PM_{10} value is analyzed which shows 986 micro grams per cubic meter against the prescribed value of 100 micro grams per

		cubic meter on 08.11.2017. The $PM_{2.5}$ for the same date is analyzed 425 micro grams per cubic meter against the prescribed value of 60 micro grams per cubic meter. For today PM10 value is declared to be 1136 micro grams per cubic meter against the prescribed value 100 micro grams per cubic meter and $PM_{2.5}$ is 760 micro grams per cubic meter against the prescribed value of 60 micro grams per cubic meter as per Delhi Pollution Control Committee. It is undisputable and infact has been exhibited on various platforms including display sites of Central Pollution Control Board and Delhi Pollution Control Committee where the value of PM10 and PM2.5 is in flagrant violation to the prescribed value. The Central Pollution Control Board has reported the pollution levels in Delhi around hazards or severe air pollution category. This has been a continuous state of affairs for the last more than 7 to 10 days. It is surprising that samples collected by the Central Pollution Control Board and Delhi Pollution Control Committee and other State Boards have not even bothered to test all the 8 parameters. Some of them claim that they have tested parameters but, however, none of the display board displays these parameters. The components are of very serious nature like SO_2, NO_2, CO and Ozone included in the ambient parameters. These can have very serious impacts on the human health if they are found to be in excess in the ambient air quality. The Boards shall provide the analysis report to the Tribunal consisting of all the 12 parameters on the next date of hearing. We have no hesitation in observing that all the

		concerned Government and stake holders and its departments have failed to perform their statutory function to provide decent and clean environment to the people living in NCR. Holding meeting and writing letters and shifting the blame to each other for non-performance and non- cooperation can hardly be an excuse for meeting such environmental emergency. No party, statutory bodies or even the citizens can be a mere spectators to such environmental crisis and there has to be concerted effort in discharging of constitutional and statutory duty by all concerned to ensure that the people do not suffer from health hazards because of non-performance from the concerned quarters. The doctrine of preventive and precautionary principle with greater emphasis on inter generational equity has been violated, ignored at every relevant stages. The Tribunal had passed a detailed judgment in the case of Vardhman Kaushik on 10th November, 2016 and had clearly postulated the steps that were required to be taken on long term and short term basis keeping in view the precautionary principle to ensure that the ill-effects and adverse impact of polluted ambient air quality in the previous year is not repeated in the year 2017. However, this remains un-executed and non-complied. The judgment has been complied with only in default. The Central Pollution Control Board is stated to had issued some directions on 01st November, 2017 where in terms of Section 5 of Environment (Protection) Act, 1986 and in the face of these directions it is specifically noted that the field visits in September and October, 2017 and large incidents

		of open dumping of waste, traffic congestion, open burning, construction activity with adequate dust control measures, open dumping of C&D waste, storage of construction material was observed, various deficiencies or inadequacies were noticed by the Board. The Board itself has failed to perform its function and issue timely and appropriate directions in exercise of its statutory power. We find not even an single plausible explanation as to why the directions contained in the judgment had not been obeyed and carried out by concerned authorities/stake holders. The fundamental rights particularly which relates to right to life cannot be subjected to economic limitation. More often than not, the Supreme Court has held that the normally economic limitations cannot be raised as a defence to fundamental right particularly right to life. We are informed that certain directions have been issued by the administration which certainly are not adequate and they do not comply with the judgment of the Tribunal despite the fact that the matter was kept pending and various applications have been filed for different purposes. There is no Authority who is able to show the effective compliance of the directions contained in the judgment, coupled with the above situation and apparent non-cooperation and non-coordination amongst the various wings of the States and its intrumentalities. We hereby pass the following directions:-1 1. All the construction (structural) activity of any kind in the entire NCR is hereby prohibited and will not

		be carried on by any person, private or Government Authority in the entire NCR till the next date of hearing. However, the internal finishing and interior work (causing no dust whatsoever) where no construction material is used can be carried on. 2. For the days when the construction activity remains prohibited the labourer shall not be denied of their daily wages and labourer would be paid their daily wages and would not be adversely affected by the order of the Tribunal. 3. All the industrial activity in NCR of Delhi which releases emission would also not be carried till the next date of hearing. 4. All the Corporations, Delhi Development Authority, Public Health and Environment Department of NCT of Delhi shall constitute teams of its Officers/officials who will visit different areas under their respective jurisidiction and ensure that there is not burning of waste or any material in any part of NCR and to ensure compliance of these directions. This will equally apply to the areas and the Authorities having jurisdiction over the NOIDA, Greater NOIDA, Ghaziabad, Sonipat, Gurgaon, Faridabad, Palwal, Bahadur Garh and Manesar. 5. These teams shall also inspect if there are any construction material particularly cement, sand and bajjari lying in the open un-covered and un-protected and the same shall be seized by the Corporation besides requiring the owner builder to pay environmental compensation in terms of the

		judgment dated 10.11.2016. 6. If there are any brick klin or hot mix plants operating in any part of the NCR the same shall be shut down and will not be permitted to operate till the next date of hearing. 7. The Central Pollution Control Board, Uttar Pradesh Pollution Control Board, Haryana Pollution Control Board, Punjab Pollution Control Board, Rajasthan Pollution Control Board and Delhi Pollution Control Committee shall maintain due records of ambient air quality in the areas falling under their jurisdiction being part of NCR. 8. We direct that there should be sprinkling of water where the PM_{10} (ambient air quality) is found to be in excess 700 micro grams per cubic meter. The sprinkling of water would be done through helicopters or by the fire brigade in each District of NCT of Delhi. 9. There should be regular cleaning of road (by manually preferably vacuum cleaners) particularly and sprinkling of water so that the particulate matters do not again rise to the air. 10. We direct the NCT of Delhi and all the Authorities to ensure that the petrol vehicles which are more than 15 years of age and diesel vehicles which are 10 year old are not permitted to ply on the roads. The Authorities must seize such vehicles and they should be parked on the identified sites which sites should be identified by the Authorities as a temporary site for the purposes of parking by

		tomorrow that is 10th November, 2017. No trucks, tractor and tractor trollys from outside station or within the NCR would be permitted to transport any construction material particularly sand, cement and bajjari till the next date of hearing. This will in addition to the directions already passed by the NCT of Delhi for Delhi. 11. No construction activity would be carried out and no digging would be done even on the roads/highways or constructions sites. 12. No fuel of waste, wood petcoke or any other would be used for purposes of heating bitumen for metalling roads or otherwise. 13. The States of Uttar Pradesh, Punjab, Haryana, Rajasthan would ensure that there is no crop residue burning in any part of their States and Government should provide due incentives to the farmers for removal, carrying and utilization of the crop residue providing some benefits to the farmers. The directions contained in the judgment in that behalf in the case of Vikarnt Tongad Vs. Union India shall be complied by all these States. We are informed that the Badarpur Thermal Power Plant has been lying closed for carrying out certain improvement in the plant till March, 18, 2018 under the Orders of the Government. 14. GRAP shall be implemented by the all the States that is State of Rajasthan, Punjab, Haryana, Uttar Pradesh and in NCR Region particularly to protect and improved the ambient air quality.

15. The NCT of Delhi and all the States Governments in NCR, Local Bodies would submit their action plan in furtherance to the judgment of this Tribunal in the cases Vikrant Tongad Vs. Union of India and Vardhman Kaushik Vs. Union of India within two weeks from today.

16. We direct that all the Authorities must comply with the directions of the Tribunal to enhance and encourage the public transportation to reduce car traffic pressure on the roads particularly by implementing the directions in relation to plying of deluxe/ air conditioned destination buses.

17. All the Corporation/ Local Authorities would ensure that there is no dust and waste accumulation on the roads or on the walking paths/lanes/service roads.

18. By Monday i.e. 13th November, 2017, the Boards must submit the analysis reports and we also direct the concerned Police Authorities to fully cooperate with the Local Authorities of the concerned States to ensure the compliance of this order,

We must also notice that judgment dated 10.11.2016 of the Tribunal which deals comprehensively with all the matters relating to the air pollution has attained finality as no one has challenged the same.

We direct that all directions contained in the judgment must be implemented strictly and expeditiously by all concerned.

List these matters on Tuesday that is 14th

		November, 2017 when we will consider whether these directions should be vacated or continued for any longer time. **M.A. No. 1324 of 2017, M.A. No. 1325 of 2017 and M.A. No. 1332 of 2017.** All these applications are allowed subject to the conditions contained in our detailed order dated 13th October, 2017. Thus the M.A. No. 1324 of 2017, M.A. No. 1325 of 2017 and M.A. No. 1332 of 2017 stand disposed of with no order as to cost. .....,CP (Swatanter Kumar) .....,JM (Dr. Jawad Rahim) .....,EM (Bikram Singh Sajwan)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER

Present: **Applicant :**

Mr. Sanjay Upadhyay, Adv.Ms. Upama Bhattacharjee and Mr. Saumitra Jaiswal, Advs.
Mr. V. Shekhar, Sr. Adv, Mr Arun K. Shukla, Mr. Sumit Sinha and Mr. Shashank, adv for UFLEX
Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Raman Yadav, Adv. for GDA
Mr. Amit Agarwal, Ms Asha Basu, Advs. for WBPCB
Dr. Dipankar Saha Addl. Director Central Pollution Control Board
Mr. I. K. Kapila, Adv
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv
Mr. Raja Chatterjee, Mr. Chanchal Kr. Ganguli, Advs. for State of West Bengal
Mr. Rajkumar, Adv with Mr. Bhupender L.A for CPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv. and Pritaka, Adv for NDMC
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma and Mr. Pawan Kr. Shukla, Advs.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeep Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv, Mr. Kush Sharma and Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Archit Sharma, Ms. Satamita Ghosh and Mr. Rahul Singhal, Advs.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change

Ms. Yogmaya Agnihotri, Adv. and Ms. Prity, Adv. for CECB
Mr. Anchit Sharma, Mr. Adit Pratap Singh and Mr. Dipankar Wadhwa, Advs.
Mr. Om Prakash, Adv. for Railways
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. Mr. Rajkumar Maurya for East Delhi Municipal Corporation
Mr. Surekh Kant, Adv for Mr. Ashish Rana, ADv
Mr. Shiv Mangal Sharma (AAG), Ms. Shikha Sandhu & Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & G Indira, Advs. for UT of Admanan and Nicobar Administration
Mr. Naginder Benipal, PPCB
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao, and Mr. Abhinav Srivastava, Adv. for Delhi Police with Mr. Vijay Singh DCP Trafic
Ms. Puja Kalra, Adv. for SDMC
Mr. Keshav Chandra, Secretary, GNCTD, Mr. S.M. Ali, Member Secretary, Delhi Pollution Control Committee, Dr. M P George, Sr. Secretary, Mr. Dinesh Jindal, L.O. Delhi Pollution Control Committee, Dr. Anil Kumar, Director, GNCTD

	Date and Remarks	**Orders of the Tribunal**
	Item No. 01 to 05 **November 11, 2017** **SS & RP**	We have heard the Learned counsel appearing for various stakeholders, applicants including the NCT Delhi, Central Pollution Control Board, Delhi Pollution Control Committee and the Learned counsel appearing for all the Pollution Control Boards of the State of Uttar Pradesh, State of Rajasthan, State of Haryana and State of Punjab. It is fairly conceded before us by the Scientists of the Central Pollution Control Board and Delhi Pollution Control Committee and all the officers from the different boards and the officers of the NCT Delhi that rain would result in automatic fall in pollutants level of the ambient air quality. They state that the sprinkling of water thus is one of the best means to reduce the pollutants in case of environment emergency. They also submit that diesel vehicles and two wheelers/two stoke engines are much

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	more serious contributors of air pollution rather than the petrol operated cars. According to the Central Pollution Control Board, vehicular pollution contributes nearly 20% of the total air pollution load in NCT Delhi and out of these 20% the 30% contributions is by two wheelers. Accordingly to them firstly the two wheelers are much more in number than other class of vehicles and secondly they emit serious pollutants like Carbon Monoxide and Hydro Carbon which are not emitted or negligibly emitted by the petrol vehicles. It is further stated that the structural construction activities, carriage of construction material and burning of waste and crop residue are the other major components of air pollution in Delhi and NCR. The Learned counsel appearing for the NCT Delhi has submitted that in furtherance to the recommendation of Graded Response Action Plan (GRAP) and the judgment of the Tribunal, the Government of NCT Delhi is committed to implement odd-even scheme and it has also been directed by the Hon'ble High Court of Delhi in its order dated 09th November, 2017. He further submits that there should be a greater cooperation and coordination between the various Local Authorities, Executing Departments and Police for effective implementation of the directions issued by the Tribunal as well as the notification issued by the Central Government requiring NCT Delhi to implement GRAP. It is further stated that under GRAP, the odd and even scheme should be implemented automatically whenever PM_{10} and $PM_{2.5}$ increases 500 µg/m^3 and 300 µg/m^3

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	respectively for 48 hours. In other words, it is a measure which has to be taken as a part of complete mechanism provided for prevention and control of ambient air quality not only when there is environmental emergency or values are very severely bad. The precautionary principle places obligations upon all the Authorities including the Statutory Boards to anticipate extent and damage by adversely and highly polluted ambient air quality and should take precautionary and remedial measures at the appropriate stage and not wait for the crises to come. It is correctly said that prevention and precaution is a better remedy than dealing with the situation posing crises. It is emphasized by the Learned counsel appearing for the NCT Delhi that they are very sincere and would implement scheme in regard to the above notification and directions of the Tribunal and would not leave it optional. The compliance of law, particularly, where it serves the public interest and more so right to decent and clean environment which is a fundamental right of citizen. All other contentions must tilt in favour of achieving this goal rather than bringing excuses which would cause environmental degradation and damage to public health. The principle of inter-generational equity requires the present generation and particularly the State and its instrumentalities to ensure compliance with the directions which are aimed at protecting environment and public health. In this background and particularly the fact that the Scientist and Expert from various Boards, Organizations and Departments are add-idem that we

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	proceed to pass the following directions:- 1. The NCT Delhi would be free to implement 'Odd and Even' scheme as declared by it, but strictly subject to the condition that we state hereinafter. In terms of the notifications, orders of the courts, Tribunal and GRAP, as and when the PM_{10} and $PM_{2.5}$ crosses values of 500 $\mu g/m^3$ and 300 $\mu g/m^3$ respectively, it shall be mandatory for NCT Delhi and all its Government Departments to implement odd and even without default and it shall not be optional for any officer of the Government or institutions to avoid these directions and non-compliance of notification. There shall be no exemption to any person, officer and individual and the two wheelers from the ambit and scope of odd and even scheme. They will be applied with equal rigour to all cases and all vehicles. However, the vehicles which are CNG operated would be saved from the implementation of odd and even scheme. The only vehicle which will be granted exemption are the vehicle which are used for emergent services like vehicles carrying municipal solid waste, Ambulance, Fire Brigades and Vehicles meant for carrying on emergent repair of electricity, other public services and the Government Vehicles of the dignitaries that has been granted exemption by the Grovernment. Every entry point of Delhi shall be properly

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	managed by concerned department of NCT Delhi and the Police to ensure that there are no traffic jams on the borders of NCT of Delhi. All the State Governments i.e. State of Rajasthan, State of Haryana and State of Uttar Pradesh shall depute special force at the borders of NCT Delhi to ensure that no inconvenience is caused and congestions are avoided with aim to control air pollution even at those points. 2. All the private transporters who are granted permits by the respective State Governments and NCT of Delhi shall during this emergency period and implementation of odd-even scheme would provide CNG buses in co-ordination with the Department of Transport and NCT of Delhi for carriage of passengers from different parts of NCT of Delhi to the central points, free of charges in discharge of their corporate social responsibility as they are the beneficiaries of the State's Largesse. It will be free for NCT of Delhi Department to issue such direction and demanding requisite number of buses keeping in view the fleet of buses for which permission has been granted and to which it will be in proper proportions. 3. The DTC shall make every effort to ensure that all the buses it procures are CNG buses and the same are utilized for public transportation during the operation of odd-even scheme. 4. Since it is commonly agreed and all the parties and stakeholders are ad-idem that sprinkling of water is

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	a substantial solution for reducing the pollution level in the ambient air quality in emergent situation, we direct that the same shall be implemented without default and delay in future and even during the coming week unless it rains by tomorrow or day after as per the reports of the metrological department. But we make it clear that no economic constraints ground will be entertained as a defense to sprinkling of water if the pollution levels rise beyond PM_{10} - 700 $\mu g/m^3$ and $PM_{2.5}$ – 400 $\mu g/m^3$. We constitute a team of :- a. Ms. Varsha Joshi, Secretary-Cum-Commissioner, Transport; b. Mr. K.K. Dhaiya, Spl. Commissioner, Transport; c. Mr. S.M. Ali, Member Secretary, Delhi Pollution Control Committee and Spl. Secretary, Envrionment; d. Dr. Deepankar Shah, Additional Director, Central Pollution Control Board; e. Dr. Prashant Gargava, Additional Director, Central Pollution Control Board; f. Dr. M.P. George, Scientist `D', Delhi Pollution Control Committee Ms. Varsha Joshi, Secretary-Cum-Commissioner, Transport will be the Chairperson of the Committee. 5. This committee shall, from today onwards, collect the data of ambient air quality which shall be tested at least for 8 parameters including PM_{10}, $PM_{2.5}$,

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	Carbon Monoxide, Ozone, Ammonia, SO_2, NO_2 and Lead. A due compilation of at least two samples a day during the peak hours shall be maintained by this Committee continuously for a period of 10 days. We direct all these samples shall be analyzed at the laboratory of the Central Pollution Control Board and IIT Delhi. 6. Besides collecting the data from the ambient air quality stations analyzed by the authorities/ Central Pollution Control Board, ambient air quality samples would be collected and subjected to analyze in both these laboratories and report submitted to the Tribunal on the next date of hearing. 7. Despite direction of the Tribunal and the orders of the NCT of Delhi, still construction activities have been noticed in various complexes. It is brought to our notice that NHAI has been carrying on heavy earthmoving and construction activity at the crossing of turning of CWG Complex near Akshardham, construction work is going on at the NBCC project at Kidwai Nagar and this fact is not disputed. We issue notice to show cause to both these organizations as to why the exemplary fine/ cost be not imposed upon them and also why the Tribunal should not direct the officer responsible for violation of the Tribunal to be sent to civil imprisonment in accordance with the provision of Order 21 read with Section 19 and 26 of the National Green Tribunal Act, 2010. Reply to these notices should be filed before the next date of

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	hearing. It shall be duty of the NCT of Delhi and DPCC to serve the notices upon the concerned officers/ contractors of these organizations. 8. It is also pointed out that there are 13 Thermal Power Plants with a capacity of 11,000 MW in the radius of 300 km of NCT of Delhi. They are serious contributors of pollutants to the ambient air quality in Delhi. They contribute 80% of the Sulphate and 50% of Nitrogen to the receptor concentration. This adds to increase of pollutants of PM_{10} and $PM_{2.5}$ besides adding other pollutants to the ambient air quality. If emissions from these plants are controlled and or they are upgraded so as to meet strictly in accordance with the prescribed standards it could largely impact the improvement of ambient air quality in NCT of Delhi. 9. We direct the above Committee to submit a report in this behalf to the Tribunal and what precautionary and preventive measures should be taken. The order of the Tribunal dated 08.11.2017 and 09.11.2017 shall apply mutatis-mutandis to this order and all the directions contained in this order must be strictly adhered to. 10. All the corporations and public authorities from all the States of NCT of Delhi and surrounding areas shall ensure that there is no structural construction activity carried on till the next date of hearing. 11. We have already passed directions in relation of burning of waste and crop residue burning. By the next date every State should submit the report in

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	that behalf including all the local authorities of NCT of Delhi. 12. All the corporations and the DDA is hereby directed to post special forces on the land fill sites (municipal solid waste land fill sites) to ensure that there is no fire of any kind from any of these sites. If any fire of the waste burning is brought to the notice of the Tribunal particularly in relation of the land fill sites, every officer incharge concerned under whose jurisdiction that the area shall fall would be liable to be proceeded against in accordance with the law besides imposition of environmental compensation in terms of Section 15 of the National Green Tribunal Act, 2010 upon the said Authority or Corporation. 13. We direct NCT of Delhi to immediately reconsider its decision with regard to the parking charges. We are unable to appreciate what environmental impact it is likely to have particularly when the directions of the Tribunal with regard to construction, providing of parking areas, ensuring that those parking areas and parking buildings, multiple parking are used for parking in a regulatory manner and parking on the road sides is entirely discouraged. We do not have hesitation in noticing that corporation and the State authorities have failed to comply with those directions. The steps must be taken in a holistic manner to achieve the objective of protection of environment creating undue burden on a common man as no solution to environmental issues.

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	14. If cars are permitted to be registered and plied in Delhi then they must be provided with the parking space. For instance, the multiple parking at Sarojni Nagar remains empty which is undisputed fact and all the vehicles are permitted to be parked on the roads where some contractors collect money and add to congestion of traffic. All the Government Authorities, Corporations and NDMC should take immediate and effective steps to rectify these discrepancies and ensure better co-ordination between the Corporations, Government, Police, Departments and the contractors who are engaged for parking purposes. 15. We also direct that in consultation with the Metrological Department, the Chief Secretary of Delhi would take an emergent meeting as and when there is a likelihood of severe pollution of the ambient air quality and definitely before it reaches the values of environmental emergency. 16. The sample of ambient air quality shall be collected and analyzed particularly immediately after the rain if it so happens and report submitted to the Tribunal. 17. We have already clarified that the industries dealing with essential services and goods eatable, subject to inspection by the officers, would be permitted to operate if their emissions are within the prescribed limits and they are non-polluting. 18. The hybrid cars shall also stand exempted. 19. We do not contribute to the principle stated at the

	Item No. 01 to 05 **November 11, 2017** **SS & RP**	bar on behalf of NCT Delhi that the voilative ambient air quality value should be for a period of 48 hours or on 48 hours basis. It is bound to be more damaging to human health if a person or public at large is compelled to breath or even for 12 hours the values of which remain within 500 µg/m^3 to 700 µg/m^3 as against the prescribed value of 100 µg/m^3. Thus we direct that 48 hours may be relevant for determining average pollutant values, but not for taking emergent measures particularly when it cross 700 µg/m^3. 20. The Learned counsel appearing for NCT Delhi has informed that the site has already been provided for keeping the vehicles which are impounded/seized by the Police being 10 years old vehicles in the case of diesel and 15 years old in the case of petrol. 21. We direct the Commissioner of Police, Delhi to ensure that vehicles which are violating the above directions of the Tribunal should be seized and compliance report be submitted to the Tribunal on the next date of hearing. List these matters on 14th November, 2017 the date already fixed. ……,CP (Swatanter Kumar) ……,JM (Dr. Jawad Rahim)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, 1341/2017, 1342/2017, 1343/2017, 1344/2017, 1345/2017, 1346/2017, 1347/2017, 1348/2017, 1349/2017, 1350/2017, 1351/2017, 1356/2017, 1357/2017, M.A. No. 1358/2017, M.A. No. 1361 of 2017, M.A. No. 1366 of 2017, M.A. No. 1367 of 2017, M.A. No. 1369 of 2017, M.A. No. 1370 of 2017, M.A. No. 1371 of 2017 and M.A. No. 1372 of 2017)
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Present: Applicant : **Mr. Sanjay Upadhyay Ms. Upama Bhattacharjee and Mr. Saumitra Jaiswal, Advs.**
Ms. Divya Kapur and Ms. Shqel Trehan and Mr. Ruhabh Sharma Advs.
Mr. Vijay Sondhi, Ms. Cauvery Birbal and Mr. Sarvajeet Kumar Thakur, Advs. for Toyota
Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Mr. Arjun Syal and Mr, Ishan Bisht, Advs.
Mr. Sumeer Sodhi, Mr. Arjun Nanda Advs. in M.A. 1301 OF 2017
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Raman Yadav, Adv. for GDA
Mr. Amit Agarwal, Ms Asha Basu, Advs. for WBPCB
Mr. Shuvodeep Roy Advs. for State of Assam
Mr. V. K. Shukla, Adv and Mr. Vijay Laxmi, Adv for State of M.P.
Mr. Sumit Kishore, Adv.
Ms. Priyanka Sinha, Adv.
Mr. Gaurav Dubey, Adv.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, AAG for State of Himachal Pradesh
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Devraj Ashok, Adv.
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Chanchal Kr. Ganguli, Advs. for State of West Bengal

Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajkumar, Adv with Mr. Bhupender L.A for CPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv. for NDMC
Mr. Rakesh Sharma Mr. V. Mowli, and Mr. Naveen Raj Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas & Mr. Kumar Milind, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma and Mr. Pawan Kr. Shukla, Advs.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. R.S. Suri, Sr. Adv. and Mr. Varun Khanna, Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeepn Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Ms. Kanika Singhal and Ms. Vasudha Trivedi Mr. Kush Sharma and Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Archit Sharma, Ms. Satamita Ghosh and Mr. Rahul Singhal, Advs.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, and Ms. Prity, Advs.for CECB
Mr. Anchit Sharma, Mr. Satumita Ghosh and Mr. Dipankar Wadhwa, Advs.
Mr. Om Prakash, Adv.
Mr. Nishe Rajen Shonker, Adv. for State of Kerala.
Mr. Parag Tripathi, Sr. Adv., Mr. R.S. Suri, Sr. Adv and MR. Abeer Kumar, Adv.
Mr. Jayesh Gaurav, Adv.
Dr. Sandeep Singh and Mr. Vinay Pal, Adv.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Mr. Reeghan S. Bal, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam.
Mr. Amit Sibal, Sr. Adv., Mr. Aashish Gupta, Mr. Saurabh Rath and Mr. PSS Bhargava, Advs.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya and Mr. Ravi Gopal, Advs. for EDMC
Mr. S.A. Zaidi and Ms. Mansi Chahal, Advs. in M.A.
Mr. Debarshi Bhuyan Adv.
Mr. Shiv Mangal Sharma (AAG), Ms. Shikha Sandhu & Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Ms. Prity, Adv.
Ms. Priyanka Ghorawat, Adv.
Mr. A.R. Takkar, with Mr. Amarjeet & Ms. Shriya Takkar, Advs. for Ambica Steel Ltd.
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao and Mr. Vijay Singh, DCP, Adv.
Ms. Alpana Poddar and Mrs. Preeti Goyal, Advs.
Ms. Puja Kalra, Adv.
MS. Shruti Munjal and Mr. Ankur Chhibber, Advs.
MR. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhuj, Mr. Raj Kishan Gaur, Mr. Rahul Sharma and Mr. Tarun Aggarwal, Advs.

Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar, Mr. Sandeep Mishra Advs.
Mr. Ajay Kumar Misra, Sr. Adv., Mr. Vandil Misha and Ms. Anuradha D. Mishra, Advs.
Mr. Y.D. Sharma, Adv.
MR. Krishna Menon, Mr. Gautam Bhanja and Mr. Daniya Nayyar, Advs.
Mr. Pinaki Misra, Sr. Adv. and Mr. M.K. Dal, Adv.
Ms. Pinky Anand, ASG, Mr. Mukesh and MS. Somya Rathore, Advs.

	Date and Remarks	Orders of the Tribunal
	Item No. 52-56 **November 14, 2017** **SS & SN**	**M.A. No. 1369 of 2017** The Learned Counsel appearing for the NCT Delhi prays that he wishes to withdraw this Application, filed for modification of the order of the Tribunal dated 11th November, 2017 with liberty to file a fresh Application. Thus, M.A. No. 1369 of 2017 is disposed of as not pressed with liberty as prayed. **Main matter** The Delhi Pollution Control Committee and the Central Pollution Control Board have submitted the values of the parameters of PM_{10} and $PM_{2.5}$. All these values are unacceptably high and violate the prescribed values to the hill against the prescribed value of 100 µg/m³. The PM_{10} is found to be above 1000 in most places. The highest is 1079 µg/m³. The value of $PM_{2.5}$ is found to be in the range of 594 to 802 µg/m³ against the prescribed value of 60 µg/m³. Other parameters are also violative of the prescribed values like SO_2, NO_2 and CO. In light of these hazardous values which are bound to create environmental and health hazards, it is not possible for this Tribunal to vary the order of the Tribunal dated 11th November, 2017 and its Judgment dated 10th November, 2016 at this stage. The Learned Counsel

	Item No. 52-56 **November 14, 2017** **SS & SN**	appearing for the respective Boards, NCT Delhi and the Ministries are directed to submit analysis reports on the next date of hearing to enable the Tribunal to consider the modification of its earlier orders in accordance with law. We also further direct that the express highway project of Eastern Peripheral Expressway which is being carried on under the order of the Tribunal and the Hon'ble Supreme Court of India and were directed to be expedited would continue subject to Senior most officer of the said NHAI filing an undertaking by tomorrow that they shall fully ensure that there are no dust emission and no pollution is caused by their activity. In the meanwhile, we direct Ministry of Environment, Forest & Climate Change, Ministry of Transport, NCT Delhi, PCBs and all the concerned State Governments in NCR Delhi to fully coordinate and cooperate to control the pollutant in the ambient air quality of NCR Delhi and take all effective steps in accordance with the orders of the Tribunal and in general. We direct that NCT Delhi, all the Corporations and the PCBs shall identify by 4:00 P.M. today the area which is highly polluted in NCT Delhi and other site and would ensure sprinkling of water by using appropriate equipments and if possible even through the helicopter to bring down the particulate matters in the ambient air quality. The values of that area should be recorded by the Boards and the IIT Delhi prior and 4-6 hours thereafter and at such intervals as the Expert may consider appropriate. This direction is necessitated for the facts that it is commonly conceded before us that it is a case of

	Item No. 52-56 **November 14, 2017** **SS & SN**	environment and public health emergency. List this matter on 16th November, 2017. Let the copy of this order be sent to all including the Director, IIT Delhi. It is pointed out that large number of Diesel taxis are being permitted to ply in NCT Delhi contrary to the Judgment and directions of the Hon'ble Supreme Court of India. We direct the State Government to look into this aspect and particularly the diesel vehicles which are more than 10 years old must be taken off the road and seized without any further wasting of time. It is pointed out that in our order dated 10th November, 2017, in the last para, there is a typographical error and the word "not" should be added. Ordered accordingly. **M.A. No. 1370 of 2017** We further clarify that the industries involved in the manufacturing of essential services, essential commodities and eatables have been exempted from the prohibitory order issued by the Tribunal in regard to carrying on their manufacturing activities. We also direct that the industries whose emissions are within the prescribed parameters and which are non-operating and compliant to the orders of consent issued to them can be permitted to operate by the concerned Boards subject to verification. With the above direction, M.A. No. 1370 of 2017 stand disposed of. **M.A. No. 1372 of 2017** This is an Application for impleadment. The

	Item No. 52-56 **November 14, 2017** **SS & SN**	Application is allowed subject to just exception. .....,CP (Swatanter Kumar) .....,JM (Dr. Jawad Rahim) .....,EM (Bikram Singh Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, 1341/2017, 1342/2017, 1343/2017, 1344/2017, 1345/2017, 1346/2017, 1347/2017, 1348/2017, 1349/2017, 1350/2017, 1351/2017, 1356/2017, 1357/2017, M.A. No. 1358/2017, M.A. No. 1361 of 2017, M.A. No. 1366 of 2017, M.A. No. 1367 of 2017, M.A. No. 1371 of 2017, M.A. No. 1375/2017, M.A. No. 1380/2017, M.A. No. 1384/2017, M.A. No. 1386/2017, M.A. No. 1387/2017, M.A. No. 1390/2017, M.A. No. 1391, M.A. No. 1393/2017 and M.A. No. 1397/2017)
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016
(M.A. No. 1388/2017 & M.A. No. 1389/2017)

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE DALIP SINGH, JUDICIAL MEMBER
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Present: **Applicant :** **Mr. Sanjay Upadhyay Ms. Upama Bhattacharjee, ms. Sharmishtha Shukla and Mr. Saumitra Jaiswal, Advs.**
Mr. Jaskirat Singh and Mr. Puneet Sharma, Adv for (M.A. No. 1393/2017)
Ms. Neelima Tripathi, Adv (M.A. No. 1390 and 1391/2017)
Mr. Shivam Bajaj. And Mr. Shobit chauan, Adv in M.A. No. 1384
Ms. Divya Kapur and Ms. Shqel Trehan and Mr. Ruhabh Sharma Advs.
Mr. Vijay Sondhi, Ms. Cauvery Birbal Advs. for Toyota
Mr. Pinaki Mishra, Sr. Adv, Mr. Sudhir Mishra and Ms. Ritwick Nanda, ADv
Mr. Narender Pal Singh, Adv. with Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee

Mr. Arjun Syal and Mr, Ishan Bisht, Advs.
Mr. Sumeer Sodhi, Mr. Arjun Nanda Advs. in M.A. 1301 OF 2017
Mr. Neil Hildreth and Mr. Rahul Jain, Advs.
Mr. S. M. Ali Special Sec, (env), Dr. M. P. George,
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Raman Yadav, Adv. for GDA
Mr. Amit Agarwal and Mr. Asha Basu Adv. for WBPCB

Mr. Shuvodeep Roy and Mr. Sayooj Adv. for State of Assam
Mr. V. K. Shukla, Adv for State of M.P.
Mr. Pradeep Misra, Mr. Daleep Dhyani, Advs. for UPPCB
Mr. Sumit Kishore, Adv. for PNGRB
Ms. Priyanka Sinha, Adv.
Dr. Vijendra Mahndiyan, SGSC for State of UP
Mr. Rajul Shrivastava, Adv. for MPPCB
Mr. Amit Dubey and Mr. Karan Chawla, Advs.
Mr. Aman Shukla, Mr. S.S. Rebello, Advs.
Mr. Gaurav Dubey, Adv.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, AAG for State of Himachal Pradesh
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Devraj Ashok, Adv.
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Chanchal Kr. Ganguli, Advs. for State of West Bengal
Ms. Priyanka sinha and Ms. Ajita Tondon, Adv. for Jharkhand
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajkumar, Adv with Mr. Bhupender L.A for CPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv. for NDMC
Mr. Rakesh Sharma Mr. V. Mowli, and Mr. Naveen Raj Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma, Adv. for MPCB
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. R.S. Suri, Sr. Adv. and Mr. Varun Khanna, Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeep Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Lalit Mohan and Ms. Malvika, Advs for Delhi Development Authority
Mr. Archit Sharma, Ms. Satamita Ghosh and Mr. Rahul Singhal, Advs.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, and Ms. Prity, Advs.for CECB
Mr. Tarveen Singh Nanda, Mr. Anchit Sharma and Mr. Satumita Ghosh, for Delhi Cantonment Board
Mr. Soumyajit Pani and Mr. Chittaranjan Singh, Adv for State of Odisha,
Mr. Om Prakash, Adv.
Mr. Nishe Rajen Shonker, Adv. for State of Kerala.
Mr. Parag Tripathi, Sr. Adv., Mr. R.S. Suri, Sr. Adv and MR. Abeer Kumar, Adv.
Mr. Jayesh Gaurav, Adv.
Ms. Hemantika Wahi and Ms. Puja Singh Advs.
Dr. Sandeep Singh and Ms. Priyanka Swami, Adv. for State of UP
Mrs. Rani Chibber and Ms. Priyanka Sony, Advs.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Mr. Reeghan S. Bal, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam.

Mr. Amit Sibal, Sr. Adv., Mr. Aashish Gupta, Mr. Saurabh Rath and Mr. PSS Bhargava, Advs.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya, Advs. for East Delhi Municipal Corporation
Mr. Pragyan Pradip Sharma, Adv
Mr. Prakash Kr. Singh and Ms. Risha Kapoor, Advs.
Mr. Ashish Negi for PPCB
Mr. S.A. Zaidi and Ms. Mansi Chahal, Advs. in M.A.
Mr. Debarshi Bhuyan Adv. for State of Goa and PCB
Mr. Shiv Mangal Sharma (AAG), Ms. Shikha Sandhu & Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Ms. Prity, Adv.
Ms. Priyanka Ghorawat, Adv.
Mr. A.R. Takkar, with Mr. Amarjeet & Ms. Shriya Takkar, Advs. for Ambica Steel Ltd.
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao and Mr. Abhinav Srivastav, Adv for Delhi Police
Ms. Alpana Poddar and Mrs. Preeti Goyal, Advs.
Ms. Puja Kalra, Adv.
Mr. Ankur Chhibber and Mr. Nitish Negi, Advs.
Mr. Gautam Dhamija, Adv.
Mr. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhuj, Mr. Raj Kishan Gaur, Mr. Rahul Sharma and Mr. Tarun Aggarwal, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar, Mr. Sandeep Mishra Advs.
Mr. Ajay Kumar Misra, Sr. Adv., Mr. Vandil Misha and Ms. Anuradha D. Mishra, Advs.
Mr. Y.D. Sharma, Adv.
MR. Krishna Menon, Mr. Gautam Bhanja and Mr. Daniya Nayyar, Advs.
Mr. Pinaki Misra, Sr. Adv. and Mr. Manoj Kumar and Ms. Geeta Das, Adv.
MS. Somya Rathore, Advs.
Mr. Naginder Benipal, Adv. for PPCB
Mr. Pinaki Misra and Mr. Mayank Das, Advs. for NBCC
Ms. Sugandama Batra, Adv.
Mr. Arun K. Sinha, Advs.
Mr. Rajueesh Bhardwaj and Mr. Aj Kishan Gaur, Advs.

	Date and Remarks	**Orders of the Tribunal**
	Item No. 08-12 **November 17, 2017** **SS & JG**	Having heard the Learned Counsel appearing for the parties and keeping in view the reports submitted by the Central Pollution Control Board and Delhi Pollution Control Committee as well as the information provided by the Learned Counsel appearing for the parties, it is clear that there has been considerable improvement in the ambient air quality of NCT of Delhi, therefore we pass the following directions:

	Item No. 08-12 **November 17, 2017** **SS & JG**	1. The prohibitory directions issued by the Tribunal vide its previous two orders particularly in relation to construction activity would stand vacated. 2. All the other directions in relation to emission from the industries, burning of waste and burning of crop residue and emissions from the vehicles shall continue to be enforced on the basis of precautionary principle. We make it clear that the prohibition on entry of heavy vehicle trucks which has been lifted by the administration of the State would not be interfered by the Tribunal, but this should be properly regulated direction in this behalf contained in the main judgment of the Tribunal in the case of Vardhman Kaushik Vs. Union of India & Ors. and subsequent orders shall be strictly adhered to . 3. It has been fairly demonstrated that sprinkle of water does bring down the levels of pollutants in the ambient air. This was tried by the administration at ITO where the values after sprinkling of water stood reduced to 106 $\mu g/m^3$ as opposed to 300 $\mu g/m^3$ and 500 $\mu g/m^3$ of $PM_{2.5}$. Similarly was the state in relation to the PM_{10}. Thus, we direct all the concerned governments of NCR particularly, the Government NCT of Delhi and other State concerned to ensure that such steps are taken in future without any hesitation in the interest of environment and public health at large. 4. We direct NCT of Delhi, State of Rajasthan, State of Haryana, State of Uttar Pradesh and State of Punjab

	Item No. 08-12 **November 17, 2017** **SS & JG**	to file within two weeks from today complete action plan based with reference to and based upon GRAP, orders of the Hon'ble Supreme Court of India and orders passed by this Tribunal in this case and in all subsequent orders. This action plan should have a direct nexus to the levels of pollution as indicated in the said report and judgment once the pollution level of $PM_{2.5}$ and PM_{10} increase 300 $\mu g/m^3$ and 500 $\mu g/m^3$ respectively. The steps for preventing and controlling the Air pollution should automatically come into play and should not depend upon the decision of the Government Officers in any of the States. Let the Chief Secretaries of NCT of Delhi and all other States file a report along with the affidavit with the action plan so prepared and as approved by the Tribunal shall come into force automatically on the parameter being excessive ranging for sever to hazardous. Upon filing of such action plan, the Tribunal shall issue further directions as may be necessary. 5. The Eastern and Western Express highway have already been permitted and are hereby permitted to continue their construction work but all construction activity should take all preventive and precautionary steps to ensure that they do not generate pollution by dust which is beyond the prescribed limits. 6. The Central Pollution Control Board, Delhi Pollution Control Committee and every State Pollution Control Boards shall file ambient air

	Item No. 08-12 **November 17, 2017** **SS & JG**	quality analysis before the Tribunal on monthly basis and would supply copy thereof to the respective governments, local authorities and management authorities and put up on their websites to enable the concerned authority to take effective steps as for the action plan to prevent and control the air pollution as a threshold rather than permitting it to be hazardous for the environment and public health. We make it clear if the action plan is not filed before the Tribunal within two weeks from today as directed above, we will be compelled to pass coercive order including the imposition of exemplary cost. All the State Governments, Pollution Control Board, Central Pollution Control Board and NCT Delhi should have complete preparedness for the coming eventualities when the parameters of ambient air quality would be severe or hazardous. **M.A. No. 1384 of 2017** Issue Notice to the non-applicants by Registered Post/Acknowledgement due and Dasti as well. Notice be issued today itself. Notice returnable on 21st November, 2017. **M.A. No. 1380 of 2017** This application is allowed subject to just exception. The applicant is permitted to intervene in the main application. Rest other prayers shall be considered in the main application.

	Item No. 08-12 **November 17, 2017** **SS & JG**	With the above directions M.A. No. 1380 of 2017 stands disposed of. No order as to cost. **M.A. No. 1387 of 2017** Nobody is present on behalf of application. This application is dismissed for default of appearance. **M.A. No. 1390 of 2017 and M.A. No. 1391 of 2017** Both these applications are disposed of as not pressed at this stage. The M.A. No. 1390 of 2017 and M.A. No. 1391 of 2017 stand disposed of accordingly. **M.A. No. 1386 of 2017** The Learned Counsel appearing for the NCT Delhi submits that they will take serious note on the content of this application and take action in accordance with law without further delay. Let copy of the application be furnished to the Learned Counsel appearing for the NCT Delhi during the course of the day. Action in furtherance thereto should be taken as expeditiously as possible. With the above directions M.A. No. 1386 of 2017 stands disposed of without any order as to cost. **M.A. No. 1393 of 2017** We have heard the Learned Counsel appearing for the parties. The contention raised on behalf of the applicant is that there are shopkeepers who are living above their shops and they should be permitted to park cars not in multi-level parking provided for the customers, but on the road in front of their shops.

	Item No. 08-12 **November 17, 2017** **SS & JG**	We find this request not only opposed to the environment protection but is without any substance as well. It is conceded case before us that the Sarojni Nagar Market which has been constructed by New Delhi Municipal Council and it has been constructed at a very high expenditure with the capacity of 800 cars at a time, however this has remained empty for years. The shop owners as well as the customers coming to market and of parking their cars on the metal roads causing heavy traffic congestion. Nobody is willing to park car in the parking lot. The contractors of the New Delhi Municipal Council with a aim of making money at the cost of environment and causing pollution by traffic congestions even prevent people from parking their cars in the parking lot. Huge investment is made by the public authorities is being wasted on the one hand while on the other serious air pollution resulting from the congestion traffic on the other. It leads to undue burning of petrol and diesel takes time of the persons coming to Sarojni Nagar Market and causes traffic jam. In this view of the matter we pass the following directions:- 1. The New Delhi Municipal Council shall depute staff at the designated multi-level car parking which will operate the same for 24 hours a day. 2. No car would be permitted to park on the metal road of Sarojni Nagar particularly in front of market of the Sarojni Nagar market. 3. All cars would be directed to be parked at multi-level car parking without default for which no excuses would be entertained by the enforcing

	Item No. 08-12 **November 17, 2017** **SS & JG**	authorities. 4. We direct the Traffic Police, Delhi Police force and the Corporation enforcement department of the Counsel to be present continuously for a period of two weeks from Monday i.e. 20th November, 2017 and ensure that these directions are carried out without default. Any person who park its cars on the metal road at Sarojni Nagar in front of market would be liable to pay environmental compensation of Rs. 5,000/- per incident. This will be in addition to the traffic challan that the concerned authorities would enforce in accordance with law. Open area should be declared as no parting and tow-away zone. 5. All contracts of the market shall be terminated. They shall be only to park in the car parking. 6. We direct New Delhi Municipal Council to consider sympathetically and objectively if the residents could be charged differential parking fee than the customers of market. We leave to Council to notify road by whom for parking charges. With the above directions M.A. No. 1393 of 2017 stands disposed of without any order as to cost. **M.A. No. 1397 of 2017** In view of the order already passed in Original Application No. 21 of 2014 this application is disposed of as not pressed. The M.A. No. 1397 of 2017 stands disposed of. No order as to cost.

	Item No. 08-12 **November 17, 2017** **SS & JG**	**M.A. No. 1388 of 2017 and M.A. No. 1389 of 2017** These applications are disposed of as not pressed. Thus M.A. No. 1388 of 2017 and M.A. No. 1389 of 2017 stand disposed of. No order as to cost. **Main Matter** List these matters on 21st November, 2017. Copy of this order be furnished dasti. .....,CP (Swatanter Kumar) .....,JM (Dalip Singh) .....,JM (Dr. Jawad Rahim) .....,EM (Bikram Singh Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(Only Noticees – Sarojini Nagar)
And
Original Application No. 21/2014

(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, M.A. No. 1361/2017, M.A. No. 1366/2017, M.A. No. 1371/2017, M.A. No. 1375/2017, M.A. No. 1387/2017, M.A. No. 1384/2017, M.A. No. 1431/2017, M.A. No. 14 40/2017, M.A. No. 1452/2017, M.A. No. 1453/2017, M.A. No. 1454/2017, M.A. No. 1455/2017, M.A. No. 1456/2017, M.A. No. 1457/2017, M.A. No. 1458/2017, M.A. No. 1459/2017, M.A. No. 1461/2017, M.A. No. 1460/2017, M.A. No. 1465/2017 M.A. No. 1466/2017, M.A. No. 1467/2017 , M.A. No. 1476/2017 , M.A. No. 1486/2017 , M.A. No. 148 7 /2017 , M.A. No. 148 8 /2017 , M.A. No. 14 89 /2017 , M.A. No. 14 90 /2017 M.A. No. 1493/2017, M.A. No. 1494/2017, M.A. No. 1495/2017 & M.A. No. 1496/2017)
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016
(M.A. No. 1388/2017 & M.A. No. 1389/2017)

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D.SALVI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: **Applicant :** **Mr. Sanjay Upadhyay Ms. Upama Bhattacharjee, and Mr. Saumitra Jaiswal,Advs.**
Mr. Shivam Bajaj., Adv in M.A. No. 1384
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan and Mr. Rahul Sharma and Mr. Tarun, advs
Mr. Pinaki Mishra, Sr. Adv, Mr. Sudhir Mishra and Ms. Ritwick Nanda, ADv
Mr. S.M. Ali, Special Sec., Dr. Anil Kumar, Director, Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Mr. Arjun S. adv.
Mr. Gaurav Dubey, Adv.
Mr. Amit Dubey, Mr. Karan Cjawla Adv.
Mr. Gunyan S. Jain, adv
MR. Ankit Tyagi, Adv.
Mr. Udaibir Singh Kochar Adv.
Mr. Debarshi Bhuyan Adv
Mr. Shiv Mangal Sharma, AAG, Mr. Saurabh Rajpal and Ms. Sikha Sandhu Mr. Adhiraj Singh Rajwat, Advs. Mr. R. K. Gorver Sec. Environment Rajsastha

Mr. Bhanwar Pal Singh Jadon and Dr. Sandeep Singh, Adv.
Mr. Pradeep Misra and Mr. Daleep Kr. Dhyani, Advs.
Mr. Vijay Sondhi, Ms. Cauveri Birbal, Mr. Sarvajeet Kumar Thakur, Advs.
Mr. Soumyajit Pani, Adv wth Mr. Chittaranjan Singh, Advs.
Dr. Sandeep Singh and Mr. Vinay Pal, Advs.
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Anshuman Srivastava, Adv.
Mr. Krtika Sachdeva and Mr. Mukesh Kumar, Advs
Mr. Raman Yadav and Ms. Varnita Rastogi, Advs. for GDA
Mr. Nikhil Singhav, Ms. Nikita Pandey and Mr. Mohit Seth and Ms. Kanak Bose, Advs.
Ms. Monica Lakhanpal, Applicant in person and Mr. Vaibhav Gaggar and Ms. Sumedha Darg, Advs.
Mr. Aman Sarma and Mr. S.S. Rebello, Advs.
Mr. Amit Agarwal, Ms. Asha Basu Adv. for WBPCB
Ms. Deep Shikha Bharati, Adv. for MoEF
Mr. Shuvodeep Roy Adv. for State of Assam
Mr. V. K. Shukla and Ms. Vijay Laxmi, Advs. for State of M.P.
Mr. Pradeep Misra, Mr. Daleep Dhyani, Advs. for UPPCB
Mr. Sumit Kishore, Adv. for PNGRB
Ms. Priyanka Sinha, Ms. Ajita Tandon Adv.
Mr. Rajul Shrivastava, Adv. for MPPCB
Mr. Kshitiz Ahuja, Adv.
Mr. Gaurav Dubey, Adv.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, AAG for State of Himachal Pradesh
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Devraj Ashok, Adv.
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Piyush Sachdev, Mr. Abhinandini Yadav Advs. for State of West Bengal
Ms. Priyanka sinha and Ms. Ajita Tondon, Adv. for Jharkhand
Mr. D. Rajeshwar Rao, Adv.
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan Gaur, Advs
Mr. Rajneesh Bhardwa Mr. Rahul Sharma and Mr. Gaurav Dubey advs
Mr. Arjun Syal, Mr. Shreyan Das Adv.
Mr. Rajkumar, Adv with Mr. Bhupender Ms.Preeti, L.A for CPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar, Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv
Mr. Rakesh Sharma Mr. V. Mowli, Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma, Adv. for MPCB
Ms. Sugandha Batra, Adv.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. R.S. Suri, Sr. Adv. and Mr. Varun Khanna, Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeep Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Arjun Sawhney adv in M. a. No. 1435/2017
Ms. S. Ghosh, Adv., Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Advs.
Mr. Apurua Kumar adv.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, and Ms. Prity, Advs.for CECB
Mr. Tarveen Singh Nanda, Mr. Anchit Sharma and Mr. Satumita Ghosh, for Delhi Cantonment Board

Mr. Soumyajit Pani and Mr. Chittaranjan Singh, Adv for State of Odisha,
Mr. Om Prakash, Adv.
Mr. Gautam singh and Ms.. Shibani Ghosh advs.
Mr. Nishe Rajen Shonker and Ms. Anu K. Joy, Advs. for State of Kerala.
Mr. Parag Tripathi, Sr. Adv., Mr. R.S. Suri, Sr. Adv and MR. Abeer Kumar, Adv.
Mr. Jayesh Gaurav, Adv.
Ms. Hemantika Wahi and Ms. Puja Singh Advs.
Dr. Sandeep Singh Adv. and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. Dileep Poolakkot, Adv.
Mrs. Rani Chibber and Ms. Priyanka Sony, Advs.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Ms. Sumedha Dang, Adv.
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam and State of Uttar Pradesh
Mr. Shivam Bajaj Adv.
Ms. Aditi Singh Adv. for Narender Pal Singh Adv and Mr. Dinesh Jindel LO
Dr. Sanjay Kulshreshtha, Applicant in person
Mr. Rishabh Sharma, Advs.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya, Mr. Ravi Gopal Advs. for East Delhi Municipal Corporation
Mr. Shubham Bhalla, Adv.
Mr. Pragyan Pradip Sharma, Adv Ms. Nitesh , Advs.
Mr. S.M. Sharma and Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Mr. Kamlajeet Singh AAG
Mr. Nagiender Benipal, Adv
Ms. Yogmaya Agnihotri, Adv., Ms. Prity, Adv.
Dr. Abhishek Atrey, Adv.
Ms. Priyanka Ghorawat, Adv.
Ms. Shashi Juneja Adv.
Mr. A.R. Takkar, with Mr. Amarjeet & Ms. Shriya Takkar, Advs. for Ambica Steel Ltd.
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & Mr. G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao and Mr. Abhinav Srivastav, Adv for Delhi Police
Ms. Alpana Poddar and Mr. Bhupendra Kumar, LA and Mr. Kamal Bandhu, ALO
Ms. Puja Kalra, Adv.
Mr. Ankur Chhibber and Mr. Nitish Negi, Advs.
Mr. Kamaljeet Singh, AAG
Mr. Udaibir Singh Kochar Adv
Mr. Gautam Dhamija, Adv.
Mr. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhardwaj, Mr. Raj Kishan Gaur, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar, Mr. Sandeep Mishra Advs.
Mr. Ajay Kumar Misra, Sr. Adv., Mr. Vandil Misha and Ms. Anuradha D. Mishra, Advs.
Mr. Y.D. Sharma, Adv.
MR. Krishna Menon, Mr. Gautam Bhanja and Mr. Daniya Nayyar, Advs.
Mr. Pinaki Misra, Sr. Adv. and Mr. Manoj Kumar and Ms. Geeta Das, Adv.
Mr. Sanchar Anand and Mr. Apoorv Singhal, Advs.
Mr. Jitendra Kumar Tripathi and Mr. simar Pal, Advs.
Mr. Shibashish Mishra and Mr. sylona Mohapatra, Advs.
Ms. Kritika Sachdeva and Ms. Somya Rathore, Advs.
Mr. Naginder Benipal, Adv. for PPCB
Mr. Pinaki Misra and Mr. Mayank Das, Advs. for NBCC
Ms. Shyel T. and Mr. Rishabh Sharma,. Advs.
Mr. Manoj Kumar Das adv.
Ms. Sugandama Batra, Adv.
Mr. Arun K. Sinha, Advs.

Mr. Rajueesh Bhardwaj and Mr. Aj Kishan Gaur, Advs.
Mr. M. Paikaray and Mr. S. Panda and Mr. A. K. Panda, Advs.
Mr. Shubham Bhalla and Ms. Roopam Rai, Advs.
Mr. Arun Monga and Ms. Divya Sharma, Advs.
Mr. Roshmani KH, Mr. Sapam Biswajit , Adv.
Mr. Ajit Sharma and Mr. Adnan Siddiqui, Advs.
Mr. Leishangthe Roshmani Adv.
Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Mr. Satamita Ghosh, Advs.
Mr. Ardhendhumauli, Kr. Prasad, Mr. Shashank Saxena, Advs.
Mr. Anil Grover, AAG, Mr. Rahul Khurana, Adv. with S. Narayan, Member, Secretary, HSPCB
Mr. Mukul Singh, Adv. for MoEF.
Mr. Amit Agrawal, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item Nos. 27-32 **December 18, 2017**	When this matter came up for hearing in the earlier part of the day, we had passed the following order: We have heard the learned Counsel appearing for the various stakeholders, State Governments, local authorities and the Applicant. We have also perused the action plans/affidavits submitted on behalf of the States of Uttar Pradesh, Rajasthan, Haryana, Punjab, NCT of Delhi, MoEF&CC and the Applicant. Keeping in view the limitation of time, we would dictate the detailed order during the course of remaining day. Thus now, we proceed to record the detailed order. All the States concerned with NCR Delhi i.e. NCT of Delhi, State of Uttar Pradesh, State of Rajasthan, State of Haryana and State of Punjab have filed their Action Plans in furtherance to the orders of the Tribunal. It is stated that these Action Plans have been prepared with reference to the Graded Response Action Plan (for short, "GRAP"), directions issued by Courts as well as judgments of the Tribunal in *Vardhman Kaushik vs. Union of India* . There are two fundamental aspects that need to be considered by the Tribunal for issuance of the directions in preventing and controlling the air pollution in NCR of Delhi. Firstly, that the Tribunal has passed a detailed judgment dated 10th November, 2016 in the case of *Vardhman Kaushik vs.*

	Item Nos. 27-32 **December 18, 2017**	*Union of India*, in Original Application No. 21 of 2014 which deals with all the sources of air pollution and the preventive steps that should be taken by all the concerned stakeholders including different Departments of the States. Secondly, the Tribunal had also passed a separate judgment dated 10th December, 2015 in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.,* Original Application No. 118 of 2013 in relation to the crop residue burning in these States to prevent and control the deterioration of ambient air quality as a result of indiscriminate crop residue burning. The GRAP has provided detailed guidelines. The concerned State Governments have not been able to implement these directions in their true spirit. The non-implementation of these directions is largely attributable to inaction and non-cooperation between the various departments of the State and the Governments of the different States. If the ambient air quality of NCR of Delhi has to be improved then there has to be a common framework, including all precautionary, preventive and punitive measures which should be uniformly applied by all the States. The various State Governments have classified the pollution levels under different categories. Each category has been assigned the lowest as well as the highest value in that category. There is no unanimity in such categorization. For instance, the Delhi Government has under Category–I, which is supposed to be the minimum has provided the value of PM_{10} greater than 500 $\mu g/m^3$ and $PM_{2.5}$ greater than 300 $\mu g/m^3$ to start taking the steps that are stated under this category. According

	Item Nos. 27-32 **December 18, 2017**	to the State of Uttar Pradesh they will start taking steps once the value is greater than 61 µg/m^3 and less than 90 µg/m^3 of $PM_{2.5}$ and PM_{10} is more than 101 µg/m^3 and less than 250 µg/m^3. Similarly, the other States have also provided different prescribed value. We may notice that value of PM_{10} is 100 µg/m^3 while the $PM_{2.5}$ is 60 µg/m^3. We may notice that these are not the only two pollutants which are responsible for causing pollution and adversely affecting the human health. There are other constituents i.e. SO_2, NOX, Hydro-Carbon, CO, BTEX, VOC and other components which have direct impact on human health. Thus, an approach has to be adopted which is more precautionary and preventive rather than curative. Importantly, the authorities are bound to take recourse of precautionary principle and ensure decent and clean environment to the public at large, living in NCR Delhi and in fact all over the country. It is commonly conceded before the Tribunal by all the stakeholders that there is very bleak possibility of bringing the ambient air quality of NCT of Delhi/NCR Delhi within the prescribed parameters of PM_{10} at 100 mg and $PM_{2.5}$ at 60 including the values of other pollutants that we have referred above. The State of Punjab has not even filed an action plan as contemplated under the orders of the Tribunal. It has just filed an affidavit stating that they would be installing ambient air quality monitoring stations that would measure 12 parameters on real time basis. Despite the fact that all the State Governments were directed to file action plans taking into consideration the

	Item Nos. 27-32 **December 18, 2017**	guidelines provided in GRAP, the judgments of the Courts and the Tribunal, as afore-stated, all the State Governments have filed the action plans which are not only at substantial variance, but in fact, go contra to each other. It is not only difficult but impossible to reconcile all these plans. The measures or steps to be taken under the respective action plans are entirely at variance even with regard to the same categorization. States of Uttar Pradesh, Rajasthan and Haryana have framed four categories while NCT of Delhi has framed three categories relatable to different values of ambient air quality in their action plans. We may notice that vide Notification dated 4th July, 2016, the Central Government in furtherance to the order of the Hon'ble Supreme Court of India dated 7th January, 1998 passed in W.P. (C) No. 13029 of 1985 reconstituted the Environmental Pollution (Prevention and Control) Authority (for short, "EPCA"), realizing that the high level of air pollution in NCR Delhi/NCT of Delhi was a matter of serious concern and required urgent measure. In compliance to the order of the Hon'ble Supreme Court dated 2nd December, 2016, the Central Government *vide* its Notification dated 12th January, 2017 reconstituted EPCA as implementing authority for GRAP. During the pendency of this application on different occasions, ambient air quality reports were filed by the CPCB, DPCC and even the Applicants and all the reports clearly demonstrate that all the parameters were found to be excessive.

	Item Nos. 27-32 **December 18, 2017**	We would just refer to the reports placed on record by the CPCB prepared on the basis of the data collected by it from October 2015 to January 2016. This report has categorized the pollution levels into good, satisfactory, moderately polluted, poor, very poor, severe and severe+ where the value of $PM_{2.5}$ in ambient air quality would be more than 300 µg/m^3. Strangely, at no point of time, the ambient air quality was found to be good in NCR Delhi. In fact, it was found to be poor and severe and above 60% in the month of October, 2015, 73% in November 2015, 67% in December 2015 and 68% in January 2016. Similarly, values of ambient air quality in relation to PM_{10} was found to be excessive for 66% in the month of October 2015, 87% for November 2015, 75% for December 2015 and 72% for January 2016. This statistics clearly shows that all the time, the ambient air quality of NCT of Delhi is polluted and for most of the period of the month it is severe and above. This is the quality of air that we are providing to the people living in NCR Delhi and NCT of Delhi. It is a clear violation of their fundamental right. The Supreme Court of India has declared right to decent and clean environment as a fundamental right within the ambit and scope of Article 21 of the Constitution of India. The Legislature enacted the laws for protection of environment and natural resources. The Constitution of India in terms of Article 47 (A) and 15 (A) (g) read with Article 21 mandated the State to protect the environment and imposed fundamental duty upon the

	Item Nos. 27-32 **December 18, 2017**	citizens to protect the environment and the natural resources and the judiciary to ensure the protection of the fundamental rights granted to the citizens of India. That is the stature provided to protection of environment, ecology and the natural resources in our country. The right to life has been infringed with impunity by the persons, Authorities and States upon whom lay Constitutional and statutory obligations to provide decent and clean environment to the public at large, particularly in relation to inhaling of clean air and drinking clean water. The Central Pollution Control Board has provided monitoring stations in various parts of NCT of Delhi, the analysis reports clearly show persistent hazardous ambient air quality not only in NCT of Delhi but even in NCR of Delhi and other parts of the country. It is undisputable and, in fact, has been exhibited in various platforms including display sites of Central Pollution Control Board and Delhi Pollution Control Committee where the value of PM_{10} and $PM_{2.5}$ is in flagrant violation to the prescribed value. It is surprising that the Central Pollution Control Board, Delhi Pollution Control Committee and other State Boards have not even bothered to test all the 8 parameters in the samples collected by them. Some of States claim though they have tested their parameters however, none of the display board displays results. The components like SO_2, NO_2, CO and Ozone which have a serious impact on the quality of the ambient air more often not remained ignored. Undoubtedly, they have serious impacts on human health as well.

	Item Nos. 27-32 **December 18, 2017**	The doctrine of preventive and precautionary principle with greater emphasis on inter generational equity has been violated, ignored at every relevant stage. The fundamental rights particularly which relates to right to life cannot be subjected to economic limitation. More often than not, the Supreme Court has held that the normally economic limitations cannot be raised as a defence to fundamental right, particularly right to life. We are informed that certain directions have been issued by the administration which certainly are not adequate and they do not comply with the judgment of the Tribunal, despite the fact that the matter was kept pending and various applications have been filed for different purposes. There is no Authority which is able to show the effective compliance of the directions contained in the judgment, this coupled with the above situation and apparent non-cooperation and no coordination amongst the various wings of the States and its instrumentalities has led to environmental degradation. In the judgements of *Vardhman Kaushik vs. Union of India & Ors.,* O.A. No. 21 of 2014 decided on 10th November, 2016, *Vikrant Kumar Tongad vs. Union of India & Ors.,* O.A. No. 118 of 2013 decided on 10th December, 2015, this Tribunal had passed directions in greater detail stating the steps/measures that should be taken by the State Governments, local authorities and the concerned stakeholders for improving the ambient air quality in and around NCT of Delhi. It is not necessary for us to refer to those orders at this stage. Suffices it to note that the orders were passed in great detail with specific

	Item Nos. 27-32 **December 18, 2017**	directions but unfortunately they remained un-complied. Amongst other, seven major contributors of air pollution are as under: 1. Construction activity and carriage of construction material 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and thermal power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. In this judgment, the Tribunal had noticed all the sources of pollution of ambient air quality and the manner in which preventive and precautionary steps are to be taken for tackling the pollution from each source. The judgment also directed taking of punitive steps/actions wherever the situation demanded and/or there was violation of the directions passed by the Tribunal. We are of the considered view that there is no dearth of existing laws, guidelines and directions of the Court in relation to prevention and control of pollution of the ambient air quality in NCT of Delhi but it is the implementation of laws and directions that is entirely wanting. Now, we will deal with the fundamental issues arising for consideration of the Tribunal in the present case. This relates to categorization. 'Categorization' has

	Item Nos. 27-32 **December 18, 2017**	all through been a matter of debate before different *forums,* including the authorities which had the statutory responsibility for prevention and control of air pollution. The CPCB has already created six categories which refer to different levels of pollution and these are good, satisfactory, moderately polluted, poor, very poor, severe and above severe. The GRAP has formulated five categories, i.e., severe+ or emergency, severe, very poor, moderate to poor and moderate. The different States have differently categorized its level of pollution and there is no uniformity. It needs to be noticed here that as per the GRAP, if $PM_{2.5}$ is between 61 µg/m^3 to 90 µg/m^3 and PM_{10} is 101 µg/m^3-250 µg/m^3, it would be treated as of moderate pollution. Government of NCT of Delhi though refers to the GRAP but while providing parameters of category-I when the action would start for prevention and control of pollution, the values reflected for that category of the Ambient Air Quality is PM_{10} less than 500 µg/m^3 and $PM_{2.5}$ less than 300 µg/m^3, which means that hardly any action would be taken with reference to the Precautionary Principle when the values exceed the prescribed values, i.e., above 100 µg/m^3 in the case of PM_{10} and 60 µg/m^3 in the case of $PM_{2.5}$. In our considered view, we feel that within the prescribed framework of GRAP and the CPCB, this concept of categorization needs clarity and certainty. The Tribunal consider it appropriate and, therefore, direct that there shall be four categories in relation to pollution of AAQ and also states the steps that must be taken to prevent and control of such pollution. The pollution levels in ambient air quality can fairly be

	Item Nos. 27-32 **December 18, 2017**	classified as follows: 1) Category I (Average): When PM_{10} is more than 100 µg/m^3 but below 300 µg/m^3 and $PM_{2.5}$ is more than 60 µg/m^3 but below 180 µg/m^3. 2) Category II (Severe): When PM_{10} is more than 300 µg/m^3 but below 700 µg/m^3 and $PM_{2.5}$ is more than 180 µg/m^3 but below 400 µg/m^3. 3) Category III (Critical): When PM_{10} is more than 700 µg/m^3 but below 1000 µg/m^3 and $PM_{2.5}$ is more than 400 µg/m^3 but less than 600 µg/m^3. 4) Category IV (Environmental Emergency): When PM_{10} is above 1000 µg/m^3 and $PM_{2.5}$ is above 600 µg/m^3. The levels of pollutants in the AAQ have direct nexus to public health. Higher pollutants in the AAQ have higher health impacts and risks to life. The need for complying with the precautionary principle and take timely action to prevent higher pollution has been emphasized in the above and even the previous orders of the Tribunal. It is the need of hour that all authorities and stakeholders must make concerted efforts to tackle major environmental problems of the present times. This can be tackled only by taking varied but appropriate steps at the appropriate stage. It is expected of all concerned, including the State and the citizens, to equally participate in tackling these environmental menaces. Collective responsibility can only provide the solution in resolving this. At the very outset, we reiterate the directions issued by this Tribunal in its judgments of *Vikrant Kumar*

	Item Nos. 27-32 **December 18, 2017**	*Tongad* and *Vardhaman Kaushik* (supra) and order dated 4th December, 2014 in *Vardhman Kaushik* and direct that all those directions shall apply *mutatis mutandi* and be read as part of this judgement. Therefore, we state the steps/measures that should be taken by State Governments, local authorities, stakeholders including the people at large, relatable to a particular category afore-stated. 1) Action/Steps to be taken when the pollution level fall in Category I: a) All concerned should make every effort to increase the green/forest cover. There shall be complete prohibition of burning of garbage, biomass and/or any kind of waste anywhere. Violation thereof would invite the penalty of ₹5000/- for each default (order dated 28th April, 2015). The respective Corporations, Local Authorities, Pollution Control Boards and police authorities would be responsible for ensuring this compliance. b) The Pollution Control Boards, Local Authorities and the State Governments should ensure stringent enforcement of all pollution laws, particularly, in relation to the industries or activities which cause emissions into the air for carrying on their activity. There should be regular inspection of Thermal Power Plants through the respective Pollution Control Boards and the Local Authorities to ensure that the Thermal Power

	Item Nos. 27-32 **December 18, 2017**	Plants are not emitting any gases or substances in excess of prescribed limit. c) The States and its instrumentalities shall encourage composting of biomass. d) Mechanized sweeping of roads. e) Regular checking of vehicles to ensure that they are maintaining their emissions within the prescribed values. f) Organizing public awareness programmes for prevention and control of air pollution. g) The vehicles which are more than 10 years old in the case of diesel and 15 years old in the case of petrol, should not be permitted to ply on the roads and they should be seized. Such vehicles should be deregistered by the concerned RTO. Steps should be taken to ensure free flow of traffic. Overloading of heavy vehicles should not be permitted and the vehicles which are found to be overloaded should be challaned and they should also pay environmental compensation in terms of the order dated 7th October, 2015 of the Tribunal. Strict vigilance should be maintained for visible emissions likely to cause air pollution and appropriate action be taken, without delay and default. The Government shall also provide the due incentive for scrapping of old cars as well as provide concession in registration of new cars to such car owners (order dated 28th July, 2016). h) All State Governments and their instrumentalities including public authorities shall ensure that

	Item Nos. 27-32 **December 18, 2017**	there is no crop residue burning in the agricultural fields or anywhere else. Due incentives and even machines like happy seeder, etc. should be provided to the farmers wherever necessary and recourse to punitive provisions should be taken. The State Government, its instrumentalities and the monitoring Committees shall take effective steps through publicity (print or electronic media) to inform the farmers at large the adverse impacts of burning of crop residue upon the environment, public health and the soil on the one hand. While on the other, utilising crop residue for providing them some income for productive and beneficial purposes like fuel in plants, bio-mass or thermal, manufacturing of boards, compact wood and such other useful items. i) When the car/vehicle stops on red traffic lights, the owner/driver of the vehicle should be directed to put off ignition of the car. For this purpose, the traffic police and other regulating agencies should propagate and advice the driver of the vehicle to take such precautionary steps. In the event of default, the traffic police should enforce the same in accordance with law as it would prevent avoidable vehicular emissions. j) All State Governments should identify and provide alternative routes for heavy vehicles outside the cities so that there is no traffic congestion in the city, particularly, NCT of Delhi. The heavy transport

	Item Nos. 27-32 **December 18, 2017**	vehicles whose final destination is not Delhi but enter Delhi en-route, shall not be permitted to enter Delhi. Such traffic should be diverted from Sonipat and Panipat. k) All efforts should be made to operationalise Western Expressway and Eastern Expressway. NHAI, Central Government and the concerned State Governments shall fully cooperate and provide assistance for the same. l) The State Government and all its instrumentalities shall endure their best to introduce battery and electric mass transportation system, incentives/ concession shall be provided for buying the hybrid vehicles. m) The State Government and the concerned departments should take effective steps to enhance public transport facilities and provide due infrastructure in that behalf. It will be ensured that public transport become more user-friendly. Due prevention should be taken to ensure that empty buses do not ply on the roads, proper time table relatable to the passenger peak load should be prepared by DTC and all other stakeholders. The State Governments, transport authorities and all other concerned agencies particularly NCT of Delhi, shall provide destination buses which will have not more than three bus stops within the colony of its origin and then would go non-stop to its point of termination. The destination buses could be ordinary buses

	Item Nos. 27-32 **December 18, 2017**	but preferably should be air conditioner buses. This direction must be complied with now, without delay and default (order dated 20th April, 2017). n) In this behalf the other directions stated in the order of the Tribunal dated 4th December, 2014 should also be complied with in terms of the order of the Hon'ble Supreme Court and this Tribunal. No vehicles which are BS-I, BS-II compliance would be permitted to ply on the roads, this will include heavy as well as light vehicles. o) The Government and all its concerned departments shall put a cap on the number of vehicles of all kinds that can ply in NCT of Delhi. Government should formulate policy of putting higher registration fee and road tax on purchase of second vehicle by the same person, body, company, society or trust. p) No parking should be permitted on the metalled roads. Parking at Multi-level or earmarked parking should be encouraged and incentives be provided in that behalf. q) All builders involved in construction of buildings, howsoever, small or big would ensure compliance to the laws in force and the directions of the Tribunal. No dust should be emitted during demolition. No construction material should be kept on the roads. The construction material inside the plot should also be kept in covered conditions and labour should be provided with all

	Item Nos. 27-32 **December 18, 2017**	anti-pollution gears during the course of construction. The State Governments, Pollution Control Boards and local authorities shall maintain due vigil in this regard (order dated 4th December, 2014). r) Regulation of hours and vehicles for loading and unloading of vehicles particularly in the congested area (order dated 16th March, 2015). s) All steps shall be taken by the State Governments, Horticulture Department, Corporation, Directorate of Education and all the private schools that to ensure increase of green belt in their respective schools within a period of one month from the date of pronouncement of this order. Large number of trees should be planted. 2) Category II (Severe)-Action and measures to be taken and penalties to be imposed: 1. All the steps directed under category I shall continue to be strictly enforced in relation to this category as well. 2. All the brick kilns, thermal plants and heavy industries which are causing emissions would be instantaneously stopped and inspected by Pollution Control Board and all other concerned authorities and if their emissions are found to be beyond the prescribed standards, such plants shall be directed to be shut down. 3. Intensifying public transport service and taking rigorous steps for avoiding traffic congestion particularly at peak hours.

	Item Nos. 27-32 **December 18, 2017**	4. Increasing the frequency of public transport, mechanized cleaning of roads and seizure of any diesel generator found emitting in excess of prescribed standards and no permission for its usage for any purpose whatsoever. 5. There shall be complete prohibition on burning of any material, waste or bio-mass. The Government shall issue warning to the public at large requiring them to take appropriate precautionary steps and not to expose themselves to the high pollutants during particular hours of the day. 6. The Government shall immediately take steps for segregating the office time for various offices including the Government Departments. The Government shall provide destination buses and make every effort to discourage the use of private vehicles, including two-wheelers, cars and heavy vehicles. 7. All necessary steps should be taken to ensure that the construction activity is carried on strictly as per prescribed guidelines and the directions of the Tribunal. The transportation of the construction material should also be strictly in accordance with the directions issued earlier such as ensuring that carrying of construction material of any kind, particularly sand, cement, etc., is done after properly covering the transportation vehicle. In default, the concerned Government, Board and the local authority shall invoke the penal directions in regard to payment of environmental compensation

	Item Nos. 27-32 **December 18, 2017**	at the rate of ₹5,000/- per event for transporting material in violation of directions and ₹50,000/- in relation to storage of construction material of any kind (order dated 11th December, 2015). 8. All State Governments should identify and provide alternative route where there is no traffic congestion in the city, particularly, NCT of Delhi so that the heavy transport vehicles whose final destination is not Delhi but en-route they enter Delhi, shall not be permitted to enter Delhi and such traffic would be diverted from Sonipat and Panipat. In the event they enter Delhi then they shall be liable to pay environmental compensation at the rate of ₹700/- for 2 axles, ₹500/- for 4 axle and ₹1000/- for 3 axles. 3) Category III Critical (Measures required to be taken)- Category III would relate to pollution of ambient air quality, i.e., severe and high and without exception have serious adverse impacts on public health and environment. Thus, the measures that are required to be taken under this category have to be preventive and punitive both. 1. All the directions contained under category I and II shall be enforced without default and delay. All those directions shall *mutatis mutandi* apply under this category as well. 2. The construction shall be stopped immediately and no construction would be permitted during the duration when the PM_{10} is falling under this category, particularly,

	Item Nos. 27-32 **December 18, 2017**	towards the higher value i.e. 1000 µg/m^3 or $PM_{2.5}$ is towards higher value of 600 µg/m^3. 3. There shall be complete prohibition on burning of crop residue and all the departments concerned, particularly, the Pollution Control Board and the Government Department would take recourse to the punitive provisions for payment of environmental compensation in terms of the judgement of this Tribunal in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.* dated 10th December, 2015. Officers who are found to be avoiding performance of their statutory duties in consonance with these directions would be liable to departmental action in accordance with law. 4. There shall be complete prohibition on transportation of construction material during the relevant period. 5. To avoid traffic congestion and consequential air pollution, the scheme of odd and even shall be implemented by the respective State Governments/Departments of the State. 4) Category IV (Environmental Emergency): The directions and steps directed hereinafter shall be carried out by the State Governments, concerned Departments, Local Authorities and all the stakeholders, when PM_{10} exceeds 1000µg/m^3 and $PM_{2.5}$ exceeds 600µg/m^3, respectively. 1. All the directions under category I, II and III, respectively shall apply *mutatis mutandis* even to this category. All State Governments would

	Item Nos. 27-32 **December 18, 2017**	comply with all such directions. Besides, we also issue the following directions. i) There would be a complete prohibition on all kind of construction activity and transportation of construction material. The default or violation of directions would incur penalty/environmental compensation to the extent of Rs. 1 Lakh for every default. ii) All the brick kilns functioning in NCR Delhi shall be closed. iii) There will be complete and absolute prohibition on burning of all agricultural residues. Penal actions shall be taken and environmental compensation imposed in accordance with the orders on the defaulters/offenders. iv) All the Thermal Power Plants in NCT of Delhi shall not operate. v) There shall be complete prohibition and ban on lifting, transportation and generation of fly ash. The concerned State Government and Authorities shall sprinkle water from the high rising buildings or through helicopters to ensure that excessive parameters are immediately brought down to reasonable limits. vi) There shall be complete prohibition on use of DG sets. The trucks and heavy vehicles carrying material including trailers shall be

	Item Nos. 27-32 **December 18, 2017**	prohibited from entering NCT of Delhi. Only the heavy vehicles carrying essential goods like medicine, food etc. would be permitted, while all other heavy vehicles will not be permitted to enter NCT of Delhi for the duration of Environmental Emergency. vii) Whenever there is environmental emergency, i.e., PM_{10} exceeds 1000 $\mu g/m^3$ and $PM_{2.5}$ exceeds 600 $\mu g/m^3$ then the NCT of Delhi shall consider and pass appropriate orders in regard to closure of the schools for that period. The period for which the schools remain closed as a result of passing of such order would be treated non-working days and would not contribute towards the percentage of attendance. The schools would be provided with an option to run on weekend following the closure period, if they so desire. viii) The Central Government and NCT of Delhi and all other State Governments shall issue guidelines in relation to use of bursting of crackers including kind of crackers that can be burst and the area where such activity would be prohibited and/or permitted, duration thereof and under what event and circumstances. There shall be complete prohibition on bursting of crackers. Such guidelines shall

		be issued within a period of two months from the date of passing of this order. **GENERAL DIRECTIONS:** 1. All the above directions and the directions contained in the orders of the Tribunal dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 all in the case of *Vardhaman Kaushik* (supra) and 10th December, 2015 in the case of *Vikrant Kumar Tongad* (supra) shall be implemented and enforced by the concerned State Governments, its Departments, instrumentalities, local authorities and all the stakeholders, without delay and default. 2. Implementation of these directions is mandatory and no authority shall have any discretion to vary their implementation in any form. They shall come into force and be implemented automatically with reference to the extent of pollution in the ambient air quality of NCT of Delhi 3. Odd and Even Scheme shall be applied in terms of these directions without any exception. No Authority would be entitled to use any discretion in enforcement of this direction. 4. The State Governments and all concerned agencies particularly the Pollution Control Boards shall prosecute by filing appropriate complaints in terms of Section 15 of the Environment (Protection) Act, 1986, against the defaulters and offenders of these directions and the environmental laws in force,

		without delay and default. 5. The environmental compensation imposed in terms of these directions against any defaulter or violator shall be recovered in accordance with law by the concerned State, Agencies, Boards, Local Authorities, etc., without delay and default. 6. The environmental compensation collected under the directions of the Tribunal in terms of orders/judgement dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 in the case of *Vardhman Kaushik vs. Union of India & Ors.*, O.A. No. 21 of 2014 and dated 10th December, 2015 in the case of *Vikrant Kumar Tongad vs. Union of India & Ors.*, O.A. No. 118 of 2013 and this order shall be kept in separate account and will be utilized for implementing projects in terms of these directions and for prevention and control of air pollution in NCT of Delhi. 7. Every laxity, dereliction of duty and non-compliance of these directions by the officers/officials shall lead to initiation of proceedings as well as action for violating the orders of the Tribunal before the Tribunal and in accordance with law. 8. Copy of this order and all the above referred orders should be placed before any agency and/or Committee constituted by the Government for prevention and control of pollution of ambient air quality in NCR/NCT of Delhi. It will be appropriate

		that the authorities/agency/committees would have advantage of having the orders of the Tribunal before them as a base document so as to facilitate execution and enforcement thereof. 9. The Authority or any other Committee would be free to take such steps or measures as they may deem necessary for cleaning ambient air quality of NCR/NCT of Delhi, in addition to the directions contained in this order and other orders afore-stated. However, they should not act and pass directions which are in derogation to the orders of the Courts and this Tribunal. 10. The Secretary, Environment of every State and the Member Secretary of that State Pollution Control Board shall file in every three months a comprehensive report before the Tribunal, without default. In this report ambient air quality standards in relation to all pollutants upon analysis shall be reported and also the measures/steps taken by that State in relation to prevention and control of air pollution, in accordance with directions contained in this judgement. In the event the report is not filed, the concerned officers shall be liable to be proceeded against in accordance with law for violating the orders of the Tribunal. We further, direct that copy of this order be circulated to the Chief Secretaries, Central Pollution Control Board, State Pollution Control Boards, MoEF&CC and all other Committees constituted, without any delay.

		The application is thus disposed of without any order as to cost. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. Nagin Nanda)

NATIONAL GREEN TRIBUNAL, NEW DELHI

Item No. 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 339/2019

(With report dated 08.07.2019)

Om Dutt Sharma, President, Surya Enclave Welfare Society Applicant(s)

Versus

State of Punjab Respondent(s)

Date of hearing: 16.10.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

ORDER

1. Vide order dated 07.05.2019, this Tribunal sought a factual and action taken report from the Deputy Commissioner, Jalandhar with reference to the allegation that green belts/public parks are proposed to be sold by Jalandhar Improvement Trust in Surya Enclave, Jalandhar, Punjab.

2. Accordingly, a report dated 08.07.2019 has been received from the Deputy Commissioner, Jalandhar based on the report of the Improvement Trust that there was a modification in the plan of the residential complex with the approval of the State Government. Area of 100 meters left for expansion of G.T. Road as 'no construction zone' has been reduced to 5 meter in the master plan.

3. We are of the view that effective green belt are required to mitigate air pollution on the sides of the roads apart from space for plantation. These aspects need a fresh look as the environmental concerns, including the 'Sustainable Development' and 'Precautionary' principles of environment, which are part of right to life, have to be considered in town planning which do not appear to have been considered.

4. In view of above, we direct the Chief Secretary, Punjab to have a fresh look on its approval granted for reducing the area of 100 meters 'no construction zone' to 5 meter on G.T. Road. Further action may be taken as per such decision. Such decision may be taken as far as possible within one month.

5. The State Government may take into account the observations of this Tribunal in the order dated 21.05.2019 in *Execution Application No. 29/2018 in O. A. No. 386/2016, Society for Protection of Culture, Heritage, Environment, Traditions and Promotion of National Awareness Vs. National Highway Authority of India & Ors.*

A copy of this order be sent to the Chief Secretary, Punjab by e-mail for compliance.

The application is dismissed subject to above directions.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

October 16, 2019
Original Application No. 339/2019
DV

Item No.1:-

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No. 138 of 2020 (SZ)

(Through Video Conference)

IN THE MATTER OF

V.B.R. Menon, B.E. (Mech), MBA (IIMA), LLB,
Advocate,
Flat No.4B, Brook Dale Apartments,
No.12, P.T. Rajan Salai,
K.K. Nagar, Chennai – 600 078.

...Applicant(s)

Versus

The Chief Secretary to Government of Tamil Nadu,
Fort St. George, Secretariat,
Chennai and Ors.

...Respondent(s)

For Applicant(s): Mr. V.B.R. Menon (*Party in person*)

For Respondent(s): Dr.D. Shanmuganathan for R1 and R2.
Mr. T.N.C. Kaushik for R3.
Mr. Abdul Saleem,
Mr. S. Saravanan and E. Karthikeyan for R5 & R6.
M/s. King & Patridge for R7.
Mr. Jose John for R8.

Judgment Pronounced on: 23rd December, 2021.

CORAM:

HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE Mr. SAIBAL DASGUPTA, EXPERT MEMBER

ORDER

Judgment pronounced through Video Conference. The original application is disposed of with directions vide separate Judgment.

Pending interlocutory application, if any, shall stand disposed of.

Sd/-
.....J.M.
(Justice K. Ramakrishnan)

Sd/-
.....E.M.
(Shri. Saibal Dasgupta)

O.A. No.138/2020 (SZ)
23rd December, 2021. Mn.

Item No.1:-

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No. 138 of 2020 (SZ)

(Through Video Conference)

IN THE MATTER OF

V.B.R. Menon, B.E. (Mech), MBA (IIMA), LLB,
Advocate,
Flat No.4B, Brook Dale Apartments,
No.12, P.T. Rajan Salai,
K.K. Nagar, Chennai – 600 078.

...Applicant(s)

Versus

1) The Chief Secretary to Government of Tamil Nadu,
Fort St. George, Secretariat,
Chennai – 600 009.

2) The Secretary to Government of Tamil Nadu,
Health and Family Welfare Department,
Fort St. George, Secretariat,
Chennai – 600 009.

3) The Chairman,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
New Delhi – 110 032.

4) Joint Controller of Explosives,
A and D Wing, Block 1 – 8,
2nd Floor, ShastriBhavan,
No.26, Haddows Road, Nungambakkam,
Chennai – 600 006.
(Deleted from the party array as per order dated 04.08.2020)

5) M/s. Indian Oil Corporation Limited,
Rep. by the Executive Director (Retail),
Indian Oil Bhawan,
No.139, Nungambakkam High Road,
Chennai – 600 034.

6) M/s. Bharat Petroleum Corporation Limited,
Rep. by the State Head (Retail),
Southern Regional Office,
No.1, Ranganathan Gardens,
Off. 11th Main Road, Anna Nagar,
Chennai – 600 040.

7) M/s. Hindustan Petroleum Corporation Limited,
Rep. by the Zonal Manager,
GMO SZ – Retail,
Thalamuthu Natarajan Building,
4th Floor, No.3045, Gandhi Irwin Road,
Chennai – 600 008.

8) M/s. Shell India Markets Private Limited,
Rep. by the Regional Manager,
South Zone Office,
Campus – 4A, RMZ Millenia Business Park,
No.143, Dr. M.G.R. Road,
Perungudi, Chennai – 600 096.

9) M/s. Nayara Energy Limited,
Rep. by the Divisional Manager,
Chennai Divisional Office,
No.58, New Avadi Road,
Thandavaraya, Kilpauk,
Chennai – 600 010.

...Respondent(s)

For Applicant(s): Mr. V.B.R. Menon (*Party in person*)

For Respondent(s): Dr.D. Shanmuganathan for R1 and R2.
Mr. T.N.C. Kaushik for R3.
Mr. Abdul Saleem,
Mr. S. Saravanan and E. Karthikeyan for R5 & R6.
M/s. King & Patridge for R7.
Mr. Jose John for R8.

Judgment Reserved on: 03rd December, 2021.

Judgment Pronounced on: 23rd December, 2021.

CORAM:

HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE Mr. SAIBAL DASGUPTA, EXPERT MEMBER

Whether the Judgment is allowed to be published on the Internet – Yes/No

Whether the Judgment is to be published in the All India NGT Reporter – Yes/No

JUDGMENT

Delivered by Justice K. Ramakrishnan, Judicial Member.

1. The grievance in this application is regarding non-installation of Vapour Recovery Systems (VRS) in the petroleum outlets by the oil marking companies as directed by the Principal Bench of National Green Tribunal.
2. It is also alleged in the application that it is a well known fact that the fumes coming out of petroleum outlets have impact on air quality in the area and affect the health of the people. It was recognised by the Hon'ble High Court of Madras in B. Moorthi vs. The District Revenue Officer and ors[1] and also by the Principal Bench of National Green Tribunal in Aditya N. Prasad &Ors. Vs. Union of India and Ors.[2]. Considering these aspects the Principal Bench of National Green Tribunal in Aditya N. Prasad case directed the Central Pollution Control Board (CPCB) to prepare an action plan for the oil marketing companies to implement the installation of VRS in the retail outletsand accordingly, CPCB had evolved an action plan in

1W.P. No. 23546 of 2017

2O.A. No. 147 of 2016

coordination with the Ministry of Petroleum and Natural Gas and also MoEF&CC and issued directions that they will have to install VRS during fuelling of vehicles at all retail outlets in Delhi and all high selling outlets that is selling more than 300 KL per month in the country.

3. Central Pollution Control Board had mentioned that they have issued directions under Section 5 of the Environment (Protection) Act, 1986 to the following petroleum companies (Indian Oil Corporation Ltd, Bharat Petroleum Corporation Ltd and Hindustan Petroleum Corporation Ltd) for installation of Stage-I and Stage-II VRS in petrol re-filling stations located in the cities with population having more than a million and they have directed the State Pollution Control Boards to monitor the same. After considering those aspects, the Principal Bench of National Green Tribunal had directed the oil marketing companies to complete the process by 31.10.2018 in respect of petrol pump selling more than 300 KL per month and with regard to remaining on or before 31.12.2018. It is also observed therein that if it is not done, the Chairman of the oil companies will have to be prosecuted for violation. The Central Pollution Control Board was directed to submit the report of compliance by the oil companies on or before 15.01.2019. On that basis since there was failure of the implementation, the CPCB had imposed environmental compensation of Rs. One crore each against those oil marketing companies which have not complied with the same within the time line. The same was challenged before the Hon'ble Supreme Court by

M/s Indian Oil Corporation Limited as Civil Appeal Nos. 161-163 of 2019 and by other companies as Civil Appeal Nos. 253-258 of 2019 and all these cases were disposed of by the Hon'ble Apex Court without interfering with the necessity for installation of these systems but only extended the time in respect of Stage-IA till 31.03.2020 and as regards Stage-IB and II to 31.08.2020.As regards the retail outlet which are selling less than 300 KL per month for implementation of Stage-IA and IB in NCR areas, time was extended till 31.03.2020 and as regards Stage-II it was extended till 30.09.2020. With these modifications the appeals were disposed of.

4. According to the applicant, the Principal Bench has again considered these aspects in K. Sathyadevan vs. Union of India and Ors[3] and Gyanprakash @ Pappu Singh vs. Union of India and Ors.[4] and directed the authorities to implement the same and also directed to conduct the feasibility study of establishing more retail outlets and come with a guideline as to how this will have to be carried out and after considering the report by order dated 22.07.2019 directed to install VRS in all new petrol pumps and also issued guidelines regarding sitting criteria and directed the Central Pollution Control Board to implement the same and disposed of the applications with above directions.

5. On the basis of the directions issued by the Principal Bench dated 22.07.2019 in O.A. No. 31 of 2019 and O.A. No. 86 of 2019, the Central Pollution Control Board issued an office memorandum no. B-

[3] O.A. No. 31 of 2019
[4] O.A. No. 86 of 2019

13011/1/2019-20/AQM/10802-10847 dated 07.01.2020 directing installation of VRS in the new petroleum retail outlets subject to the sales volume restrictions. Though the Ministry of Petroleum and Natural Gas decided to establish more number of petroleum outlet, none of them were complying with the direction issued by the Principal Bench and even in the in the existing petrol pumps also the directions were not strictly complied with as far as State of Tamil Nadu is concerned. Though this was brought to the notice of authorities, no action was taken. That prompted the applicant to file this application seeking following interim as well as final reliefs:

Interim Relief

A. Injunct the respondents 5 to 9 from commissioning and operating any new petroleum retail outlets in Tamil Nadu without installing Vapour Recovery Systems, Stage 1 and 2 in good working condition, pending disposal of this application and
B. Pass such further order or orders as may be fit proper and necessary in the facts and circumstances of the case

Prayer

A. Direct the respondent oil marketing companies R-5 to R-9 to install and operate Vapour Recovery Systems, Stage 1 and 2, in good working condition before opening and commissioning of any new petroleum retail outlets in Tamil Nadu.
B. Direct the respondent oil marketing companies R-5 to R-9 to install and operate Vapour Recovery Systems Stage 1 and 2, in all the existing petroleum retail outlets in Tamil Nadu within a time schedule to be prescribed by this Hon'ble Tribunal for each city, town and rural area situated in Tamil Nadu.
C. Pass such further order or orders as may be fit proper and necessary in the facts and circumstances of the case and thus render justice.

6. Central Pollution Control Board has filed their reply affidavit contending that on the basis of the direction issued by the Principal Bench of National Green Tribunal in Gyanprakash @ Pappu Singh vs. Union of India and Ors.[5] they have issued guideline for setting up new petrol pumps prepared by the Expert Committee constituted by

[5] O.A. No. 86 of 2019

the Central Pollution Control Board including the various measures for prevention and control of pollution that is likely to be caused on account of operation of the retail petrol pumps with sitting criteria for setting up new petrol pumps and circulated the same on 07.01.2020 to the oil marketing companies, State Pollution Control Boards for implementation evidenced by Annexure-1.

7. Subsequent to the order dated 22.07.2019, the guidelines prepared by Expert Committee for setting up new petrol pumps which inter-alia recommended installation of VRS in new petrol pumps were placed on CPCB website for public comments and the comments received were reviewed by Expert Committee and guidelines were circulated on 07.01.2020 to the oil marketing companies, State Pollution Control Board for implementation.

8. Following criteria were specified in the guidelines with respect to VRS installation and oil marketing companies were required to install VRS and State Pollution Control Board was directed to take action in case of non-compliance:

> i. Installation of VRS in all new retail outlets set up with sale potential of 300KL per month and located in cities with population of more than 1 lakh, and that VRS should be functional by the time monthly sales touch 300 KL.
> ii. Installation of VRS in all new retail outlets set up in cities having population more than 10 lakh and having sale potential of 100 KL per month, within a period of 03 months from the day monthly sales touch 100 KL.

9. The Hon'ble National Green Tribunal as well as Hon'ble Supreme Court directed installation of VRS in all the petrol pumps in Delhi-NCR. The compliance of these directions for both Stage-IB and Stage-II has been installed in at all petrol pumps in Delhi. In case of NCR,

VRS stage IB has been installed at all petrol pumps selling fuel more than 300 KL per month and less than 300 KL per month. VRS stage II has been installed at all petrol pumps selling fuel more than 300 KL per month and further work in the matter is underway for those petrol pumps selling less than 300 KLPM. The timeline given by the Hon'ble Supreme Court for installation of VRS Stage II in petrol pumps selling fuel less than 300 KL per month is September 30, 2020 and the detailed status on installation has been annexed as Annexure-2 to the counter.

10. The guidelines issued by the Central Pollution Control Board vide OM dated 07.01.2020 was supplementary to all the existing guidelines rules, orders etc., Central Pollution Control Board on 12.02.2016 issued directions to oil marketing companies (except M/s Shell India Markets Private Limited) for installation of Stage I & II VRS in retail outlets with sales more than 300 KL per month and located in 46 cities with million plus population. All new retail outlets selling more than 300 KL per month shall have in-built VRS. Updated status with respect to VRS installation by Oil marketing companies against the total number of petrol pumps in 46 million plus cities was produced as Annexure 3 and further, updated compliance status with respect to VRS installation in million plus cities of Tamil Nadu is produced as Annexure 4.

11. Subsequent to the order of Principal Bench of National Green Tribunal dated 22.07.2019, CPCB sought concurrence of Ministry of Petroleum and Natural Gas on following timelines for installation of

VRS at retail outlets selling more than 100 KL per month and located in million plus cities and retail outlets selling more than 300 KL per month and located in cities with population between 01 lakh to 1 million:

> Public Sector Oil Marketing Companies (IOCL, BPCL and HPCL):
>
> VRS stage II: 100 % retail outlets by August 2022 out of which 50% of retail outlets shall have VRS by September 2021.
>
> VRS stage IB: 100% retail outlets by February 2022 out of which 50% of retail outlets shall have VRS by July 2021.
>
> VRS stage IA (storage terminals): March 2024.
>
> Private Sector Oil Marketing Companies (RIL, Shell, Nyara):
>
> VRS at all existing retail outlets by July 2021

12. The criteria for VRS installation based on sale and population was recommended by expert members in the meeting held on 11.03.2019 which was reported to Hon'ble NGT in CPCB report dated 20.03.2019 in O.A. No. 31/2019. The Ministry of Petroleum and Natural Gas vide letter dated 22.08.2019 provided concurrence on timelines for installation of VRS by OMCs and informed that OMCs (Indian Oil Corporation Ltd, Bharat Petroleum Corporation Ltd and Hindustan Petroleum Corporation Ltd) have been advised to comply with the timelines. The progress on installation of VRS in the State of Tamil Nadu was directed to be informed by the respective oil marketing companies. They also issued directions to (IOCL, BPCL and HPCL), on 18.9.2020 to meet the timelines. They have also issued direction to (RIL, Shell, Nayara) to meet the timelines and copies of said directions were annexed as Annexure-5 series.

13. Necessary directions have been issued by the Central Pollution Control Board in this regard and it is for the oil marketing companies

to install the same and the failure of the same will be considered by the CPCB and appropriate action will be taken. They prayed for accepting the contention and passing appropriate order.

14. M/s Shell India Markets Private Limited (amended 7th respondent) filed their report stating that they were not party to the proceedings mentioned in the application before the National Green Tribunal, Principal Bench, New Delhi but they have provided VRS across all its outlets. They have commenced construction post July, 2019. All company and dealer owned sites have provisions readily kept in place for installing and commencing the operation of VRS I and VRS II once the threshold level of sales is reached.

15. This Tribunal vide order dated 04.08.2020 directed oil marketing companies including this respondent to file a status report on implementation of VRS in relation to their petroleum outlets. In the meanwhile, the CPCB had directed this respondent to install VRS at all existing retail outlets by July, 2021 vide letter dated 18.09.2020 in terms of its guidelines dated 07.01.2020. The status of installation of VRS by this respondent company is as follows:

a. In Greater Chennai and surrounding districts, this Respondent has 25 retail outlets that are covered by the CPCB directions. Out of the 25, this respondent company has installed VRS in 8 outlets. In the remaining 17 outlets, this respondent company will comply with the timelines specified by CPCB.
b. This respondent company has 1 retail outlet that is covered by the CPCB directions. The VRS will be installed in the retail outlet in accordance with the CPCB directions.
c. To summarise, 26 retail outlet of the respondent company are covered by the Directions. Out of which 8 retail outlets have been fitted with the VRS system and in the remaining 18 outlets, VRS will be installed in accordance with the timelines in the CPCB directions.

16. They prayed for accepting their status report and passing appropriate orders.

17. 4th respondent (M/s Indian Oil Corporation Limited) filed their status report as follows: Principal Bench has disposed of the matter, namely, O.A. No. 31 of 2019 and 86 of 2019 by order dated 22.07.2019 with following directions:

> 2. In the order dated 29.01.2019, this Tribunal noted that as per the Central Pollution Control Board (CPCB) guidelines, VRDs are required to be installed if capacity of the outlet is more than 300 KL per month and population of the city is 10 lakhs. The Tribunal, however, sought opinion of the CPCB whether such requirement should be laid down for cities of lesser population or outlets of lesser business and also feasibility of number of outlets.
> 3. As per report furnished by the CPCB on 20.03.2019, it was suggested that installation of Vapour Recovery System (VRS) should be applicable to petrol pumps selling 100 KL of oil per month in cities with population of 10 lakhs and 300 KL per month in cities with population of ten lakhs. Regarding feasibility of more outlets, it is stated that the same is considered while permitting every new outlet.

18. Pursuant to the direction of the Principal Bench, the Central Pollution Control Board issued its notification no. B-13011/1/2019-20/AQM/10824 dated 07.01.2019 wherein they have given the following directions:

> ***"D. Installation, Operation and maintenance of Vapour Recovery System:***
>
> *1. All new retail outlets set up with sale potential of 300KL MS per month and setting up in cities with population more than 1 lakh will be provided with VRS. VRS should be functional by the time of sale of MS touch 300 KL. In case of failure of installation of VRS, Environment Compensation will be levied by SPCBs/PCCS equivalent to the cost of VRS and this will further increase proportionate to the period of non-compliance.*
>
> *2. All new retail outlet set up in cities having population more than 10 lakh and having sale potential of 100 KL MS per month will be provided with VRS. VRS should be installed within a period of 3 months from the day of sale of MS touch 100 KL. In case of failure of installation of VRS, Environment Compensation will be levied by SPCB/PCCs equivalent to the cost of VRS and this will further increase proportionate to the period of non-compliance".*

19. Further, they have also issued another direction under Section 5 of the Environment (Protection) Act, 1986 dated 18.09.2020 to all oil marketing companies both public section and private sector for installation of the VRS with specific timeline which reads as follows:

> *"**Public sector Oil Marketing Companies:***
>
> *Complete installation of VRS at all existing retail outlets selling more than 100 KL per month and located in million plus cities, and retail outlets selling more than 300 KL per month and located in cities with population between 01 lakhs to 1 million (except Delhi-NCR) as per the prescribed timelines:*
>
> ***VRS stage II:***
>
> *100% retail outlets by August 2022 out of which 50% of retail outlets shall have VRS by September 2021.*
>
> ***VRS 1B:***
>
> *100% retail outlets by February 2022 out of which 50% of retail outlets shall have VRS by July 2021.*
>
> ***VRS stage 1A (storage terminals):***
>
> *March 2022:*
>
> ***Private sector Oil Marketing Companies:***
>
> *Install VRS at all existing retail outlets selling more than 100 KL per month and located in million plus cities, and retail outlets selling more than 300 KL per month and located in cities with population between 01 lakh to 1 million by July 2021".*

20. As per the above guidelines, public sector oil companies are having time up to mid of 2022 and private sector oil companies are having time up to July, 2021 and they are submitting the installation status of VRS in Tamil Nadu to CPCB which is produced as annexure1 to the counter statement. So they prayed for passing appropriate orders accepting their contention.

21. In annexure 1, they have shown the progress of installation of VRS in State of Tamil Nadu which reads as follows:

ANNEXURE – I

SL. NO.	NAME OF THE CITY IN THE STATE OF TAMIL NADU	NO. OF OUTLETS HAVING SALE POTENTIAL OF MS PER MONTH				NO. OF OUTLETS PROVIDED WITH VRS	
		100 KL		300 KL			
		Existing	New	Existing	New	Existing	New
1	Chennai	68	0	6	0	3	0
2	Coimbatore	15	0	1	0	1	0
3	Madurai	15	0	0	0	0	0
4	Pondicherry	0	0	1	0	0	0
5	Mettupalayam	0	0	1	0	0	0

Note-1 : Work Order placed on vendor fort the balance 3 ROs having sales of more than 300 KL MS per month in Chennai city. Work comnpletion by 30.03.2021.

Note-2 : Proposal for providing VRS at two ROs having sales of 300 KL per month located in Pondicherry and Mettupalayam and 98 ROs selling more than 100 KL MS per month located in the 45 select cities has been initiated.

22.5th respondent (M/s Bharat Petroleum Corporation Limited) has filed their status report more or less reiterating the contentions of 4th respondent regarding the timeline etc and also produced the status of implementation of VRS in State of Tamil Nadu as annexure 1 to their counter statement which reads as follows:

SN	NAME OF THE CITY IN THE STATE OF TAMIL NADU & PONDICHERRY	District	Population as per 2011 CENSUS	NO. OF OUTLETS HAVING SALE OF MS PER MONTH				NO. OF OUTLETS PROVIDED WITH VRS	
				100 KL		300 KL			
				Existing	New	Existing	New	Existing	New
1	Chennai	Chennai	86,96,010	72	NIL	18	NIL	14	0
2	Coimbatore	Coimbatore	21,51,466	29	2	NIL	NIL	0	Budget being taken
3	Madurai	Madurai	14,62,420	12	NIL	1	NIL	1	0
4	Tiruchirappalli	Tiruchirappalli	10,21,717	12	NIL	NIL	NIL	0	0
5	Tiruppur	Tiruppur	9,62,982	5	NIL	NIL	NIL	0	0
6	Salem	Salem	9,19,150	9	NIL	NIL	NIL	0	0
7	Erode	Erode	5,21,776	5	NIL	NIL	NIL	0	0
8	Tirunelveli	Tirunelveli	4,98,984	5	NIL	NIL	NIL	0	0
9	Vellore	Vellore	4,81,966	4	NIL	NIL	NIL	0	0
10	Thoothukkudi	Thoothukkudi	4,10,760	3	NIL	NIL	NIL	0	0
11	Dindigul	Dindigul	2,92,132	2	NIL	NIL	NIL	0	0
12	Thanjavur	Thanjavur	2,90,724	4	NIL	NIL	NIL	0	0
13	Ranipet	Ranipet	2,62,346	0	NIL	NIL	NIL	0	0
14	Sivakasi	Virudhunagar	2,34,688	0	NIL	NIL	NIL	0	0
15	Karur	Karur	2,33,763	3	NIL	NIL	NIL	0	0
16	Udhagamandalam	The Nilgiris District	2,33,374	1	NIL	NIL	NIL	0	0
17	Hosur	Krishnagiri	2,29,507	3	NIL	NIL	NIL	0	0
18	Nagercoil	Kanyakumari	2,24,329	2	NIL	NIL	NIL	0	0
19	Kancheepuram	Kanchipuram	2,21,749	3	NIL	NIL	NIL	0	0
20	Kumarapalayam	Namakkal	1,94,992	1	NIL	NIL	NIL	0	0
21	Karaikkudi	Sivaganga	1,81,347	3	NIL	NIL	NIL	0	0
22	Neyveli	Cuddalore	1,78,925	0	NIL	NIL	NIL	0	0
23	Cuddalore	Cuddalore	1,73,361	2	NIL	NIL	NIL	0	0
24	Kumbakonam	Thanjavur	1,67,098	0	NIL	NIL	NIL	0	0
25	Tiruvannamalai	Tiruvannamalai	1,44,683	3	NIL	NIL	NIL	0	0
26	Pollachi	Coimbatore	1,35,235	3	NIL	NIL	NIL	0	0
27	Rajapalayam	Virudhunagar	1,30,119	1	NIL	NIL	NIL	0	0
28	Gudiyatham	Vellore	1,24,274	1	NIL	NIL	NIL	0	0
29	Pudukkottai	Pudukkottai	1,17,215	0	NIL	NIL	NIL	0	0
30	Vaniyambadi	Tirupathur	1,16,712	1	NIL	NIL	NIL	0	0
31	Ambur	Tirupathur	1,13,856	1	NIL	NIL	NIL	0	0
32	Nagapattinam	Nagapattinam	1,02,838	1	NIL	NIL	NIL	0	0
33	PONDICHERRY	PONDICHERRY	241773	6	NIL	1	NIL	1	0
34	KARAIKAL	PONDICHERRY	200222	1	NIL	NIL	NIL	0	0

23. 6th respondent (M/s Hindustan Petroleum Corporation Limited) also filed status report more or less reiterating the contentions regarding the timelines provided for installation as mentioned by respondents 4 and 5 and then annexed their status report as annexure to their counter statement which reads as follows:

ANNEXURE – I

SL. NO.	NAME OF THE CITY IN THE STATE OF TAMIL NADU	NO. OF OUTLETS HAVING SALE POTENTIAL OF MS PER MONTH				NO. OF OUTLETS PROVIDED WITH VRS	
		100 KL		300 KL			
		Existing	New	Existing	New	Existing	New
1	Chennai	47	2	5	0	7	
2	Coimbatore	6	-	-	-	-	
3	Madurai	2	-	-	-	-	
4	Tirupur			1	-	-	

24. The applicant has filed common objections to the status report filed by respondents 4 to 7 wherein he had categorically stated that for existing outlets,the present notifications are not applicable as CPCB had issued direction under Section 5 of the Environment (Protection) Act, 1986 on 12.02.2016 to all petroleum retail outlets with monthly sales over 300 KL and situated within 45 numbers of cities having more than one million population across India and directed them to complete installation of VRS Stage-IB and II before 31.12.2017. In respect of non-compliance of the said directions in respect of Delhi region, Principal Bench of National Green Tribunal has imposed Rupees One Crore as penalty and this was confirmed by the Hon'ble Apex Court in Civil Appeal No. 161-163 of 2019. But the Hon'ble

Apex Court has modified the time schedule while disposing of the same by final order dated 14.02.2019.

25. The direction dated 12.02.2016 was equally applicable to petroleum outlet having more than 300 KL monthly sales in Chennai, Coimbatore, Madurai and Trichy where population was over one million as per 2011 census. The status report produced as annexure by respondents 4 to 6 will go to show the dismal compliance of the above directions. So respondents 4 to 8 are also liable for payment of penalty and other penal action for non-compliance of the direction within the time limit of 31.12.2017.

26. Directions issued to respondents 4 to 8 by CPCB on 18.09.2019 under Section 5 of the Environment (Protection) Act, 1986 is in addition and not a substitute or modification of earlier direction issued on 12.02.2016.As categories of outlet covered by second direction are separate and distinct. The direction dated 12.02.2016 shall apply to those outlets having monthly sales over and above 300 KL and situated within 45 million population cites in India and the subsequent direction dated 18.09.2020 shall apply only to the other two category of outlets one situated within million population cities and having monthly sales of 100 KL to 300 KL and those (2) situated within other cities having population above one lakh and less than one million and having more than 300 KL on monthly basis. There were no over lapse of the time line provided in the directions dated 12.02.2016 and 18.09.2020.

27. The documents produced by them will go to show that they were not properly complying with the direction and no action has been taken. The applicant also produced certain replies obtained under Right to Information Act, 2005 and also the notices issued by the CPCB to some of the oil companies.

28. Central Pollution Control Board in compliance with the order of this Tribunal dated 22.11.2020 produced status report which reads as follows:

Annexure-I

Delhi VRS status

OMC	No. of petrol pumps < 300 KLPM	No. of pump installed VRS	No. of petrol pumps > 300 KLPM	No. of pump installed VRS
IOCL	109	109	77	77
BPCL	56	56	47	47
HPCL	66	66	32	32
Reliance	2	2	0	0
Nayara	1	1	1	1

NCR VRS status

OMC	No. of petrol pumps < 300 KLPM	No. of pump installed VRS	No. of petrol pumps > 300 KLPM	No. of pump installed VRS
IOCL	1398	1398	18	18
BPCL	444	444	11	11
HPCL	666	666	12	12
Reliance	48	48	1	1
Nayara	272	264*	2	2

* For remaining 8 petrol pumps, contract termination of 4 petrol pumps is under process, 03 petrol pumps VRS installation delayed due to COVID-19 and 01 station dispensing unit not functional. Motor Spirit sale stopped from all 08 pumps since 01.10.2020.

Status of VRS installations at petrol pumps in 46 million plus cities (Sale >300 KLPM)

OMC	Existing as on date of directions (E)/ Newly installed (N)/ Sales crossed 300 klpm post directions (S)	No. of petrol pumps	No. of pump installed Stage 1B	No. of pump installed Stage II
IOCL	E	154	115	143
	S	62	45	51
	N	5	2	3
BPCL	E	128	34	128
	S	53	13	41
	N	06	0	0
HPCL	E	90	35	89
	S	48	3	48
	N	7	0	6
Reliance	E	03	03	03
	S	12	12	12
Nayara	N	9	9	9

STATUS OF VRS INSTALLATION IN MILLION PLUS CITIES IN TAMIL NADU (Sale>300KLPM)

Chennai

	Total	Stage IB installed	Stage II installed
IOCL	6	3	3
BPCL	18	0	16
HPCL	6	3	6
RIL	0	0	0
Nayara	0	0	0

Coimbatore

	Total	Stage IB installed	Stage II installed
IOCL	2	1	1
BPCL	0	0	0
HPCL	0	0	0
RIL	0	0	0
Nayara	0	0	0

Madurai- Nil

29. They also issued directions to the oil companies to comply with their directions and the reply received from several oil companies.

30. The applicant also produced further memo along with certain documents obtained under Right to Information Act, 2005 regarding the installation of these systems.

31. 8th respondent (Nayara Energy Limited) also filed status report wherein they have reiterated the contentions raised by the respondents 4 to 6 regarding the timeline provided and status of compliance report of installation of VRS as annexure-1 which reads as follows:

i. Status Report of Operating RO's under the category Cities having population above 1 Million & Monthly Sales Volume above 100 KL and below 300KL

Sl. No.	Outlet Name	City	Status	Work completed in %
1	Visvin Agencies	Chennai	Will be Complied on or before July 2021	In progress
2	T.Ganesan Petro Agency	Chennai	Will be Complied on or before July 2021	In Progress
3	Sri Ramachandran Agencies	Chennai	Installation under Process	In progress
4	Munishwar Enterprises	Chennai	Will be Complied on or before July 2021	In progress
5	V R N Enterprises	Chennai	Will be Complied on or before July 2021	In progress
6	Kamaldeep Enterprises	Chennai	Installation under Process	In progress
7	Thilaga Agency	Chennai	Will be Complied on or before July 2021	In progress
8	Malar Agencies	Chennai	Will be Complied on or before July 2021	In progress
9	Universal Fuels	Chennai	Will be Complied on or before July 2021	In progress
10	Shrivaaru Filling Station	Chennai	Will be Complied on or before July 2021	In progress
11	Masi Reddi Enterprises	Chennai	Will be Complied	In progress

NAYARA ENERGY LIMITED

			on or before July 2021	
12	Sai Baba Fuels	Chennai	Will be Complied on or before July 2021	In progress
13	Meena Fuels	Trichy	Installation under Process	In progress
14	Subbu Fuels	Coimbatore	Installation under Process	In progress
15	Sai Siddhi Infrastructures	Coimbatore	Installation under Process	In progress
16	Inndway Agency	Coimbatore	Installation under Process	In progress
17	Palaniswamy Agencies	Coimbatore	Will be Complied on or before July 2021	In progress
18	SUBBIAH GOUNDER FUELS	Coimbatore	Will be Complied on or before July 2021	In progress
19	Raamasamy Gounder Agency	Coimbatore	Will be Complied on or before July 2021	In progress
20	J S Enterprises	Coimbatore	Installation under Process	In progress
21	Adinath Enterprises	Chennai	Will be Complied on or before July 2021	In progress

ii. Cities having population above 1 Lakh but less than one million & Monthly Sales Volumes above 300KL

NIL

They prayed for passing appropriate orders accepting their contention.

32. 4th respondent (M/s Indian Oil Corporation Limited) also filed reply statement stating that the CPCB has given an instruction to install VRS in 46 selected cities by 31.12.2017.The modified dispensing units are to be approved by Department of Legal Metrology, for which oil companies got approval only on 05.02.2018. After series of deliberation with oil industry and Ministry of Power and Natural Gas, the Hon'ble Supreme Court has directed to complete 2900 retail outlets falling under NCR and NCT region to be completed on

priority. Since, there were only two qualified/PESO approved vendors during that time, priority was assigned as per the direction of the Hon'ble Supreme Court. Once the same was completed, the State of Tamil Nadu was given subsequent priority and accordingly, the work was completed at four retail outlets in the State of Tamil Nadu by 2019.

33. As per the list of cities attached in circular dated 12.02.2016 only Chennai, Coimbatore and Madurai were appearing in the list. However, Trichy was not in the list. The implementations of VRS in these three cities were already explained in their status report. While three ROs were falling under this category in Chennai and one RO was falling under this category in Coimbatore. No RO was selling more than 300 KL per month in Madurai. So no notice was issued to ROs under Tamil Nadu.

34. The CPCB issued latest direction dated 18.09.2020 where certain additional guidelines were also issued.By adopting the same, the work will have to be completed by August, 2022. Due to delay in getting permission from Department of Legal Metrology and the Hon'ble Supreme Order to complete retail outlets in NCR and NCT on priority, the work of Tamil Nadu was taken later and completed in 2019. VRS stage-II is a technical job for which only limited vendors are available. VRS Stage-II can be done by doing retrofitting.The dispensing units of oil companies can order for new dispensing units which has an in-built VRS system. Provisions of Stage IB are more of

piping and civil works which can be done at local level even without floating a tender.

35. The oil companies have submitted a joint representation dated 06.01.2021 to CPCB that VRS may not be required in ROs cited under circular dated 18.09.2020 and selling between 150 KL to 300 KL. This representation was made based on a study conducted by Council of Scientific and Industrial Research, Indian Institute of Petroleum, Dehradun.

36. In spite of the above representation, this respondent is contemplating to procure in build VRS DUs which is being done by the Head Office. Simultaneously one tender vide Ref No. HCC/RA04/PT61/2021 for retrofitting of VRS Stage II has been finalised by the Head Office on 27.09.2020 for procuring retrofitting equipment's for 635 DUs. Similarly, another tender Ref No. HCC/RS-02/GT-05/2020-21 has been floated for procuring 2710 in-build VRS DUs for which tender opening dated was 15.03.2021 which is under finalisation.

37. In the meantime, the oil marketing companies have made a request to the CPCB to extend the timeline for installation of VRS in their respective retail outlets, which was considered by CPCB in its letter dated 04.06.2021 and issued following directions:

> "Complete installation of VRS at all existing retail outlets selling more than 100 KL per month and located in million plus cities, and retail outlets selling more than 300 KL per month and located in cities with population between 01 lakh to 1 million (except Delhi-NCR) as per the prescribed timelines:
> VRS Stage : 100% retail outlets by October 2022 out of which 50 % of retail outlets shall have VRS by June 2022.

VRS Stage IB :100% retail outlets by June, 2022 out of which 50% of retail outlets shall have VRS by Dec 20211
It is to further mention that these amended timelines are timelines till final selection of vendors is done for installation of all Dispenser Units, which shall be intimated to CPCB by OMCs, by July end as indicated in the said letter."

38. VRS Stage-IA is applicable for depots and terminal and not for retail outlets. Tenders for these works at IOC terminal have already been floated and will be completed well with the timeline of March 2024. Regarding Stage-II and Stage IB which pertains to retail outlets, necessary action has been initiated and the installations were completed in all respect. In this regard only four ROs qualified for providing VRS which was completed by the respondent during the year 2019-20. Three more ROs have qualified for providing VRS during the 2020-21 for which work order has already been placed by them on 21.10.2020. The ROs falling within the Municipal limits of the 46 selected cities alone were considered.Hence the retail outlet in Mettupalayam, Coimbatore zone will be covered by 18.09.2020 circular.

39. VRS Stage-IA is not applicable for retailoutlets.However, VRS Stage-IB and Stage II by IOC are in working conditions which can be ascertained by regulatory authorities by conducting inspection. CPCB is monitoring the progress work regarding implementation of VRS in the retail outlet and the status reports are being sent to CPCB on monthly basis. In compliance of the direction of the CPCB, they have sent detailed compliance statement to CPCB by their letter dated 16.07.2021.

40. Respondents 5 and 6 also filed similar further status report. 5th respondent had detailed the present status of installation of VRS in para 7 of that counter which reads as follows:

Sl.No.	District	Location / Area	MS sales Volume in KL	Status of installation of Stage 2 in %	Status of installation of Stage 1B in %
1	Chennai	St. Mary's Road	323	Completed	Completed
2	Chennai	Anna Nagar	647	Completed	80%
3	Chennai	T Nagar	380	Completed	80%
4	Tiruvallur	AVADI	283	Completed	80%
5	Chengalpet	SELAYUR	407	Completed	Completed
6	Chennai	GUINDY	413	90%	Completed
7	Tiruvallur	AMBATTUR	325	Completed	Completed
8	Chennai	KOTTIVAKKAM	202	Completed	80%
9	Chennai	Ullagaram	344	Completed	Completed
10	Tiruvallur	Ayyappanthangal	357	Completed	Completed
11	Chennai	Anna Nagar	431	70%	Completed
12	Chengalpet	Tambaram	427	Completed	80%
13	Chennai	ST.Thomas Mount	290	Completed	80%
14	Chennai	Velacherry	477	Completed	Completed
15	Chengalpet	Medavakkam	284	Completed	50%
16	Chengalpet	Gowrivakkam	257	Completed	50%
17	Chennai	Meenambakkam	620	50%	30%
18	Chennai	Kandanchavadi	391	Completed	80%
19	Chengalpet	Vandalur	365	70%	50%
20	Kanchipuram	Nazratpet	365	50%	50%
21	Chennai	Kodambakkam	337	30%	50%
22	Chennai	Thoraipakkam	395	50%	40%
23	Chengalpet	Maraimalai Nagar	679	50%	40%
24	Pondicherry	Pondicherry Town	414	100%	50%
25	Madurai	Madurai Town	304	80%	50%

Territory Manager (Retail)
Bharat Petroleum Corporation Ltd.
35, Vaidyanathan Street,
Tondiarpet, Chennai - 600 081.

41. 6th respondent also filed their status of completion along with the status report in para 7 which reads as follows:

Status Plan	Stage I	Stage II
Completed as on date	20	8
Proposed to complete in Q2 of 21-22	6	0
Proposed to complete in Q3 of 21-22	8	0
Proposed to complete in Q4 of 21-22	11	10
Proposed to complete in Q1 of 21-22	15	14
Proposed to complete in Q2 of 21-22	0	28
Total	60	60
Plan to complete 50% by	31.12.2021	30.06.2022
Plan to complete 100 % by	30.06.2022	31.10.2022

42. 7th respondent has produced a letter dated 12.07.2020 issued by CPCB and the directions issued in respect of them was modified and they have been permitted to complete the work of installation of VRS at all retail outlets selling more than 100 KL per month and located in million plus cities and retail outlets selling more than 300 KL per month and located in cities within population of one lakh and 10 lakh by January, 2022 and they have been directed to submit the compliance report.

43. The applicant also filed additional affidavit giving the details of the directions given in a tabular form which reads as follows:

Sl. No	**Category**	**Date ofDirectionU/s. 5**	**TargetDateforcompletion**	**PresentStatus**
1	Turnover>300KLPM Population>1Million **(Ref:**Pagenos.29to36 of Objections filedby the Applicanton31.12.2020)	**12.12.2016**	December,2017	**Incomplete.** Outlet-wise detailsarenotgiven bythe Respondents forphysicalverification.

2	Turnover > 100 KLPMPopulation>1Million **(Ref:** PP 16 to 30 ofReply filed by CPCBon21.09.2020)	**18.09.2020**	(i) **VRS-1B; 50%byDec.2021and balance byJune,2022** (ii)**VRS-2 : 50%by June,, 2022and balance byOctober,2022**	ExtendedbyCPCBvide letter dated04.06.2021 (Ref;StatusReportdated 02.08.21 bythe6thRespondent)
3	Turnover > 300 KLPMPopulation:1Lto 1Million **Ref:**PP 16 to 30 ofReplyfiledbyCPCBon21.09.2020	**18.09.2020**	**Sameasabove**	ExtendedbyCPCBvide letter dated04.06.2021 (Ref; Status Reportdated 02.08.21 bythe6thRespondent)

Note:In respect of the 7thRespondent , the first direction dated 12.12.2016 isnotapplicable.Further,the7thRespondenthasbeendirectedvidemodified directiondated 12.07.2021 **to complete installation of VRSStage-1B and 2 by January, 2022** in respect of all the Outlets comingunder the categories 2 and 3 abovei.e. above 100 KLPM and Populationabove1L(**Ref:**Addl.T.S.filedbyR-7on29.07.2021**)**

44. According to the applicant the subsequent directions issued did not modify the direction dated 12.12.2016 which is applicable to retail outlets which were having more than 300 KL per month sale and situated in cities having more than 1 million population.

45. Heard the applicant who appeared in person and also the Learned Counsel appearing for Central Pollution Control Board and Oil Marketing Companies and also perused their status reports and the written submission submitted by them and their pleadings.

46. The point that arises for consideration are:

i) What is the nature of direction to be given for implementation of VRS in the retail outlets and the depots in view of the directions issued by the Principal Bench in Aditya N. Prasad & Ors. Vs. Union of India and Ors.[6] and subsequent decisions in K. Sathyadevan vs. Union of India and Ors[7] and Gyanprakash @ Pappu Singh vs. Union of India and Ors.[8]

Point:

47. There is no dispute regarding the fact that the volatile vapours containing inorganic substances such as Benzene, Toluene and Xylene (BTX) released from petroleum products reaches the atmosphere and will have great impact on human health. There is also no dispute regarding the fact, on the basis of the studies conducted on these aspects show that persistent exposure to high levels of BTX may cause injury to human bone marrow, DNA damage in mammalian cells and damage to the immune system. Mild exposure causes irregular heartbeat, headache, dizziness, nausea and even unconsciousness, if exposure is continued for a long time. Early manifestation of toxicity is in the form of anaemia, leucocytopenia and thrombocytopenia. Benzene is a known human carcinogen. The World Health Organization (WHO) estimates four in one million risk of leukemia on exposure to a concentration of 1 microgram per cubic meter.

---

[6] O.A. No. 147 of 2016
[7] O.A. No. 31 of 2019
[8] O.A. No. 86 of 2019

48. It is also an admitted fact that considering these health hazardous that is likely to be caused on account of mixing of the seinorganic substance in the atmosphere, on the basis of the recommendations made by the Expert Committee appointed by Central Pollution Control Board, the Ministry of Petroleum and Natural Gas has agreed with the suggestions of Central Pollution Control Board for installation of VRS to control pollution that is likely to be caused on account of release of volatile organic compounds from the retail outlets and also in the storing depots of petroleum products.

49. It is also not in dispute that they have evolved a policy for installing the same in the retail outlets in Delhi and also all high selling retail outlets of more than 300KL per month in the country. It is also not in dispute that this aspect was considered by the Principal Bench in Aditya N. Prasad &Ors. Vs. Union of India and Ors.[9] by order dated 28.09.2018 directing the oil companies based on the guidelines issued by the Central Pollution Control Board dated 18.07.2016 issued under Section 5 of the Environment (Protection) Act, 1986 observed that the timelines prescribed by Central Pollution Control Board have expired and there was no justification for the long delay which has already taken place in the matter in taking requisite steps necessary for protection of environment and public health. The Tribunal had directed all the companies present before this Tribunal to complete the process by 31.10.2018. It was also further directed therein that in respect of petrol pumps selling more than 300 KL per month, the

9 O.A. No. 147 of 2016

directions must be required to comply with preferably on or before 31.10.2018 and with regard to remaining petrol pumps on or before 31.12.2018.

50. Further, it is also not in dispute that since those directions were not complied with, the Central Pollution Control Board has imposed an environmental compensation of Rs. One Crore for non-compliance of installation of Stage-I and Stage-II of VRS in petrol retail stations to Bharat Petroleum Corporation Ltd and other oil companies and that was challenged before the Hon'ble Apex Court by filing Civil Appeal Nos.256-258 of 2019 to 161-163 of 2019- M/s Indian Oil Corporation Limited vs. Aditya N. Prasad &Ors and other connected cases and the Hon'ble Apex Court by Judgement dated 14.02.2019 confirmed the observations made by the National Green Tribunal but only modified the timeline and passed the following Judgement:

> *"Having heard Mr.Tushar Mehta, learned Solicitor General and Mr.Aditya N. Prasad, we are cognizant of the fact that by a letter dated 12.02.2016 sent by the Central Pollution Control Board to all the oil companies, the equipment in question was to have been installed in 46 cities insofar as (above 300 KLD is concerned) by December, 2017 and that this has not yet been done.*
>
> *The National Green Tribunal's order is, therefore, correct in principle. However, under the aegis of the learned Solicitor General, a meeting has been called in which certain time-lines were discussed so that the aforesaid equipment could be set up within a realistic time-frame both in the NCT as well as in NCR.*
>
> *So far as Stage 1-A is concerned, a device is installed at the filling depots/terminals. So far as the Stage 1-B is concerned, a separate device (VRD) is installed on the tanks of the retail outlets i.e. petrol pumps where petroleum products are stored underground.*
>
> *Stage 2 is where a third category of device (VRD) is fitted in the dispensing units of each retail outlet. Each such dispensing unit has more than one nozzle and all the nozzles will have to be fitted with the aforesaid device.*
>
> *Insofar as the NCT of Delhi is concerned, the learned Solicitor General has informed us that Stage 1-A has been completed by all the three oil companies.*

So far as State 1-B is concerned, he says a realistic estimate of time would be by 30.06.2019.

We, therefore, extend the time so far as Stage 1-B & Stage 2 are concerned to 30.06.2019.

We have also taken on record the undertakings given by the authorized persons of each of the three oil companies to see that the aforesaid time-line is strictly adhered to.

Insofar as the NCR is concerned, this has been divided into two different groups : those are selling more than 300 Klspm and those selling less than 300 Klspm.

Insofar as the first category is concerned, the time schedule is extended, insofar as Stage 1-A is concerned till 31.03.2020. So far as the Stage 1-B and 2 are concerned, the time schedule is extended till 31.08.2019.

Insofar as retail outlets selling less than 300 Klspm in the NCR are concerned, so far as Stages 1-A and 1-B are concerned, time is extended till 31.03.2020. So far as Stage 2 is concerned, time is extended till 30.09.2020.

For this also, we have taken on record the requisite undertakings to adhere strictly to the aforesaid time-lines.

In this view of the matter, the NGT orders stand substituted.

The appeals are disposed of accordingly.

Pending applications also stand disposed of."

51. Further, the same issue has been considered by the Principal Bench in K. Sathyadevan vs. Union of India and Ors[10] and Gyanprakash @ Pappu Singh vs. Union of India and Ors.[11] and reiterated the importance of installation of VRS in the retail outlets in respect of new petroleum outlets to be established and also considered the question of extending the same to lesser population area and selling lesser to quantity as well and directed the Central Pollution Control Board to conduct a study in this regard as per order dated 01.04.2019. Thereafter, the matter was again considered by the National Green Tribunal on 22.07.2019 and the Tribunal had considered the report of

[10] O.A. No. 31 of 2019
[11] O.A. No. 86 of 2019

the Expert Committee dated 08.07.2019 which was extracted in para 6 of the order which reads as follows:

> **"A. Containment and treatment of spillages from fuel filling operations at petrol pumps.**
> 1. Petrol pumps located in areas with high groundwater table shall have secondary containment by way of double walled tanks or concrete protection walls so as to minimize groundwater and soil contamination. Ground water level of less than 4m shall be considered for such provision, to be verified from online data being reported by State/ Central Ground Water Board/ Authority. In such case, measures taken by Oil Marketing Company shall be placed in public domain and in case of contradictory view, view of State/ Central Ground Water Board/ Authority will prevail.
> 2. All new retail outlets shall have underground tanks and its ancillary components such as pipes, flexible connectors, pumps, fittings etc. protected from leaks due to corrosion by adopting materials conforming to IS standards with required protective coating as applicable.
> 3. Any major spillage of Petrol, Diesel, Lube Oil (more than 1 barrel-165 litres) occurs at fueling station, concerned OMC shall report to State Pollution Control Board, PESO and District Administration under intimation to CPCB within 24 hours of occurrence.
> Operation of such Retail Outlet shall be stopped immediately.
> OMCs will be held liable for Environmental Compensation (imposed by SPCBs/PCCs) and assessment of environmental damage (depending on extent of contamination in soil and groundwater) and site remediation.
> Consultant/ Expert agency appointed by OMCs for damage assessment and site remediation shall have minimum national/ international experience of 07 years in this field. Various approved methods shall be considered for cleaning underground contaminants.
> Operation of retail outlet shall not be resumed till corrective measures to contain and stop spillages are implemented to the satisfaction of PESO and concerned SPCB.
> 4. All DUs shall have Auto Cut off Nozzles which shuts dispensation of fuel if its level in customer fuel tank reaches full capacity.
> 5. Breakaways to be installed for all the hoses of dispensing units to reduce spillage in the event of customer vehicles moves away with nozzle still in the fueling position.
> 6. Two pane swivels shall be installed for all the dispensing units for better positioning of nozzle while refueling so that it does not fall off accidently.
> 7. In pressurized dispensation, all dispensing units shall be installed with shear valves to cut the fuel flow from pipe line immediately upon accidental knocking of dispensing units from its position.
> 8. In pressurized system all Submersible Turbine Pumps (STPs) are to installed with mechanical leak detectors and in the event of pipeline leaks STPs shall stop pumping fuel from underground tanks.
> 9. Emergency stop button switch shall be provided on the MultiProduct Dispenser (MPD) to stop the dispensation in case of emergency.
> 10. Automation system shall be installed at all new retail outlets to alert in case of tank leak by way of auto gauging system.
> 11. All Retail Outlets shall provide overfill alarm through automation.
> 12. Measures for spill containment in fill point chambers and forecourt area shall be implemented as prescribed by PESO.

B. Check on leakages (Leakage Detection System) from underground storage tanks so as to prevent groundwater and soil contamination

1. All new retail outlets will have automation system installed which will provide reports on volume balance after every day operation and records shall be maintained.

2. Manual gauging shall be done once in a month and compare the same with Automatic Tank Gauging for accuracy.

3. Daily MS and HSD loss shall not exceed MoPNG prescribed limits. In case of leakage beyond such limits, matter shall be got analyzed by OMCs and further action shall be taken for ascertaining the reasons of losses. In case of leakage resulting in soil / groundwater contamination:

a. Concerned OMC shall report to State Pollution Control Board, PESO and District Administration under intimation to CPCB within 24 hours of occurrence. Operation of such Retail Outlet shall be stopped immediately.

b. Fuel shall be removed immediately from underground storage tank to prevent further release to environment. Measures to prevent explosion due to vapors released due to leakage as recommended by PESO shall be implemented immediately.

c. OMCs will be held liable for Environmental Compensation (imposed by SPCBs/PCCs) and assessment of environmental damage (depending on extent of contamination in soil and groundwater) and site remediation. Consultant/ Expert agency appointed by OMCs for damage assessment and site remediation shall have minimum national/ international experience of 07 years in this field. Various approved methods shall be considered for cleaning underground contaminants.

d. Operation of retail outlet shall not be resumed till corrective measures to contain and stop leakages are implemented to the satisfaction of PESO and concerned SPCB.

4. All underground tanks and pipelines shall be subjected to test for leaks every 5 years.

C. Policy towards Treatment and disposal of sludge removed from underground tanks during cleaning: Sludge shall be collected, stored and disposed as per Rule 8 of Hazardous Waste (Management and Transboundary) Rules, 2016 and amendments thereof and records shall be maintained.

D. Installation, Operation and maintenance of Vapour Recovery System

1. All new retail outlets set up with sale potential of 300KL MS per month and setting up in cities with population more than 1 6 lakh will be provided with VRS. VRS should be functional by the time of sale of MS touch 300 KL per day. In case of failure of installation of VRS, Environment Compensation will be levied equivalent to the cost of VRS and this will further increase proportionate to the period of non-compliance.

2. Any new retail outlet set up in cities having population more than 10 lakh and having sale potential of 100 KL MS per month will be provided with VRS. VRS should be functional by the time of sale of MS touch 100 KL per day. In case of failure of installation of VRS, Environment Compensation will be levied equivalent to the cost of VRS and this will further increase proportionate to the period of non-compliance.

3. In case of Stage II YRS, dispensers shall be provided with flexible cover flap or other alternate system for proper covering of filling tank and therefore proper recovery of vapors.

4. OMCs are responsible for maintain installed YRS systems. They have to maintain periodic inspections for AIL regulator as prescribed by Legal Metrology. Proper record shall be maintained.
5. Working of dispenser shall be interlinked with VRS functioning. Online system shall be developed within 06 months to monitor status of operation of VRS. In case of non-operation of VRS, the same shall be automatically reported to concerned OMC. YRS shall be brought into operation immediately within 24 hrs and in any case within 72 hrs failing which sale of MS shall be stopped from the fuelling station. Proper records of operation of YRS shall be maintained.
6. Work zone monitoring for Total VOC and Benzene shall be conducted by OMCs for petrol pumps selling more than 300 KL/ month and more than 10 lakh population (in first phase) by E(P)Act, 1986 approved labs once in a year to check compliance with OHSAS norms and report shall be submitted to SPCB. In addition, pilot study shall be conducted by OMCs through expert institutions for online monitoring of voes.
E. Ground water and soil quality monitoring within petrol pump selling more than 300 KL/ month and more than 10 lakh population shall be conducted by OM Cs once in two years through E(P)Act, 1986 approved labs for the following parameters from the nearest source and report submitted to SPCB:
I. Total petroleum hydrocarbons
II. BTEX
Ill. Ethanol
IV. Methyl Tertiary Butyl Ether 7
V. PAH
Enforcement agencies including SPCB can collect samples in and around petrol pump to check contamination.
F. Measures for protection of Worker's Health
1. All workers engaged at retail outlets are being covered under ESL OMC dealers shall implement the personal protective equipment (PPE) as per labor laws.
2. IEC (Information Education Communication) activities should be organized by OMC dealers for workers at regular intervals in order to sensitize them about harmful impacts of VOC emissions. **G. Audit of all protection measures and monitoring system implemented at petrol pumps**: PESO shall conduct audit of tanks and fuel equipments including pipes, overfill protection equipments and alarm system on annual basis and maintain records.
H. Siting criteria of Retail Outlets: New retail Outlets shall not be located within a radial distance of 50 meters (from fill point/ dispensing units/ underground storage tanks/ vent pipe whichever is nearest) from schools and hospitals (10 beds and above). In case of constraints in providing 50 meters distance, the retail outlet shall implement additional safety measures as prescribed by PESO. In no case the distance between new retail outlet and sensitive areas shall be less than 30 meters. No high tension line shall pass over the retail outlet.
2. Feasibility study of new petrol pumps: MoPNG in the meeting convened by CPCB on February 08, 2019 in compliance of order dated 18.1.2019 OA No. 86/2019: Gyanprakhash @ Pappu Singh vsUol informed that the any new outlet proposed to be set up by oil marketing company is after conducting feasibility study.
As regard to preventive measures for minimizing pollution, all new petrol pumps shall have VRS as per CPCB plan, and, shall follow guidelines for setting up of petrol pumps."

And then passed the following order:

> 7. The report states that the timeline for installation of VRS as per above plan was to be finalized in a separate meeting before today's hearing and the CPCB was to place the guidelines on its website.
> 8. Learned Counsel appearing for the CPCB states that the guidelines have now been placed on the website. He is not aware of further steps.
> 9. We may note that installation of VRS is important as in addition to reducing the release of VOC, VRS also help in reduction of particulate matter 2.5 concentration. The VOCs released are converted into semi volatiles and these subsequently results in formation of secondary organic aerosols which may contribute to 12-15% of particulate matter of 2.5 concentrations.1 Installation of vapour recovery systems is necessary to reduce the risks of toxic chemicals such as benzene, toluene and ethyl benzene. Cars and gasoline-burning engines are large sources of volatile organic compounds (VOCs). VOCs are a precursor to ground level ozone, the main constituent of summer time smog. Exposure to ozone can damage crops and ecosystems, and presents a direct risk to human health. Benzene, for example, is a genotoxic human carcinogen. Benzene is a potent carcinogen and is blamed for leukemia. The WHO estimates a 4 in 1 million risk of leukemia on exposure to benzene to a concentration of 1µg/m3.4 Thus, Vapour recovery systems need to be installed at service stations to reduce emissions of VOCs. The impact of VOCs on the environment and public health has been noted by this Tribunal even earlier.
> 10. Mr.Rakesh Kumar, learned Counsel appearing for the oil marketing companies seeks to appear on behalf of oil marketing companies, only to seek adjournment for which we find no justification.
> 11. In view of the above, the Expert Committee having already gone into the matter, finalization of timelines as contemplated in the report, if not yet done, may be done within one month from today which will be the responsibility of the Secretary, MoPNG and the Chairman, CPCB. Further action in terms of the report may be ensured. We may also add that a safe distance from the residential areas must be maintained for any new outlet to be set up which may also be specified within one month, keeping in view the health and safety of the inhabitants.
> The applications are disposed of.

52. It is clear from this, that in order to protect the environment and also to avoid air pollution being caused on account of emission of volatile organic compound from the petroleum retail outlets and also storing stations, installation of VRS is highly necessary and that was the reason why, certain guidelines were issued by the Central Pollution Control Board (CPCB) in consultation with the Ministry of Petroleum and Natural Gas which have to be complied with by the oil marketing companies. When the Government undertake their

commercial activities through their public sector undertakings and in order to promote that industry as a growing commercial activity, then there is a corresponding responsibility on the Government to provide necessary protective mechanism as well to monitor such activities which are classified as Hazardous Industry and regulate their activities conducive with environment. With this principle in mind, applying the "Precautionary Principle", the Principal Bench of National Green Tribunal, New Delhi had directed the CPCB to conduct a study and regulatory mechanism including siting criteria and on the basis of the study conducted by the CPCB with Expert Committee, that the guidelines given by the CPCB were accepted by the Principal Bench of National Green Tribunal, New Delhi and directed the oil marketing companies to install the VRS in the Retail Petrol pumps with certain timeline, which in fact, in principle was accepted by the Hon'ble Apex Court as well in the decision referred to above, where that was challenged by the oil marketing companies before the Hon'ble Apex Court, except with certain modifications regarding time line for implementation of the same.

53. It will be seen from the documents produced by both sides and also from the contentions raised by the parties that in respect of petrol outlets which were in existence in cities having more than one million population and sale turnover of 300 KL/Month or more of petroleum products, the CPCB in concurrence of the concerned Ministry had directed the oil marketing companies who have arrayed as

Respondents No.5 to 9 in this original application, that the same will have to be implemented on or before December 2017, vide their Communication dated 12.12.2016 and they were directed to produce the compliance report as well.

54. The subsequent decision of the Principal Bench of National Green Tribunal, New Delhi in O.A. No.147 of 2016 (Aditya N. Prasad &Ors. Vs. Union of India &Ors.) dated 28.09.2018 is in respect of implementation of the same viz., installation of VRS not only in outlets situated in cities more than one million population and selling turnover of more than 300 KL/Month in NCR and NCT Region alone, but to extend the same to throughout the country and they were directed to implement the same as follows:-

> *"10. Accordingly, we direct that all the oil companies present before this Tribunal must complete the process by 31.10.2018. The CPCB and the Ministry Petroleum and Natural Gas are directed to issue directions and ensure that necessary steps are taken by all the concerned. In respect of petrol pumps selling more than 300 KL per month, the directions must be required to comply with preferably on or before 31.10.2018 and with regard to remaining on or before 31.12.2018. The Tribunal may have to consider directing prosecution of the Chairman of the oil complies for violation."*

55. But, that timeline was extended by the Hon'ble Apex Court in M/s. Indian Oil Corporation Limited Vs. Aditya N. Prasad and Ors. and connected appeals (Civil Appeal Nos.161-163 of 2019, Civil Appeal Nos.253-258 of 2019) dated 14.02.2019.

56. Further, the same aspect has been considered by the Principal Bench in O.A. No.31 of 2019 (K. Sathyadevan Vs. Union of India &Ors.) and O.A. No.86 of 2019 (Gyanprakash @ Pappu Singh Vs. Union of India &Ors.) wherein, the same has been extended at outlets with sale of petrol more than 300 KL/Month located in cities with population of 10 Lakhs and the same also should be installed where sale of petrol is between 100 KL/Month to 300 KL/Month located in cities with population of more than 10 Lakhs and to outlets selling more than 300 KL/Month in cities with population above one lakh. So, irrespective of the population depending upon the quantity of petrol being sold, installation of VRS in the outlets was made mandatory by virtue of this Judgment dated 22.07.2019. Further, the siting criteria were also made mandatory for this purpose.

57. Further, in the same decision, it was mentioned that in case of failure of installation of VRS, environmental compensation will have to be levied equivalent to the cost of VRS and this will further increase proportionate to the period of non-compliance. Certain other protective measures were also provided which will have to be implemented by them. Since this was not implemented by the Oil Marketing Companies in the State of Tamil Nadu, the present application has been filed to enforce the same.

58. It is true that as per the direction of the Principal Bench, CPCB had issued the direction under Section 5 of the Environment (Protection) Act, 1986, fixing the timeline for installation of VRS in respect of

outlet selling more than 100 KL/Month and located in million plus population city and retail outlet selling more than 300 KL/Month and located in cities with population between one lakh to one million as follows:-

> "*Public Sector Oil Marketing Companies (IOCL, BPCL and HPCL)*
>
> *VRS Stage II: 100% retail outlets by August 2022 out of which 50% of retail outlets shall have VRS by September, 2021.*
>
> *VRS Stage IB: 100% retail outlets by February 2022 out of which 50% of retail outlets shall have VRS by July 2021.*
>
> *VRS Stage IA (Storage Terminals): March 2024.*
>
> *Private Sector Oil Marketing Companies (RIL, Shell, Nyara):*
>
> *VRS at all existing retail outlets by July 2021."*

59. So, it is clear from this that the same will not apply to the existing outlets which are existed prior to the pendency of this case and who are selling more than 300 KL/Month and located in cities having population of more than one million as per the direction dated 12.12.2016. But, the subsequent relaxation of timeline given will not be applicable to those outlets mentioned above and this is intended for the purpose of installation of the same throughout the country, irrespective of the population, but depending on the quantity that is being sold.

60. Further, in the same directions, it has been mentioned that VRS Stage 2 has to be completed by August 2022, of which, 50% of retail outlets shall have VRS by September 2021 and VRS Stage 1B has to be completed 100% by February 2022, out of which, 50% retail outlets shall have VRS by July 2021. VRS Stage 1A (Storage Terminals) has

to be completed by March 2024. As regards private sector oil marketing companies are concerned, they will have to install VRS at all existing outlets by July 2021 which was later extended to January 2022.

61. Further, as per the letter issued by the CPCB dated 04.06.2021, further extension was granted for implementation of the same which reads as follows:-

> *"Complete installation of VRS at all existing retail outlets selling more than 100 KL per month and located in million plus cities, and retail outlets selling more than 300 KL per month and located in cities with population between 01 Lakh to 1 Million (except Delhi-NCR) as per the prescribed timelines:*
>
> *VRS Stage II: 100% retail outlet by October 2022 out of which 50% of retail outlets shall have VRS by June 2022.*
>
> *VRS Stage IB: 100% retail outlets by June 2022 out of which 50% of retail outlets shall have VRS by December 2021.*
>
> *VRS Stage IA (Storage Terminals): March 2024.*
>
> *It is to further mention that these amended timelines are timelines till final selection of vendors is done for installation of all Dispenser Units, which shall be intimated to CPCB by OMCs, by July end as indicated in the said letter."*

62. Here also this was only intended for the outlets which are located in areas less than population of 10 Lakh and not to those which were already covered by the direction dated 12.12.2016.

63. So, we are not inclined to accept the contentions raised by the public sector undertakings that they have got time till June 2022 for implementation of the same, as it is not the intention of the CPCB while issuing the guidelines and a reading of the directions also will go to show otherwise.

64. Further, the status reports filed by the public sector undertakings will go to show that none of the public sector undertakings have achieved the target as specified by the CPCB. In cases where target as directed by them have not been implemented, then the CPCB is bound to implement the direction of imposing environmental compensation as directed by the Principal Bench of National Green Tribunal, New Delhi in O.A. No.31 of 2019 (K. Sathyadevan Vs. Union of India &Ors.) and O.A. No.86 of 2019 (Gyanprakash @ Pappu Singh Vs. Union of India &Ors.) by Judgment dated 22.07.2019.

65. So under such circumstances, there is some force in the submission made by the applicant that unless certain directions are given to implement the same in its letter and spirit, no purpose will be served by making orders by the Tribunal, applying the "Precautionary Principle", as the Government has intended to enhance the number of petroleum outlets throughout the country, so as to improve their income through the sale of petroleum products by the public sector undertakings to achieve the economic development.

66. Considering the number of outlets that are likely to come in future and also the possibility of pollution being caused, though there is a direction in the guideline that it should be monitored by the State Pollution Control Board/Central Pollution Control Board as well as directed by the Principal Bench of National Green Tribunal, New Delhi, unless, it is brought under the direct regulating mechanism under the Pollution Control Board, we do not think that such an

exercise could be possible by them. The categorization made by the CPCB of industries, though it falls under the "Orange Category" as per the original categorization, but as per the subsequent categorization, it falls under "Green Category", they will have to obtain Consent from the Pollution Control Board. But, later when subsequent categorization was made, it was exempted from obtaining Consent from the Pollution Control Board. But only in the State of Kerala, it was made mandatory for obtaining Consent to Establish and Consent to Operate for retail petrol pumps to be established. Once such mechanism is followed, all guidelines issued by the CPCB in respect of siting criteria, installation of VRS etc. can be strictly scrutinized by the Pollution Control Board while issuing the consent. Otherwise, there will not be any proper regulating mechanism to supervise as to whether the conditions are being complied with by other agencies which are expected to give No Objection Certificate for such establishment. So, it is high time that the State Pollution Control Boards and the Central Pollution Control Board must bring the Consent mechanism for establishment of new petrol pumps and also to get consent for the existing petrol pumps in future, if they want to continue with the operation has to be made mandatory. We feel that it is a fit case where such a direction can also be given, so that regulation mechanism can made more effective and that will help to prevent the pollution being caused on account of emission of volatile organic compound from the petroleum outlets. So, we direct the State Pollution Control Boards as well as the Central

Pollution Control Board to issue circular, making it mandatory for obtaining Consent to Establish and Consent to Operate as a condition precedent for establishing new petroleum outlets, so that the Pollution Control Board can verify the siting criteria as well as impose conditions for installation of VRS and violation of which will attract the penal as well as regulatory mechanism which will avoid evasion of such mandatory provision by oil marketing companies which is required in the interest of protection of environment, applying the "*Precautionary Principle*".

67. So under such circumstances, we feel that following directions can be given to implement the establishment of VRS in the petroleum outlets:

a. We made it clear that all the Retail Petroleum Outlets which are located in cities having more than 10 Lakh population should have installed the VRS mechanism which are having turnover of more than 300 KL/Month and above, as insisted by the Central Pollution Control Board in consultation with the Ministry of Petroleum and Natural Gas as per circular dated 12.12.2016. If any of the Retail Petroleum Outlets had not installed the same within the time frame fixed by the CPCB or extended by the Hon'ble Apex Court in this regard, then CPCB is directed to take appropriate action against those petroleum outlets/storage depot which have not complied with the same by imposing environmental compensation as directed by the

Principal Bench of National Green Tribunal, New Delhi in O.A. No.147 of 2016 (Aditya N. Prasad &Ors. Vs. Union of India &Ors.).

b. As regards the new petroleum outlets of Stage 1 and Stage 2 (having 100 KL/Month to 300 KL/Month) and for Stage 1A (Storage depots) are concerned, the same will have to be installed within the extended time fixed by the CPCB both by public sector undertaking and private sector undertaking and if there is any violation found, then they are directed to take appropriate action for such violation as directed by the Principal Bench of National Green Tribunal, New Delhi in O.A. No.147 of 2016 (Aditya N. Prasad &Ors. Vs. Union of India &Ors.).

c. The Central Pollution Control Board (CPCB) as well as the State Pollution Control Boards are directed to issue direction under Section 5 of the Environment (Protection) Act, 1986 and Section 18 of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 to make it mandatory to obtain Consent to Establish and Consent to Operate for new petroleum outlets to be established in future and even to those which are under the preparation of establishment, but not started construction as has been done by the State Pollution Control Board, Kerala and such a direction should be issued within a period of 3 (Three) months and till then, all the new Retail Petroleum Outlets are directed to apply

for Consent to Establish and Consent to Operate before its establishment.

d. We also direct all the existing Retail Petroleum Outlets irrespective of its turnover to obtain Consent to Operate for the existing outlets within a period of 6 (Six) Months. If it is not obtained, then the concerned State Pollution Control Board is directed to take appropriate action against such petrol pumps in accordance with law.

68. The point is answered accordingly.

69. In the result, this application is disposed of as follows:-

i. We made it clear that all the Retail Petroleum Outlets which are located in cities having more than 10 Lakh population should have installed the VRS mechanism which are having turnover of more than 300 KL/Month and above, as insisted by the Central Pollution Control Board in consultation with the Ministry of Petroleum and Natural Gas as per circular dated 12.12.2016. If any of the Retail Petroleum Outlets had not installed the same within the time frame fixed by the CPCB or extended by the Hon'ble Apex Court in this regard, then CPCB is directed to take appropriate action against those petroleum outlets/storage depot which have not

complied with the same by imposing environmental compensation as directed by the Principal Bench of National Green Tribunal, New Delhi in O.A. No.147 of 2016 (Aditya N. Prasad &Ors. Vs. Union of India &Ors.).

ii. As regards the new petroleum outlets of Stage 1 and Stage 2 (having 100 KL/Month to 300 KL/Month) and for Stage 1A (Storage depots) are concerned, the same will have to be installed within the extended time fixed by the CPCB both by public sector undertaking and private sector undertaking and if there is any violation found, then they are directed to take appropriate action for such violation as directed by the Principal Bench of National Green Tribunal, New Delhi in O.A. No.147 of 2016 (Aditya N. Prasad & Ors. Vs. Union of India &Ors.).

iii. The Central Pollution Control Board (CPCB) as well as the State Pollution Control Boards are directed to issue direction under Section 5 of the Environment (Protection) Act, 1986 and Section 18 of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 to make it mandatory to obtain Consent to Establish and Consent to Operate for new petroleum outlets to be established in future and even to those which are

under the preparation of establishment, but not started construction as has been done by the State Pollution Control Board, Kerala and such a direction should be issued within a period of 3 (Three) months and till then, all the new Retail Petroleum Outlets are directed to apply for Consent to Establish and Consent to Operate before its establishment.

iv. We also direct all the existing Retail Petroleum Outlets irrespective of its turnover to obtain Consent to Operate for the existing outlets within a period of 6 (Six) Months. If it is not obtained, then the concerned State Pollution Control Board is directed to take appropriate action against such petrol pumps in accordance with law.

v. Considering the circumstances, parties are directed to bear their respective cost in the application.

vi. The Registry is directed to communicate this order to the Ministry of Environment, Forests & Climate Change (MoEF&CC), Central Pollution Control Board, New Delhi, Integrated Regional Office of the Central Pollution Control Board, Bangalore and Chennai, State Pollution Control Boards of Tamil Nadu, Kerala, Andhra Pradesh, Telangana, Karnataka and also to the Pollution Control

Committee of Union Territory of Puducherry for their information and compliance of the direction.

70. With the above observations and directions, this Original Application is disposed of.

Sd/-
.....J.M.
(Justice K. Ramakrishnan)

Sd/-
.....E.M.
(Shri. Saibal Dasgupta)

O.A. No.138 of 2020 (SZ)
23rd December, 2021. AM & Mn.

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Present:

Applicant:	**Mr. Sanjay Upadhyay, Adv. and Mr. Vardhman Kaushik, Applicant in person**
Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate, Dr. Rashid Hasan, Advisor and Mr. R.N. Jindal, Director**
Respondent No. 2:	**Ms. Alpana Poddar, Advocate**
Respondent No. 4:	**Mr. Narender Pal Singh, Adv. and Mr. Kulanand Joshi, Member Secy.**
	Dr. S.D. Singh, CEO Parks and Garden Society
	Mr. Kush Sharma, Adv. for DDA
	Ms. Puja Kalra, Adv. for South and North MCD
	Ms. Savitri Pandey, Adv.
	Mr. Balendu Shekhar, Adv. for EDMC
	Mr. Sanjiv Verma, IAS, Director Environment
	Mr. P.C. Meena, IAS, Administrator, HUDA
	Mr. Mahavir Singh, HCS, Addl. Transport Commissioner
	Dr. Yadav, Chief Engineer, ULB Haryana
	Mr. Narender Hooda, Sr. Adv. and Mr. Dinesh Jindal, LO
	Ms. Bano Deswal, AAG Haryana
	Mr. Ardhendumauli Kumar Prasad, Adv.
	Mr. B.V. Niren and Prasouk Jain, Advs.

	Date and Remarks	Orders of the Tribunal
	Item No. 1, December 04, 2014 A	It is undisputable and infact commonly conceded before us that Delhi is one of the worst cities as far as air pollution is concerned. Studies have shown that the air pollution of Delhi is very injurious to human health. Despite various Policies framed by the State and even some of the orders passed by the highest Court of the land the ambient air quality in Delhi is seriously violative of the prescribed standards. The extent of pollution has increased by the day causing varied illnesses to the citizenries of Delhi and even the

		morning walkers are not safe. In order to adopt a consultative and deliberated approach for resolving this serious menace the Tribunal had directed various stakeholders and all concerned Departments of the States to be present at a Chamber meeting that was held at NGT on 02nd December, 2014. Amongst others the following were present:- 1. Dr. S. C. Khuntia, Special Secretary & Financial Advisor, Ministry of Petroleum and Natural Gas 2. Dr. Rashid Hasan, Advisor, MoEF & CC 3. Mr. A. B. Akolkar, Member Secretary, Central Pollution Control Board 4. Mr. Sanjiv Kumar, Secretary, Environment & Forest, NCT of Delhi 5. Ms. Alka Diwan, Secretary Finance, GNCTD, Finance Deptt. 6. Mr. Satish Mathur, SPL Commissioner (Transport), GNCTD 7. Mr. P C Meena, IAS, HUDA 8. Mr. M. K. Meena, IPS, Jt. CP, New Delhi, Delhi Police 9. Dr. M. M. Kully, Member Secretary, Finance, GNCTD 10. Dr. Mukesh Chander, Special Commissioner Incharge Traffic Police Delhi, Delhi Police 11. Mr. P. Kamaraj, Spl. CP/HQ, Delhi 12. Dr. Anil Kumar, Director (Environment), Govt. of Delhi, Environment Dept., Govt. of Delhi 13. Mr. Kulanand Joshi, Member Secretary, Delhi Pollution Control Committee, Govt. of NCT of

		Delhi 14. Mr. Praveen Gupta, Commissioner, Nr. DMC, MCD (North) 15. Mr. Manish Gupta, Commissioner, SDMC, EDMC 16. Mr. Gyanesh Bhati, Secretary Cum Commissioner Transport, Govt. of NCT of Delhi 17. Mr. Debanshu Mukherjee, CMD, Delhi Transport corporation 18. Mr. SCL Das, Secretary (Health), Govt. of NCT of Delhi 19. Mr. Sanjay Bandopadhyaya, Joint Secretary, Ministry of Road Transport & Highways 20. Ms. Durga Shanker Mishra, Addl. Secretary, Ministry of Urban Development 21. Mr. Pramod Kumar Agrawal, ACEO, NOIDA 22. Mr. Anant Kumar, CE, New Delhi Municipal Council 23. Mr. Deepak Gupta, CE, PWD, GMCTD 24. Mr. C. Ekambaram, Chief Engineer, M/o Road Transport Highways 25. Dr. TK Joshi, Delhi Govt. MAML 26. Ms. Puja Kalra, Adv., Counsel for North MCD, South MCD 27. Ms. Savitri Pandey, Adv., Counsel for State of U.P. 28. Mr. Ravindra Kumar, Adv., NOIDA 29. Mr. Surnedra Kumar, Law Officer, South MCD, South MCD 30. MR. Balendu Shekhar, Adv. Of EDMC, EDMC 31. Mr. Kush Sharma, Adv., Delhi Development Authority

		32. Mr. Narender Pal Singh, Adv. For DPCC & GNCTD 33. Mr. Dinesh Jindal, Law Officer, DPCC 34. Dr. M.P. George, Scientist-D, Delhi Pollution Control Committee Reference to various proposals put forward by the various studies carried out by different Departments and preventive and restorative steps that could be taken were deliberated upon extensively. Further, it was also discussed as to how effectively the directions issued by the Tribunal could be implemented effectively and purposefully. There was a serious concern and consensus that the air quality of Delhi needed attention of all concerned and had to be improved, even if necessary by taking harsh steps in accordance with law. The studies have shown that there are three primary sources causing serious air pollution in NCR Delhi as far as PM10 is concerned. They are dust, burning of plastic and other materials including leaves in the open area and vehicular pollution. All these three sources lead to a common evil of air pollution by introducing high particulate matters, hydrocarbon, oxides of sulphur and nitrogen, benzene and ozone in the air. Vehicles emit numerous carcinogenic chemicals, diesel contains benzene, formal dehyde and 1, 3 – butadiene all three are well recognised carcinogenics. All these pollutants are responsible for causing health hazards. Burning of material also causes serious respiratory problems and are even carcinogenic. It is unquestionable that citizens of Delhi are certainly

		entitled to better quality of air and environment. Though, these three sources of pollution are independent of each other and require different and distinct preventive and restorative directions, but have to be dealt with a common object of ensuring attainment of better ambient air quality in NCR Delhi. This necessitated the issuance of Notice to the State of Haryana, State of Uttar Pradesh and State of Rajasthan which have adjacent border with NCR Delhi. Learned counsel appearing for these States have accepted Notice and are present before the Tribunal. They also commonly conceded that adequate measures are required to be taken for prevention and control of pollution and maintenance of air quality. They also further state that all these States would fully cooperate with the Government of NCT of Delhi and would comply with the directions of the Tribunal for attainment of the object aforestated. An argument has been advanced before us to say that banning of 15 years old vehicles in Delhi would be unfair to the owners of the cars and consequently if cars are sent outside Delhi it would mean that they will cause pollution in other cities and hence, it would shift the pollution. This submission is not only misconceived but void of reasoning as well. Foremost, it pre-supposes that the vehicles of more than 15 years age are not causing pollution. The direction for not permitting the 15 years old vehicles to ply in Delhi may cause some hardship but certainly that hardship on individual or group of individuals must give way to the public cause

		of better environment and public health, which as per constitutional mandate is the fundamental right of the public at large. Individual rights must concede in favour of public rights. Furthermore a 15 year old vehicle may have greater adverse impact on the air quality and environment in a congested area with heavy vehicles density in comparison to when it is driven in an area which is open, with thin vehicle density has a greener belt and wider air dispersion possibility. It is an established fact that particulate problem is most severe in the area having dense population coupled with heavy traffic intensity. Although new engine design have come into existence to reduce emission but the gain has got over shadowed the increasing number of vehicles and the increasing miles travelled per vehicle per year (Wargo et al 2006; Environment and Human Health Inc. Connecticut, USA) with heavy engine. We have to give precedence to the environment and public health and, therefore, the directions must be adhered to without delay and default. Having considered various aspects and after seriously pondering over the suggestions made at the Bar or in the Chamber meeting, we are of the considered view that further directions are called for in the larger public interest and to ensure prevention of air pollution emanating from the three primary sources aforestated. It has also been brought to our notice that nearly 30 lakhs litres of petrol is wasted because of traffic jams and held-up-at signals. This data, however, relates to

		the year 2009 which must naturally have increased considerably now. There are certain definite steps that required to be taken by the concerned Authorities to ensure free flow of traffic and avoid traffic congestion on the roads. **Directions:** 1. Our order dated 26th November, 2014 and 28th November, 2014 shall continue to be in force till further orders and shall be strictly enforced by all concerned Authorities. 2. We direct a team of CPCB, DPCC, a Scientist from MoEF, a Scientist from State Boards of State of Rajasthan, State of Haryana and State of Uttar Pradesh to take ambient air quality samples from the entire NCR Delhi at different intervals and times. The samples would be taken during the peak hours as well as non-peak hours. The sample shall definitely be collected in the early morning hours and late evening hours. The complete analysis of this data for all parameters of NAAQS 2006 shall be made and comparison with the national ambient air quality specified in the Notification dated 18th November, 2009 issued by the MoEF in relation to the air quality standards specified therein shall be made. This report shall also identify the environmentally safest period of the day when residents of Delhi would be exposed to minimum injury to their health.

3. The data so collected shall be treated as base line data for issuance of further directions to improve air quality in Delhi. As already indicated these three principle sources of pollution of air have to be separately dealt with. There cannot be any commonality in the issuance of directions and measures to be taken for prevention and control under each head. Thus, we would pass directions specific to each of the above stated sources:

Vehicular Pollution

1. In addition to the directions already issued we further direct concerned Authorities and Administration to consider the proposal for charging of higher parking fee, higher registration fee and imposition of congestion charges. They shall put their respective suggestions on record before the next date of hearing.
2. We direct all the State Governments, particularly NCT Delhi, to take effective steps to enhance public transportation facilities and provide due infrastructure in that behalf. It will be ensured that public transport becomes more user friendly rather than causing waste of energy by plying empty buses on the roads.

   It is a matter of common knowledge that air conditioned buses are being run by DTC for long part of the day ply but without passengers. Thus, DTC should run buses of different capacity and

		size at different timings and on different routes. All such buses would be driven on CNG fuel only. 3. The DTC shall ensure that the buses running by it do not cause congestion. This transport should be of greater utility to the public and distinct incentives should be provided to the general public to encourage use of public transport. 4. The DTC shall ensure that every bus belonging to DTC or operating under its directions is subjected to mechanical check up through computerised system once every month and will be subjected to check for PUC atleast twice a month. 5. The DTC shall formulate a proper group of staff to carry out above directions/functions and submit a compliance report to the Depot Manager who in turn will inform the highest Authority of the DTC. The above regular computerised check will not absolve the DTC from being subjected to random checks by the concerned Authorities for the purposes of issuance of PUC. It shall be ensured that these buses do not exceed the prescribed emissions standard. 6. The Government and all concerned Authorities shall ensure free flow of traffic in Delhi. Parking spaces shall be earmarked. Parking of vehicles in excess and beyond the specified parking area shall be strictly prohibited. In any case, there shall be no parking permitted on metalled roads in Delhi and appropriate Authority shall take due steps for taking penal action against the

		defaulting persons or firms or contractors who violate this direction. **General directions** 1. Obstructions in free flow of traffic result in traffic jams that lead to higher emission of pollutants in the atmosphere. Thus, we direct the Authorities to ensure that there is no unauthorised parking and whenever a vehicle breaks down on the roads, the same should be removed immediately and without any undue delay. Authorities particularly the Police, thus should make the towing cranes easily accessible. 2. The persons who violate these directions besides being liable for different actions that may be taken against them by the Corporation or appropriate Authority under the law in force, would also be liable to pay compensation and the amounts may be determined by the Tribunal on the principle of 'Polluter Pays' for causing and/or abating pollution in NCR Delhi. 3. The ambient air quality of Delhi needs to be improved even if harsh directions within the framework of law are required to be issued. Keeping in view the gravity of harm to human health due to inferior ambient air quality of Delhi. Improvement even by a decimal of the air quality would go long way in air improving public health and environment in Delhi. Thus, we direct the Governments and all public and other Authorities to immediately install air filters in the colleges,

		schools, gardens and other public places which are visited by a greater number of people in the day. 4. The check post, as directed ealier at the entry points to Delhi, would be manned and monitored commonly by Police, transport department and Weight and Measures Department of NCT of Delhi, and also Officers of the similar Department from the concerned States shall accompany. 5. Online weighing machines shall be installed at a short distance away from the entry post of Delhi. Record of online data of weighing machines in respect of goods carrying vehicles would be maintained regularly and checked by the senior Officer of Police and Transport Department who shall sign and verify such data every day. 6. The check post would only let such vehicles pass onwards which are found to be neither overloaded nor polluting. 7. These Check Post Staff shall make all efforts to ensure that there is no congestion at the entry points of Delhi and no vehicle standing at the Border should be allowed to keep its ignition on. 8. The concerned Authorities and Government should take steps to ensure expeditious completion of the project of Kundli-Manesar-Palwal Express Way, which we are informed is likely to be completed by 2016. The completion of the projects would ensure that the vehicular traffic for destinations other than Delhi do not

		enter NCR Delhi, thus, reducing traffic pressure and consequently air pollution, resulting from vehicular traffic in Delhi. 9. We also direct NCT Delhi and DDA particularly to take the project for completion of a flyway and/or to connect all existing flyovers without obstruction and traffic lights on top priority. 10. The authorities concerned of all the States and NCR of Delhi shall also ensure that Eastern Peripheral Express Way should be completed in a time bound manner and the project be taken up with top priority by the concerned States. 11. We direct that the DPCC and the Transport Department shall immediately ensure installation of appropriate 'catalytic convertors', particularly for diesel vehicles, if not already fitted which would ensure reduction of pollutants entering the atmosphere in Delhi. 12. The Government of NCT will take steps to introduce and enforce BS-V vehicles in NCR Delhi. All other neighbouring States would ensure that they also take effective steps to have BS – IV compliant vehicles only. The progress report should be submitted before the next date of hearing to the Tribunal. 13. It was agreed and which we direct that Lajpat Nagar and Karol Bagh should be taken as pilot projects for de-congestion of the traffic resulting from excessive and impermissible parking in the entire area.

		14. We direct Transport Authority, Delhi Police and DPCC to take immediate and effective steps so that parking areas are marked distinctly and no vehicle is permitted to be parked beyond parking areas in Lajpat Nagar and Karol Bagh. It will be ensured that free flow of traffic is maintained in the market and colonies of the pilot projects. In Lajpat Nagar two way dual carriage while in Karol Bagh one way dual carriage flow of traffic shall be maintained. There must not be any parking on the metalled roads. The concerned Police Officers, Officers of the Corporation and other agencies/authorities shall be personally responsible for this compliance. 15. It has been brought to our notice that the forest area of Delhi is 12.12% as against national forest policy that envisaged 33% forest area. However, it may also be noticed that if the green area is added along with forest area then it may come to nearly 20.08% and from whatever point it is viewed, Delhi certainly needs a larger green area and forest cover. Thus, we direct NCR of Delhi, DPCC and Forest Department to increase the forest cover area as well as to maintain the existing green and forest covers in an appropriate manner and ensure that there is no degradation of the forest and/or green area in Delhi. 16. The Forest Department shall submit report before us as to how many trees have been planted from today till the next date of hearing. The Forest

		Department and Corporation should plant variety of trees belonging to native species in the existing open forest area and also, along the roads and other open spaces. 17. It has not been disputed that checking of vehicles and grant of PUC in the entire NCR of Delhi lacks proper functioning and supervision. Thus, we direct all the States to constitute a special team consisting of members from its Transport Department, Environment Department, Pollution Boards and from any other Department as they may consider appropriate to keep serious vigil on the functioning of the service stations or centers empowered to issue PUC. It will ensure that their machines and equipments are duly calibrated on regular intervals and PUC are issued only after checking vehicles in accordance with the norms specified. 18. It has also been seriously deliberated that garbage burning in Delhi may not be the only pollutant but it is most serious pollutant. It causes nearly 29.4% of air pollution with reference to PM10, however, its contribution in terms of pm 2.5 is not placed us which is a serious pollutant and causes health hazards. Therefore, steps should be taken to reduce level of PM 2.5 through appropriate anti pollution devices. 19. The only workable solution to this serious menace is complete prohibition on burning of garbage or other material in the open area.

		20. It has also been brought to the notice of the Tribunal that waste plastic, rubber and materials are burnt openly though prohibitory orders have been issued in the other connected matters by the Tribunal. The police has reported that no such burning is going on particularly in the area of Narela and Mundka but complaints with photographs are still being filed before the Tribunal stating clear violation of this direction. 21. Thus, we direct Police Authority and respective Municipal Corporation and the DPCC to ensure that any waste material, garbage or even leaves are not burnt in the open areas at all. For this purpose, concerned Executive Engineer of the respective organisation responsible for activities of cleanliness shall be personally responsible because this work alone cannot be carried out by the Police with its limited resources. It is important that all the public Authorities including DPCC and the representative of the State Boards effectively supervise the compliance of this direction. If any person is found to be causing such pollution then besides the actions that can be taken against him. We make it clear that such person shall be liable to pay compensation in terms of Section 15 of the National Green Tribunal Act, 2010 under the principle of 'polluter pays'. This compensation may vary depending on facts and circumstances of the case from Rs. 20,000 to Rs. 1 lakh per incident.

22. Proper steps will be taken to spread education through different sources and even by requiring concerned Schools in the NCR, Delhi to educate students about the need for improvement of air quality and the steps that should be taken. Cooperation of the young generation should be encouraged besides providing a good incentives to the people reporting the same and steps be taken for creating environmental wings in the Capital city of India.

23. Suggestions have been made with regard to putting of cap on total number the vehicles, including cars and all other vehicles. We direct all the concerned Authorities in the respective States to collectively put their views before next date of hearing in this regard.

24. We further direct that there shall be no hot mixing on the road side. All public Authorities particularly the PWD, DDA and others should themselves, during construction and maintenance of road, ensure that coal tar, bitumen and/or asphalt mix is brought in molten condition and the same is neither burnt nor fire is put to melt these substance on the open roads.

25. The NCR Delhi, DDA and Railway Boards shall consider shifting and /or bifurcating of three sites meant for Cargo containers i.e. Tughlakabad, Okhla and area close to Anand Vihar, where heavy containers depot have been

		located, 10 or 12 wheeler heavy trailers come to these areas and thus, cause serious traffic jams obstructing free flow of traffic, besides directly causing pollution in the air. If these sites are shifted or bifurcated atleast in the areas in the outskirts of NCR in consultation with the other States will help greatly in improving the air quality of NCR Delhi. 26. A suggestion was also made to fix life of the vehicle especially private and commercial. 27. Now we will be dealing with the air pollution from dust. It primarily results from demolition and construction activity going on in the NCR Delhi. Furthermore, the demolition material and construction material are transported without proper coverage and precautions, thus causing serious air pollution. It is informed that the largest contributor of air pollution is dust in NCR Delhi. This needs to be resolved at the earliest. It is also commonly conceded before us that this is one aspect which can be controlled by taking adequate measures without posing much difficulties. Still it is imperative that there should be definite will and sincerity for complying with the directions contained in this order on the part of all concerned. Hoping that all the concerned Departments of the Government, Police Authorities and Corporation would earnestly execute the directions, we issue following directions:

		1) No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on the metalled road. 2) Beyond the metalled road the area where such construction material or debris can be stored shall be physically demarcated by the Officers of all the concerned Authorities/Corporation. It shall be ensured that such storage does not cause any obstruction to the free flow of traffic and/or inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage. Every builder, contractor or person shall ensure that the construction material is completely covered by tarpaulin. All other precautions should be taken to ensure that no dust particles are permitted to pollute the air quality as a result of such storage. It shall also be ensured that appropriate protection measures are taken by raising of wind breakers of the appropriate height on all the sides of plot/area using plastic and/or other similar material, to ensure that no construction material dust fly outside the plot area and it will be the builder/contractor responsibility to ensure that their activity does not cause any air pollution during the course of the construction and/ or storage of material or construction activity. This condition shall be strictly

		adhered to by every builder, contractor, person or authority whether it relates to construction on small plot or a multistoreyed building. In the event of default they shall be liable to be prosecuted under the law in force, as well as for causing environmental pollution and shall also be liable to pay compensation which would be determined by the Tribunal in accordance with law. 3) All the concerned State Pollution Control Boards and environment departments of the State are hereby directed to maintain strict vigil and supervision over all the stone crushers to ensure that they are operating only after obtaining consent of the board/authority and are strictly conforming to the prescribed norms. 4) The Executive Engineer of each PWD or any other organisation would be personally responsible for effective compliance of these directions who shall submit Report to his Chief Engineer without delay and default every week. This will also apply to construction of all the roads, highways in the NCR Delhi. 5) All the trucks or vehicles of any kind which are used for construction purposes and/or are carrying construction materials like cement, sand and other allied material shall be fully covered. The vehicles would be properly cleaned, shall be dust free and/or other

		precautions would be taken to ensure that enroute their destinations, the dust, sand or other particles are not permitted to be released in the air and/or contaminate air. Any truck which is not complying with these directions would not be permitted to enter NCR Delhi. 6) All Authorities, Corporations of NCR Delhi shall also ensure that there will no burning of any material earmarked at the land fill sites. 7) Crop remnant burning in agricultural field falling in NCR Delhi shall be strictly prohibited. 8) All the authorities i.e. Chief Secretaries, of the respective States and NCR Delhi, Commissioner / DGP, heads of all the public authorities, bodies, organization, including the Director General of PWD, CPWD, Horticulture Department, Vice Chairman of DDA, Commissioner of the respective Corporation, Chairperson of State Pollution Control Board and all Authorities, shall issue directions forthwith for strict compliance of these directions and in default would take disciplinary action under the respective service rules for any of the breach committed by officials to the direction aforestated. 9) We also direct the inspecting team to collect stack and air ambient quality samples from and near the Indraprastha Thermal Power Station Delhi and

		Barder Pur Thermal Power Plant. They should specifically provide information to contribution of these two plants to the air pollution in Delhi. The above directions shall be enforced without delay and default by all the concerned Authorities, Corporation, DDA, DJB, Forest Department, Department of Environment, NCT Delhi, DPCC, Department of Weights and Measures, NCT Delhi and Police Force. The head of the Department of all these would be personally responsible for compliance of these directions. It is further made clear that the head of Departments shall fix responsibility of all the Officers incharge of different areas to ensure that directions are carried out without default and delay. All the status reports, compliance of which is required above as per directions of this Tribunal would be filed before the Tribunal three days in advance of the date fixed. Liberty is granted to all the parties, any person aggrieved or otherwise and all the Departments to approach the Tribunal if the occasions so arises for clarification of the orders passed by the Tribunal and/or for issuing further directions. List this matter on 12th January, 2015 the date already fixed. ……,CP (Swatanter Kumar)

		……,JM (M.S. Nambiar) ……,EM (Dr. D.K. Agrawal) ……,EM (Prof. A.R. Yousuf)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Present:

Applicant:	**Mr. Sanjay Upadhyay, Adv. and Mr. Vardhman Kaushik, Applicant in person**
Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate, Dr. Rashid Hasan, Advisor and Mr. R.N. Jindal, Director**
Respondent No. 2:	**Ms. Alpana Poddar, Advocate**
Respondent No. 4:	**Mr. Narender Pal Singh, Adv. and Mr. Kulanand Joshi, Member Secy.**
	Dr. S.D. Singh, CEO Parks and Garden Society
	Mr. Kush Sharma, Adv. for DDA
	Ms. Puja Kalra, Adv. for South and North MCD
	Ms. Savitri Pandey, Adv.
	Mr. Balendu Shekhar, Adv. for EDMC
	Mr. Sanjiv Verma, IAS, Director Environment
	Mr. P.C. Meena, IAS, Administrator, HUDA
	Mr. Mahavir Singh, HCS, Addl. Transport Commissioner
	Dr. Yadav, Chief Engineer, ULB Haryana
	Mr. Narender Hooda, Sr. Adv. and Mr. Dinesh Jindal, LO
	Ms. Bano Deswal, AAG Haryana
	Mr. Ardhendumauli Kumar Prasad, Adv.
	Mr. B.V. Niren and Prasouk Jain, Advs.

	Date and Remarks	Orders of the Tribunal
	Item No. 1, December 04, 2014 A	It is undisputable and infact commonly conceded before us that Delhi is one of the worst cities as far as air pollution is concerned. Studies have shown that the air pollution of Delhi is very injurious to human health. Despite various Policies framed by the State and even some of the orders passed by the highest Court of the land the ambient air quality in Delhi is seriously violative of the prescribed standards. The extent of pollution has increased by the day causing varied illnesses to the citizenries of Delhi and even the

		morning walkers are not safe. In order to adopt a consultative and deliberated approach for resolving this serious menace the Tribunal had directed various stakeholders and all concerned Departments of the States to be present at a Chamber meeting that was held at NGT on 02nd December, 2014. Amongst others the following were present:- 1. Dr. S. C. Khuntia, Special Secretary & Financial Advisor, Ministry of Petroleum and Natural Gas 2. Dr. Rashid Hasan, Advisor, MoEF & CC 3. Mr. A. B. Akolkar, Member Secretary, Central Pollution Control Board 4. Mr. Sanjiv Kumar, Secretary, Environment & Forest, NCT of Delhi 5. Ms. Alka Diwan, Secretary Finance, GNCTD, Finance Deptt. 6. Mr. Satish Mathur, SPL Commissioner (Transport), GNCTD 7. Mr. P C Meena, IAS, HUDA 8. Mr. M. K. Meena, IPS, Jt. CP, New Delhi, Delhi Police 9. Dr. M. M. Kully, Member Secretary, Finance, GNCTD 10. Dr. Mukesh Chander, Special Commissioner Incharge Traffic Police Delhi, Delhi Police 11. Mr. P. Kamaraj, Spl. CP/HQ, Delhi 12. Dr. Anil Kumar, Director (Environment), Govt. of Delhi, Environment Dept., Govt. of Delhi 13. Mr. Kulanand Joshi, Member Secretary, Delhi Pollution Control Committee, Govt. of NCT of

		Delhi 14. Mr. Praveen Gupta, Commissioner, Nr. DMC, MCD (North) 15. Mr. Manish Gupta, Commissioner, SDMC, EDMC 16. Mr. Gyanesh Bhati, Secretary Cum Commissioner Transport, Govt. of NCT of Delhi 17. Mr. Debanshu Mukherjee, CMD, Delhi Transport corporation 18. Mr. SCL Das, Secretary (Health), Govt. of NCT of Delhi 19. Mr. Sanjay Bandopadhyaya, Joint Secretary, Ministry of Road Transport & Highways 20. Ms. Durga Shanker Mishra, Addl. Secretary, Ministry of Urban Development 21. Mr. Pramod Kumar Agrawal, ACEO, NOIDA 22. Mr. Anant Kumar, CE, New Delhi Municipal Council 23. Mr. Deepak Gupta, CE, PWD, GMCTD 24. Mr. C. Ekambaram, Chief Engineer, M/o Road Transport Highways 25. Dr. TK Joshi, Delhi Govt. MAML 26. Ms. Puja Kalra, Adv., Counsel for North MCD, South MCD 27. Ms. Savitri Pandey, Adv., Counsel for State of U.P. 28. Mr. Ravindra Kumar, Adv., NOIDA 29. Mr. Surnedra Kumar, Law Officer, South MCD, South MCD 30. MR. Balendu Shekhar, Adv. Of EDMC, EDMC 31. Mr. Kush Sharma, Adv., Delhi Development Authority

		32. Mr. Narender Pal Singh, Adv. For DPCC & GNCTD 33. Mr. Dinesh Jindal, Law Officer, DPCC 34. Dr. M.P. George, Scientist-D, Delhi Pollution Control Committee Reference to various proposals put forward by the various studies carried out by different Departments and preventive and restorative steps that could be taken were deliberated upon extensively. Further, it was also discussed as to how effectively the directions issued by the Tribunal could be implemented effectively and purposefully. There was a serious concern and consensus that the air quality of Delhi needed attention of all concerned and had to be improved, even if necessary by taking harsh steps in accordance with law. The studies have shown that there are three primary sources causing serious air pollution in NCR Delhi as far as PM10 is concerned. They are dust, burning of plastic and other materials including leaves in the open area and vehicular pollution. All these three sources lead to a common evil of air pollution by introducing high particulate matters, hydrocarbon, oxides of sulphur and nitrogen, benzene and ozone in the air. Vehicles emit numerous carcinogenic chemicals, diesel contains benzene, formal dehyde and 1, 3 – butadiene all three are well recognised carcinogenics. All these pollutants are responsible for causing health hazards. Burning of material also causes serious respiratory problems and are even carcinogenic. It is unquestionable that citizens of Delhi are certainly

		entitled to better quality of air and environment. Though, these three sources of pollution are independent of each other and require different and distinct preventive and restorative directions, but have to be dealt with a common object of ensuring attainment of better ambient air quality in NCR Delhi. This necessitated the issuance of Notice to the State of Haryana, State of Uttar Pradesh and State of Rajasthan which have adjacent border with NCR Delhi. Learned counsel appearing for these States have accepted Notice and are present before the Tribunal. They also commonly conceded that adequate measures are required to be taken for prevention and control of pollution and maintenance of air quality. They also further state that all these States would fully cooperate with the Government of NCT of Delhi and would comply with the directions of the Tribunal for attainment of the object aforestated. An argument has been advanced before us to say that banning of 15 years old vehicles in Delhi would be unfair to the owners of the cars and consequently if cars are sent outside Delhi it would mean that they will cause pollution in other cities and hence, it would shift the pollution. This submission is not only misconceived but void of reasoning as well. Foremost, it pre-supposes that the vehicles of more than 15 years age are not causing pollution. The direction for not permitting the 15 years old vehicles to ply in Delhi may cause some hardship but certainly that hardship on individual or group of individuals must give way to the public cause

		of better environment and public health, which as per constitutional mandate is the fundamental right of the public at large. Individual rights must concede in favour of public rights. Furthermore a 15 year old vehicle may have greater adverse impact on the air quality and environment in a congested area with heavy vehicles density in comparison to when it is driven in an area which is open, with thin vehicle density has a greener belt and wider air dispersion possibility. It is an established fact that particulate problem is most severe in the area having dense population coupled with heavy traffic intensity. Although new engine design have come into existence to reduce emission but the gain has got over shadowed the increasing number of vehicles and the increasing miles travelled per vehicle per year (Wargo et al 2006; Environment and Human Health Inc. Connecticut, USA) with heavy engine. We have to give precedence to the environment and public health and, therefore, the directions must be adhered to without delay and default. Having considered various aspects and after seriously pondering over the suggestions made at the Bar or in the Chamber meeting, we are of the considered view that further directions are called for in the larger public interest and to ensure prevention of air pollution emanating from the three primary sources aforestated. It has also been brought to our notice that nearly 30 lakhs litres of petrol is wasted because of traffic jams and held-up-at signals. This data, however, relates to

		the year 2009 which must naturally have increased considerably now. There are certain definite steps that required to be taken by the concerned Authorities to ensure free flow of traffic and avoid traffic congestion on the roads. **Directions:** 1. Our order dated 26th November, 2014 and 28th November, 2014 shall continue to be in force till further orders and shall be strictly enforced by all concerned Authorities. 2. We direct a team of CPCB, DPCC, a Scientist from MoEF, a Scientist from State Boards of State of Rajasthan, State of Haryana and State of Uttar Pradesh to take ambient air quality samples from the entire NCR Delhi at different intervals and times. The samples would be taken during the peak hours as well as non-peak hours. The sample shall definitely be collected in the early morning hours and late evening hours. The complete analysis of this data for all parameters of NAAQS 2006 shall be made and comparison with the national ambient air quality specified in the Notification dated 18th November, 2009 issued by the MoEF in relation to the air quality standards specified therein shall be made. This report shall also identify the environmentally safest period of the day when residents of Delhi would be exposed to minimum injury to their health.

3. The data so collected shall be treated as base line data for issuance of further directions to improve air quality in Delhi. As already indicated these three principle sources of pollution of air have to be separately dealt with. There cannot be any commonality in the issuance of directions and measures to be taken for prevention and control under each head. Thus, we would pass directions specific to each of the above stated sources:

Vehicular Pollution

1. In addition to the directions already issued we further direct concerned Authorities and Administration to consider the proposal for charging of higher parking fee, higher registration fee and imposition of congestion charges. They shall put their respective suggestions on record before the next date of hearing.
2. We direct all the State Governments, particularly NCT Delhi, to take effective steps to enhance public transportation facilities and provide due infrastructure in that behalf. It will be ensured that public transport becomes more user friendly rather than causing waste of energy by plying empty buses on the roads.

   It is a matter of common knowledge that air conditioned buses are being run by DTC for long part of the day ply but without passengers. Thus, DTC should run buses of different capacity and

		size at different timings and on different routes. All such buses would be driven on CNG fuel only. 3. The DTC shall ensure that the buses running by it do not cause congestion. This transport should be of greater utility to the public and distinct incentives should be provided to the general public to encourage use of public transport. 4. The DTC shall ensure that every bus belonging to DTC or operating under its directions is subjected to mechanical check up through computerised system once every month and will be subjected to check for PUC atleast twice a month. 5. The DTC shall formulate a proper group of staff to carry out above directions/functions and submit a compliance report to the Depot Manager who in turn will inform the highest Authority of the DTC. The above regular computerised check will not absolve the DTC from being subjected to random checks by the concerned Authorities for the purposes of issuance of PUC. It shall be ensured that these buses do not exceed the prescribed emissions standard. 6. The Government and all concerned Authorities shall ensure free flow of traffic in Delhi. Parking spaces shall be earmarked. Parking of vehicles in excess and beyond the specified parking area shall be strictly prohibited. In any case, there shall be no parking permitted on metalled roads in Delhi and appropriate Authority shall take due steps for taking penal action against the

		defaulting persons or firms or contractors who violate this direction. **General directions** 1. Obstructions in free flow of traffic result in traffic jams that lead to higher emission of pollutants in the atmosphere. Thus, we direct the Authorities to ensure that there is no unauthorised parking and whenever a vehicle breaks down on the roads, the same should be removed immediately and without any undue delay. Authorities particularly the Police, thus should make the towing cranes easily accessible. 2. The persons who violate these directions besides being liable for different actions that may be taken against them by the Corporation or appropriate Authority under the law in force, would also be liable to pay compensation and the amounts may be determined by the Tribunal on the principle of 'Polluter Pays' for causing and/or abating pollution in NCR Delhi. 3. The ambient air quality of Delhi needs to be improved even if harsh directions within the framework of law are required to be issued. Keeping in view the gravity of harm to human health due to inferior ambient air quality of Delhi. Improvement even by a decimal of the air quality would go long way in air improving public health and environment in Delhi. Thus, we direct the Governments and all public and other Authorities to immediately install air filters in the colleges,

		schools, gardens and other public places which are visited by a greater number of people in the day. 4. The check post, as directed ealier at the entry points to Delhi, would be manned and monitored commonly by Police, transport department and Weight and Measures Department of NCT of Delhi, and also Officers of the similar Department from the concerned States shall accompany. 5. Online weighing machines shall be installed at a short distance away from the entry post of Delhi. Record of online data of weighing machines in respect of goods carrying vehicles would be maintained regularly and checked by the senior Officer of Police and Transport Department who shall sign and verify such data every day. 6. The check post would only let such vehicles pass onwards which are found to be neither overloaded nor polluting. 7. These Check Post Staff shall make all efforts to ensure that there is no congestion at the entry points of Delhi and no vehicle standing at the Border should be allowed to keep its ignition on. 8. The concerned Authorities and Government should take steps to ensure expeditious completion of the project of Kundli-Manesar-Palwal Express Way, which we are informed is likely to be completed by 2016. The completion of the projects would ensure that the vehicular traffic for destinations other than Delhi do not

		enter NCR Delhi, thus, reducing traffic pressure and consequently air pollution, resulting from vehicular traffic in Delhi. 9. We also direct NCT Delhi and DDA particularly to take the project for completion of a flyway and/or to connect all existing flyovers without obstruction and traffic lights on top priority. 10. The authorities concerned of all the States and NCR of Delhi shall also ensure that Eastern Peripheral Express Way should be completed in a time bound manner and the project be taken up with top priority by the concerned States. 11. We direct that the DPCC and the Transport Department shall immediately ensure installation of appropriate 'catalytic convertors', particularly for diesel vehicles, if not already fitted which would ensure reduction of pollutants entering the atmosphere in Delhi. 12. The Government of NCT will take steps to introduce and enforce BS-V vehicles in NCR Delhi. All other neighbouring States would ensure that they also take effective steps to have BS – IV compliant vehicles only. The progress report should be submitted before the next date of hearing to the Tribunal. 13. It was agreed and which we direct that Lajpat Nagar and Karol Bagh should be taken as pilot projects for de-congestion of the traffic resulting from excessive and impermissible parking in the entire area.

		14. We direct Transport Authority, Delhi Police and DPCC to take immediate and effective steps so that parking areas are marked distinctly and no vehicle is permitted to be parked beyond parking areas in Lajpat Nagar and Karol Bagh. It will be ensured that free flow of traffic is maintained in the market and colonies of the pilot projects. In Lajpat Nagar two way dual carriage while in Karol Bagh one way dual carriage flow of traffic shall be maintained. There must not be any parking on the metalled roads. The concerned Police Officers, Officers of the Corporation and other agencies/authorities shall be personally responsible for this compliance. 15. It has been brought to our notice that the forest area of Delhi is 12.12% as against national forest policy that envisaged 33% forest area. However, it may also be noticed that if the green area is added along with forest area then it may come to nearly 20.08% and from whatever point it is viewed, Delhi certainly needs a larger green area and forest cover. Thus, we direct NCR of Delhi, DPCC and Forest Department to increase the forest cover area as well as to maintain the existing green and forest covers in an appropriate manner and ensure that there is no degradation of the forest and/or green area in Delhi. 16. The Forest Department shall submit report before us as to how many trees have been planted from today till the next date of hearing. The Forest

		Department and Corporation should plant variety of trees belonging to native species in the existing open forest area and also, along the roads and other open spaces. 17. It has not been disputed that checking of vehicles and grant of PUC in the entire NCR of Delhi lacks proper functioning and supervision. Thus, we direct all the States to constitute a special team consisting of members from its Transport Department, Environment Department, Pollution Boards and from any other Department as they may consider appropriate to keep serious vigil on the functioning of the service stations or centers empowered to issue PUC. It will ensure that their machines and equipments are duly calibrated on regular intervals and PUC are issued only after checking vehicles in accordance with the norms specified. 18. It has also been seriously deliberated that garbage burning in Delhi may not be the only pollutant but it is most serious pollutant. It causes nearly 29.4% of air pollution with reference to PM10, however, its contribution in terms of pm 2.5 is not placed us which is a serious pollutant and causes health hazards. Therefore, steps should be taken to reduce level of PM 2.5 through appropriate anti pollution devices. 19. The only workable solution to this serious menace is complete prohibition on burning of garbage or other material in the open area.

		20. It has also been brought to the notice of the Tribunal that waste plastic, rubber and materials are burnt openly though prohibitory orders have been issued in the other connected matters by the Tribunal. The police has reported that no such burning is going on particularly in the area of Narela and Mundka but complaints with photographs are still being filed before the Tribunal stating clear violation of this direction. 21. Thus, we direct Police Authority and respective Municipal Corporation and the DPCC to ensure that any waste material, garbage or even leaves are not burnt in the open areas at all. For this purpose, concerned Executive Engineer of the respective organisation responsible for activities of cleanliness shall be personally responsible because this work alone cannot be carried out by the Police with its limited resources. It is important that all the public Authorities including DPCC and the representative of the State Boards effectively supervise the compliance of this direction. If any person is found to be causing such pollution then besides the actions that can be taken against him. We make it clear that such person shall be liable to pay compensation in terms of Section 15 of the National Green Tribunal Act, 2010 under the principle of 'polluter pays'. This compensation may vary depending on facts and circumstances of the case from Rs. 20,000 to Rs. 1 lakh per incident.

		22. Proper steps will be taken to spread education through different sources and even by requiring concerned Schools in the NCR, Delhi to educate students about the need for improvement of air quality and the steps that should be taken. Cooperation of the young generation should be encouraged besides providing a good incentives to the people reporting the same and steps be taken for creating environmental wings in the Capital city of India. 23. Suggestions have been made with regard to putting of cap on total number the vehicles, including cars and all other vehicles. We direct all the concerned Authorities in the respective States to collectively put their views before next date of hearing in this regard. 24. We further direct that there shall be no hot mixing on the road side. All public Authorities particularly the PWD, DDA and others should themselves, during construction and maintenance of road, ensure that coal tar, bitumen and/or asphalt mix is brought in molten condition and the same is neither burnt nor fire is put to melt these substance on the open roads. 25. The NCR Delhi, DDA and Railway Boards shall consider shifting and /or bifurcating of three sites meant for Cargo containers i.e. Tughlakabad, Okhla and area close to Anand Vihar, where heavy containers depot have been

located, 10 or 12 wheeler heavy trailers come to these areas and thus, cause serious traffic jams obstructing free flow of traffic, besides directly causing pollution in the air. If these sites are shifted or bifurcated atleast in the areas in the outskirts of NCR in consultation with the other States will help greatly in improving the air quality of NCR Delhi.

26. A suggestion was also made to fix life of the vehicle especially private and commercial.

27. Now we will be dealing with the air pollution from dust. It primarily results from demolition and construction activity going on in the NCR Delhi. Furthermore, the demolition material and construction material are transported without proper coverage and precautions, thus causing serious air pollution. It is informed that the largest contributor of air pollution is dust in NCR Delhi. This needs to be resolved at the earliest. It is also commonly conceded before us that this is one aspect which can be controlled by taking adequate measures without posing much difficulties. Still it is imperative that there should be definite will and sincerity for complying with the directions contained in this order on the part of all concerned. Hoping that all the concerned Departments of the Government, Police Authorities and Corporation would earnestly execute the directions, we issue following directions:

		1) No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on the metalled road. 2) Beyond the metalled road the area where such construction material or debris can be stored shall be physically demarcated by the Officers of all the concerned Authorities/Corporation. It shall be ensured that such storage does not cause any obstruction to the free flow of traffic and/or inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage. Every builder, contractor or person shall ensure that the construction material is completely covered by tarpaulin. All other precautions should be taken to ensure that no dust particles are permitted to pollute the air quality as a result of such storage. It shall also be ensured that appropriate protection measures are taken by raising of wind breakers of the appropriate height on all the sides of plot/area using plastic and/or other similar material, to ensure that no construction material dust fly outside the plot area and it will be the builder/contractor responsibility to ensure that their activity does not cause any air pollution during the course of the construction and/ or storage of material or construction activity. This condition shall be strictly

		adhered to by every builder, contractor, person or authority whether it relates to construction on small plot or a multistoreyed building. In the event of default they shall be liable to be prosecuted under the law in force, as well as for causing environmental pollution and shall also be liable to pay compensation which would be determined by the Tribunal in accordance with law. 3) All the concerned State Pollution Control Boards and environment departments of the State are hereby directed to maintain strict vigil and supervision over all the stone crushers to ensure that they are operating only after obtaining consent of the board/authority and are strictly conforming to the prescribed norms. 4) The Executive Engineer of each PWD or any other organisation would be personally responsible for effective compliance of these directions who shall submit Report to his Chief Engineer without delay and default every week. This will also apply to construction of all the roads, highways in the NCR Delhi. 5) All the trucks or vehicles of any kind which are used for construction purposes and/or are carrying construction materials like cement, sand and other allied material shall be fully covered. The vehicles would be properly cleaned, shall be dust free and/or other

		precautions would be taken to ensure that enroute their destinations, the dust, sand or other particles are not permitted to be released in the air and/or contaminate air. Any truck which is not complying with these directions would not be permitted to enter NCR Delhi. 6) All Authorities, Corporations of NCR Delhi shall also ensure that there will no burning of any material earmarked at the land fill sites. 7) Crop remnant burning in agricultural field falling in NCR Delhi shall be strictly prohibited. 8) All the authorities i.e. Chief Secretaries, of the respective States and NCR Delhi, Commissioner / DGP, heads of all the public authorities, bodies, organization, including the Director General of PWD, CPWD, Horticulture Department, Vice Chairman of DDA, Commissioner of the respective Corporation, Chairperson of State Pollution Control Board and all Authorities, shall issue directions forthwith for strict compliance of these directions and in default would take disciplinary action under the respective service rules for any of the breach committed by officials to the direction aforestated. 9) We also direct the inspecting team to collect stack and air ambient quality samples from and near the Indraprastha Thermal Power Station Delhi and

Barder Pur Thermal Power Plant. They should specifically provide information to contribution of these two plants to the air pollution in Delhi.

The above directions shall be enforced without delay and default by all the concerned Authorities, Corporation, DDA, DJB, Forest Department, Department of Environment, NCT Delhi, DPCC, Department of Weights and Measures, NCT Delhi and Police Force. The head of the Department of all these would be personally responsible for compliance of these directions. It is further made clear that the head of Departments shall fix responsibility of all the Officers incharge of different areas to ensure that directions are carried out without default and delay.

All the status reports, compliance of which is required above as per directions of this Tribunal would be filed before the Tribunal three days in advance of the date fixed.

Liberty is granted to all the parties, any person aggrieved or otherwise and all the Departments to approach the Tribunal if the occasions so arises for clarification of the orders passed by the Tribunal and/or for issuing further directions.

List this matter on 12th January, 2015 the date already fixed.

……,CP
(Swatanter Kumar)

		……,JM (M.S. Nambiar) ……,EM (Dr. D.K. Agrawal) ……,EM (Prof. A.R. Yousuf)

Item No.9 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

[Through Physical Hearing (with Hybrid Option)]

ORIGINAL APPLICATION NO.34 OF 2024 (WZ)
[Earlier Original Application No.65 of 2024 (PB)]

Citizens of Area Sabha & Anr Applicants

Versus

Maharashtra Pollution Control Board & Ors. Respondents

In re : News item appearing in Pukar News dated 27.12.2023 titled "Pune faces rising concerns over Increased garbage burning and poor air quality"

Date of hearing : 29.05.2024

CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER

Applicants : Ms. Ronita Bhattacharya, Advocate

Respondents : Ms. Pooja Natu, Advocate holding for Ms. Manasi Joshi, Advocate for R-1/MPCB
Mr. Mayur Ovhal, Advocate holding for Mr. Rahul Garg, Advocate for R-3/PMC along with Mr. Mukund Barve, Executive Engineer, PMC and Dr. Ketki Ghatage, Health Officer, PMC

ORDER

1. From the side of the applicants, learned counsel Ms. Ronita Bhattacharya has appeared and drawn our attention to the suggestions to be adopted by the relevant Authority to take care of the problem of garbage burning and pollution emitting out of it. The said suggestions have been filed on 15.04.2024, which are at pages 485 to 496 of the paper-book. In those suggestions, it is submitted that there are several chronic burning spots, such as the banks of streams and rivers, roadsides and service roads along highways, the foothills of hills and forest areas, scrap shops and scrap storage dump yards, industrial areas and open empty plots. According to her, these spots need to be identified, mapped and monitored regularly for which she says that a Joint Committee needs to be constituted, comprising representatives of (i)

Divisional Commissioner, Pune, (ii) Commissioner, Pune Municipal Corporation and (iii) Regional Officer, Maharashtra Pollution Control Board. Apart from this, experts from the reputed institutions such as Indian Institute of Tropical Meteorology (IITM), Pune, Indian Institute of Science Education and Research (IISER), Pune and Automotive Research Association of India (ARAI), Pune, may be coopted. Some members in the civil society may also be taken in the Committee as may be deemed appropriate by this Tribunal.

2. We are of the view that garbage dumping is a kind of activity, which may take place in any of the localities, monitoring of which would be difficult for the high level committee. The persons, who are working in the field, need to be asked to monitor on the garbage burning activity. We had also directed MPCB-respondent No.1 to submit an affidavit as to whether CCTVs can be installed in order to identify such kind of activities of garbage burning.

3. From the side of respondent No.1-MPCB, additional affidavit-in-reply dated 28.05.2024 has been filed, wherein it is recorded that they have installed CAAQMS (Continuous Ambient Air Monitoring Stations) at three locations i.e. Savitribai Phule Pune University, Katraj Dairy and Karve Road, Pune. Bsides that, manual monitoring is being done at two locations i.e. MSEB Office, Nal Stop and Swargate near Traffic Police Chowky. Besides that, it is also recorded that mobile monitoring is being done at six locations, which are mentioned in paragraph No.4 of the said affidavit. The air quality which is monitored as per the CPCB Notification dated 18.11.2009 and analysis results for parameters such as Particulate Matter i.e. PM_{10}, $PM_{2.5}$ and SO_2 are found to be within prescribed limit at the above locations which are mentioned in paragraph No.4 of the affidavit and NO_x is found exceeded at one location at Chhatrapati Sambhaji Maharaj Garden, JM Road, Shivajinagar. We direct that necessary steps be taken for ensuring that NO_x also is brought within

control at the said location. The measures to be taken to bring NO_x within control shall also be suggested within 15 days from the date of uploading of this order and those will be implemented within next 15 days.

4. Further it is mentioned in the aforesaid affidavit of respondent No.1 that PM_{10}, $PM_{2.5}$ and NO_x are exceeding the limit prescribed in the Notification at five locations mentioned in paragraph 6 of the affidavit. We also direct that necessary steps be taken to bring those under control and suggestions be given in that regard within 15 days from the date of uploading of this order.

5. In the said affidavit of respondent No.1, there are several locations mentioned in paragraph No.7 where complaints are received by local residents regarding garbage burning, air pollution and occurrence of fire incident, regarding which, air quality monitoring by deploying mobile monitoring vans was carried out on 11.04.2024 and 12.04.2024 and that as per NAAQS (National Ambient Air Quality Standards), air quality monitoring analysis results show the parameters such as PM_{10}, $PM_{2.5}$ and SO_2 are found to be within limits at these sites. It is also recorded that the Chief Executive Officer, Pune Cantonment Board, Pune has been issued proposed directions dated 02.05.2024 under Section 31A of the Air (Prevention and Control of Pollution) Act, 1981 for non-compliance with the provisions of the Solid Waste (Management) Rules, 2016 and the conditions prescribed in the MSW Authorization. A copy of the said proposed direction is annexed as Annexure-III. Further proposed directions were issued to the Deputy Commissioner, Solid Waste Management Division, Pune Municipal Corporation, Pune on 02.05.2024 under the same provisions cited above and a copy of the said proposed directions is annexed as Annexure-IV. It is also recorded that the answering respondent has deployed mobile monitoring vans for monitoring air quality at three places which are mentioned in paragraph

10 of the affidavit and Particulate Matters i.e. PM_{10}, $PM_{2.5}$, SO_2 and NO_x are found to be within prescribed limits.

6. It is further mentioned in the said affidavit of respondent No.1 that respondent No.3-PMC shall conduct monthly monitoring of air quality at the locations mentioned in paragraph No.12 of the affidavit. By e-mail dated 28.05.2024, action taken report has been submitted by the PMC to the answering respondent for improving air quality as follows:

> *"1. Public Transport Buses (PMPML): A total of 2079 buses of PMPML are operating for public transport out of which 1421 are CAN buses. The service of electric buses started in Pune city since February 2019. At present: 458 electric buses are operational in the city. The E-buses have covered more than 4.5 Cr kms of travel.*
>
> *2. Registration of electric and BS-VI standard vehicles: In order to reduce the pollution caused by exhaust from vehicles and to keep the carbon footprint under control, the registration of vehicles with BS-VI engine in Pune city has been started through RTO. Also, the number of electric vehicles is increasing, and by the year 2023, more than 60,000 electric vehicles have been registered.*
>
> *3. Pollution Control System in Crematorium: Air Pollution Control (APC) systems for wood fired crematoriums have been installed in 27 crematoriums through the Electric Department. In addition to these, 10 crematoriums have electric facility, and 19 crematoriums are installed with gas-based systems.*
>
> *4. Pune Street Program Guidelines from 'Urban Street Design Guidelines' and 'Pedestrian Policy' are being used for road development work. Pune M.N.P. 100 km in the city by road department. Emphasis has been laid on footpaths and cycle tracks and a total of 65 km of roads have been developed by combining various roads.*
>
> *5. Roads without potholes for smooth traffic: 4 special Road Maintenance Vehicles (RMVs) are operational in Pune city and connected through mobile application and 8 new RMVs are proposed.*
>
> *6. Green Area: There are 211 parks in the city and the task of maintaining these parks is the responsibility of Pune Municipal Corporation. The trees on the hills are conserved by the Forest Department through the Joint Forest Management Committee.*

7. Management of road dust: 18 Mechanical Street Sweeper Machines are used for mechanical cleaning of main roads by Solid Waste Management Department. Approx. 120 km per day is swept with these machines. Street cleaning and water sprinkling system is done regularly.

8. Waste & Biomass-Dumping & Burning: There is ban on open burning of plastic, garbage, tree leaves etc. Inspection squads deployed for checking and controlling burning incidents and imposing fine on defaulters. Projects like bio-methanization, waste to energy incineration etc. are implemented successfully in the city.

9. Use of renewable energy: In the city of Pune, solar energy projects with a capacity of 443 kilowatts by roof top solar system Resco model and 825-kilowatt capacity by roof top solar system Capex model have been set up on buildings of PMC and has completed the installation of 1.25 megawatt capacity project.

10. Air Quality Monitoring: 03 CAAQMS (Continuous Ambient Air Quality Monitoring Stations) are installed by MPCB and 02 stations are proposed. In addition, Indian Institute of Tropical Meteorology, Ministry of Earth Sciences, Government of India, Pashan have installed 10 Air Pollution Monitoring systems under the program SAFAR-System for Air Quality Forest and Research.

11. Control of dust from construction activities: (i) New construction technology has increased the use of ready-mix concrete (RMC) as a good construction practice in the city and it is transported only in enclosed vehicles. Also, pre-cast and ready-mix concrete is used in big projects. This technology reduces the dust emission by in-situ concrete mixing. (ii) In order to reduce the amount of Particulate Matter (PM_{10} $PM_{2.5}$) mixed in the air during the handling/transportation of construction materials, the Pollution Control Board has instructed to take measures such as water sprinkling, installing barricades between the construction site and other buildings, etc. The inspection work of various construction sites has been started and notices have been issued to 534 construction professionals till December 2023. (iii) A special team has been appointed through Pune Mahametro to control the dust emitted at the ongoing construction sites, water sprinkler system has been installed at the places where construction materials are loaded and unloaded, barricading/green net has been installed around the construction site.

12. Public Transport (Metro): (i) Total 22 km of metro lines is operational (ii) The work of Hinjewadi to Shivajinagar metro line is in progress.

13. Subsidy to electric rickshaws: Electric auto rikshaws registered with Pune RTO are given subsidy of Rs. 25000 per rickshaw.

14. Public Awareness: (i) A public appeal was made by the Pune Municipal Corporation through the local newspaper as well as through the social media to celebrate an environmentally friendly Diwali festival (ii) All 161 LED display boards of Smart City have been showing air pollution related video clips since October 2023."

7. From the side of respondent no.3-PMC additional affidavit dated 27.05.2024 has been filed, in which it is submitted that during months of November and December, 2023 incidents of garbage burning in few areas of the city had occurred regarding which a news item had been published in Punekar News, cognizance of which has been taken by this Tribunal by way of present proceedings.

8. In paragraph 8 of the aforesaid additional affidavit it is submitted that respondent no.1-MPCB had pointed out four major non-compliances on part of respondent no.1-PMC as follows:

Sr. No.	***Non-Compliance***	***Reply***
1	*PMC have dumped municipal solid waste in Hadapsar Industrial Area unscientifically without segregation*	• *In the Mentioned non-compliance, the area of land belongs to Pune Cantonment Board and Pune Municipal Corporation is not involved in any dumping of waste in that area.* • *However, PMC and PCB have jointly installed a dry waste facility in the area in June 2023 and all the wastes is scientifically treated and disposed at PMC SLF.*
2	*PMC have not provided a proper collection system for the leachates.*	• *It is under the management of Pune Cantonment Board and necessary action to be taken by them.*
3	*PMC have not taken effective steps to avoid garbage burning issues in Hadapsar Industrial Area.*	*1) After the fire incident at the waste facility of Pune Cantonment Board, PMC also provided support the extinguish a fire. PMC has also sent a letter to PCB mentioning to take precautions and implement*

		mitigation measures so that in future any such incident does not occur again (Letter ref. no. SWM/253, dtd. 12/04/2024). *2)* ***Following measures have been taken by Hadapsar – Mundhwa and Dhole Patil Ward Office:*** • *Regular observations are being carried out at 4 identified spots where burning was observed (Morning, Afternoon and Night Shifts).* • *Fines are being imposed if any open burning of waste is found.* • *It was observed that, open burning was done in unutilized spaces, ward offices have requested Police Department to help and keep vigil in these spaces, to avoid open burning of waste.* *3) From January 2023 to 29th April 2023 PMC have collected Rs.9,99,000/- fine against 1722 cases of open burning of waste.*
4	*PMC have dumped mixed garbage at Magarpatta City near Canal Side*	*No mixed garbage is dumped by PMC at Magarpatta City near Canal side. But regular checking is done to avoid any dumping.*

9. When an inquiry was made to learned counsel for respondent no.2-PMC, it is submitted that Hadapsar and Hadapsar-Belley Canal road are falling in the jurisdiction of Pune Cantonment Board (PCB). Therefore, action in that regard is to be taken at their end and not at the end of PMC and this relates to the problem of collection system for leachates and it is not the issue involved herein as per the news item.

10. Our attention is also drawn to paragraph 9 of the said additional affidavit by the learned counsel representing respondent no.3-PMC, wherein it is stated that the article has been published in the newspaper Times of India dated 06.03.2024, which shows that air quality of Pune is now in the category of good and satisfactory. It is also recorded in this affidavit that earlier, a fine of Rs.500/- used to be imposed for burning of garbage and now it is raised to Rs.5,000/-. This change has been made with effect from 22.05.2024. A copy of the Office Circular dated 22.05.2024 in that regard is submitted before us today, which is taken on

record and marked as "X" for identification purpose. We direct that a copy of the said circular be provided to the learned counsel for the applicants by the learned counsel for respondent no.3-PMC today through email.

11. In paragraph 11 of the additional affidavit of respondent no.3-PMC, referred to above the steps, which have already be taken, have been mentioned in order to mitigate the problem of garbage burning, which are as follows:

a. *Pune city has robust arrangements for door-to-door collection of Municipal Solid Waste with almost 100% coverage. The waste pickers cooperative SWaCH has been appointed by PMC for door-to-door collection of waste from residential, slums and commercial areas. There are around 3800 waste pickers engaged in door-to-door waste collection daily in the city. Each waste picker is allotted 200 to 250 Households. PMC has given a letter SWaCH that their waste pickers shall not segregate the waste openly and shall not burn any kind of waste roadside and along the canals. (Letter to SWaCH attached with the Letter(3).*
b. *The total daily waste generation for the city is around 2200-2300 TPD which comprises of around 1200-1300 TPD dry waste and approx. 900-1000 TPD wet waste. PMC operates various dry and wet waste processing facilities with the designed capacity of more than 2400 TPD. All processing plants operates as per SWM and MPCB guidelines and their contribution to air pollution is very minimal.*
c. *SWM Department, PMC has more than 750 vehicles fleet for collection and transportation of municipal solid waste from feeder points to processing plants. This large fleet of different categories (Small bell truck, large bell truck, compactors, BRC etc.) is adequate for meeting the daily requirements of waste transportation in the city.*
d. *The SWM department has prepared a strategy and roadmap for elimination of Garbage vulnerable points (GVP)/Chronic spots across the city and it is being implemented at the ward and kothi level. The daily reporting of chronic spots monitoring is being done and reclaimed spot is being beautified.*
e. *PMC operates fleet of more than 15 mechanized road sweepers across five zones in the city for maintaining cleanliness of main 4 lane roads network using vacuum sweeping technology and hydraulic cleaning by water spraying. Each road sweeper vehicle has an attached tipper vehicle and a group of labourers for cleaning of side footpath, dividers, medians and overall route areas. This helps in significantly minimizing the air pollution due to vehicular and construction dust particles.*
f. *PMC employs more than 8,000 sweepers across more than 250 kothis in the city. Each street sweeper has a dedicated*

sweeping beat which is cleaned every day in the morning shift. This significantly reduces the air pollution due to dust particulate.

g. *SWM Department, PMC has issued a notification for spot fine and penalty amount for violating the SWM Rules, 2016. Under the notification, the penalty for garbage burning is Rs 500 for every incident. PMC is in the process receiving administrative sanction for increasing the fine from Rs. 500 to Rs. 5000. Letter of the same attached with the letter (3) Ward wise daily reports are maintained for various offences as per spot fine notification for penalties collected from offenders. PMC has deployed flying squads with dedicated vehicles at wards level (4 vehicles operating now) for penalty collection & efficient monitoring by squads. Letter has been given to all 15 ward offices on 24th April 2024 regarding imposing fines and reducing incidents of open burning of waste (5)*

h. *SWM department has formed monitoring squads across 15 ward offices and 42 Prabhags consisting of ward officials i.e. DSI, Sanitary Inspector (SI) and Mokadams for spotting and preventing the open burning of garbage at any place. The monitoring squad has been authorised to collect penalty under the spot fine notification.*

i. *To minimize pollution due to construction waste, PMC operates a Construction & Demolition (C&D) Waste processing plant of 250 TPD capacity and has designated C&D waste collection points across all wards with dedicated vehicles. A new C&D plant of 200 TPD capacity will be erected and commissioned in the south-west region of Pune city for managing increasing C&D waste, work order of the plant has been issued on 27/02/24.*

j. *Public awareness and IEC campaigns for mass awareness among citizens for discouraging open burning of garbage and sustainable waste management solutions.*

In view of the above, SWM dept, PMC is focusing on reported garbage burning cases for preventing such incidents in future and taking steps to improve air quality."

12. In paragraph 12 of the aforesaid additional affidavit, short term and long term measures, which have been considered and implemented for scientific and effective solid waste management in the city, have been mentioned, which are as under:

a. ***Decentralized Waste Management:*** *PMC gives more focus on adopting decentralized or localised waste management system instead of centralized systems. This includes working with SWaCH waste pickers for over a decade to institutionalize door step collection of municipal waste, encouraging segregation of waste at the source and implementing PMC bye-laws for incentivising on-site processing of wet-waste in Bulk Waste Generators (BWGs) and home composting practices. This*

approach will reduce the transportation cost of waste and efficiently reuse or recycle waste.

b. ***Waste Segregation:*** *In compliance with SWM Rules 2016, and SBM guidelines, PMC is strictly enforcing waste segregation at the source in four categories (Dry, wet, sanitary waste and Domestic Hazardous waste). Different colour coded bins have been provided both at the level of SWaCH waste pickers as well as waste transportation vehicles. This plays a crucial role in improving waste management efficiency as dedicated processing facilities are operating for dry and wet waste.*

c. ***IEC and Citizen Awareness Programs:*** *SWM department, PMC is regularly organizing Ward and kothi level IEC campaigns for engaging with citizens on promoting doorstep collection and source segregation behaviour. This is being done in collaboration with various CSR partners and civil society organizations involving school students and citizens of all age groups and background. Also, regular seminars and workshops are conducted to educate the citizens about the importance of proper waste disposal technologies like composting, Waste to Energy, Biogas, Bio CNG and others. The campaigns reinforce the value of the 3R (Reduce, Reuse, Recycle) practice and to encourage this behaviour, PMC has set up Resource Recycling Centres (RRC) in every ward for collection and forward linkage.*

d. ***Scientific Landfill Management:*** *The open dumping of municipal solid waste is banned in the city since 2020 as entire waste is processed at various waste processing facilities. At the same time, PMC has a Scientific landfill (SLF) at Devachi Uruli for scientific disposal of rejects/inerts generated at processing facilities after processing of municipal solid waste. The operation and management of SLF is being done to minimize environmental impacts. This includes measures such as regular monitoring of gas emissions and leachate collection and treatment. PMC has also issued work order for the construction a new SLF of 300 TPD capacity covering approx 8 acres area in PCB land parcel and the work is in progress for the same. The Tender process for an additional SLF of 300 TPD capacity covering area of approx. 4 acres at Devachi Uruli site is in progress.*

e. ***Strict Enforcement:*** *PMC has notified penalties for various offences under SWM Rules 2016 for preventing waste dumping and waste collection at chronic spots in the city including ban on Single Use Plastic (SUP). Ward level monitoring squads and vehicles have been provided for enhancing penalty collections from the offenders.*

f. ***Recycling Programs:*** *PMC is rolling out in collaboration with SWaCH and various CSR partners for encouraging recycling behaviour within the community. In this context, focus is on establishing local recycling centres (RRCs) at ward levels, and incentivize people to recycle waste. This can be in the form of rewards or monetary benefits.*

g. ***Legacy Waste Management:*** *As dumping of waste is banned in the city, PMC has been doing biomining of existing legacy waste at the site of Devachi Uruli for past few years in phases for*

booming of legacy waste and land reclamation. In phase 1, around 11.75 lakh MT of legacy waste was biomined and approx. 22 acres of land was reclaimed. In 2nd phase, around 8 lakh MT of legacy waste was biomined and approx. 6.5 acres of land has been reclaimed. The reclaimed land will be used for the construction of new SLF at the site.

h. *These short and long-term measures and corrective action plan is being adopted by Solid Waste Management department of Pune Municipal Corporation for addressing the issues pointed by MPCB and for effective compliance of SWM Rules, 2016 and provisions under Air (Prevention and Control of Pollution) Act 1981 read with Environment (Protection) Act 1986. This will help in addressing the citizen Complaints and effective solid waste management in the city."*

13. Besides above, lastly it is mentioned in the aforesaid affidavit that mobile app has been developed by the name "PMC CARE", wherein citizens can register their complaints.

14. The measures, which appear to have been taken by respondent no.3-PMC, appear to be good steps in the direction of mitigating the problem of garbage burning and similarly because of enhancement in the imposition of fine for garbage burning, it would have deterrent effect for such happening in future.

15. We dispose of this Original Application with a direction that Deputy Commissioner, Solid Waste Management Department of Pune Municipal Corporation-respondent no.3 shall conduct review of garbage burning measures on monthly basis and whatever action that would be taken, would be posted on the website of PMC for public purposes.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

May 29, 2024
O.A. No.34/2024(WZ)
npj

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Present:

Applicant:	**Mr. Sanjay Upadhyay, Adv. and Mr. Vardhman Kaushik, Applicant in person**
Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate, Dr. Rashid Hasan, Advisor and Mr. R.N. Jindal, Director**
Respondent No. 2:	**Ms. Alpana Poddar, Advocate**
Respondent No. 4:	**Mr. Narender Pal Singh, Adv. and Mr. Kulanand Joshi, Member Secy.**
	Dr. S.D. Singh, CEO Parks and Garden Society
	Mr. Kush Sharma, Adv. for DDA
	Ms. Puja Kalra, Adv. for South and North MCD
	Ms. Savitri Pandey, Adv.
	Mr. Balendu Shekhar, Adv. for EDMC
	Mr. Sanjiv Verma, IAS, Director Environment
	Mr. P.C. Meena, IAS, Administrator, HUDA
	Mr. Mahavir Singh, HCS, Addl. Transport Commissioner
	Dr. Yadav, Chief Engineer, ULB Haryana
	Mr. Narender Hooda, Sr. Adv. and Mr. Dinesh Jindal, LO
	Ms. Bano Deswal, AAG Haryana
	Mr. Ardhendumauli Kumar Prasad, Adv.
	Mr. B.V. Niren and Prasouk Jain, Advs.

	Date and Remarks	Orders of the Tribunal
	Item No. 1, December 04, 2014 A	It is undisputable and infact commonly conceded before us that Delhi is one of the worst cities as far as air pollution is concerned. Studies have shown that the air pollution of Delhi is very injurious to human health. Despite various Policies framed by the State and even some of the orders passed by the highest Court of the land the ambient air quality in Delhi is seriously violative of the prescribed standards. The extent of pollution has increased by the day causing varied illnesses to the citizenries of Delhi and even the

		morning walkers are not safe. In order to adopt a consultative and deliberated approach for resolving this serious menace the Tribunal had directed various stakeholders and all concerned Departments of the States to be present at a Chamber meeting that was held at NGT on 02nd December, 2014. Amongst others the following were present:- 1. Dr. S. C. Khuntia, Special Secretary & Financial Advisor, Ministry of Petroleum and Natural Gas 2. Dr. Rashid Hasan, Advisor, MoEF & CC 3. Mr. A. B. Akolkar, Member Secretary, Central Pollution Control Board 4. Mr. Sanjiv Kumar, Secretary, Environment & Forest, NCT of Delhi 5. Ms. Alka Diwan, Secretary Finance, GNCTD, Finance Deptt. 6. Mr. Satish Mathur, SPL Commissioner (Transport), GNCTD 7. Mr. P C Meena, IAS, HUDA 8. Mr. M. K. Meena, IPS, Jt. CP, New Delhi, Delhi Police 9. Dr. M. M. Kully, Member Secretary, Finance, GNCTD 10. Dr. Mukesh Chander, Special Commissioner Incharge Traffic Police Delhi, Delhi Police 11. Mr. P. Kamaraj, Spl. CP/HQ, Delhi 12. Dr. Anil Kumar, Director (Environment), Govt. of Delhi, Environment Dept., Govt. of Delhi 13. Mr. Kulanand Joshi, Member Secretary, Delhi Pollution Control Committee, Govt. of NCT of

		Delhi 14. Mr. Praveen Gupta, Commissioner, Nr. DMC, MCD (North) 15. Mr. Manish Gupta, Commissioner, SDMC, EDMC 16. Mr. Gyanesh Bhati, Secretary Cum Commissioner Transport, Govt. of NCT of Delhi 17. Mr. Debanshu Mukherjee, CMD, Delhi Transport corporation 18. Mr. SCL Das, Secretary (Health), Govt. of NCT of Delhi 19. Mr. Sanjay Bandopadhyaya, Joint Secretary, Ministry of Road Transport & Highways 20. Ms. Durga Shanker Mishra, Addl. Secretary, Ministry of Urban Development 21. Mr. Pramod Kumar Agrawal, ACEO, NOIDA 22. Mr. Anant Kumar, CE, New Delhi Municipal Council 23. Mr. Deepak Gupta, CE, PWD, GMCTD 24. Mr. C. Ekambaram, Chief Engineer, M/o Road Transport Highways 25. Dr. TK Joshi, Delhi Govt. MAML 26. Ms. Puja Kalra, Adv., Counsel for North MCD, South MCD 27. Ms. Savitri Pandey, Adv., Counsel for State of U.P. 28. Mr. Ravindra Kumar, Adv., NOIDA 29. Mr. Surnedra Kumar, Law Officer, South MCD, South MCD 30. MR. Balendu Shekhar, Adv. Of EDMC, EDMC 31. Mr. Kush Sharma, Adv., Delhi Development Authority

		32. Mr. Narender Pal Singh, Adv. For DPCC & GNCTD 33. Mr. Dinesh Jindal, Law Officer, DPCC 34. Dr. M.P. George, Scientist-D, Delhi Pollution Control Committee Reference to various proposals put forward by the various studies carried out by different Departments and preventive and restorative steps that could be taken were deliberated upon extensively. Further, it was also discussed as to how effectively the directions issued by the Tribunal could be implemented effectively and purposefully. There was a serious concern and consensus that the air quality of Delhi needed attention of all concerned and had to be improved, even if necessary by taking harsh steps in accordance with law. The studies have shown that there are three primary sources causing serious air pollution in NCR Delhi as far as PM10 is concerned. They are dust, burning of plastic and other materials including leaves in the open area and vehicular pollution. All these three sources lead to a common evil of air pollution by introducing high particulate matters, hydrocarbon, oxides of sulphur and nitrogen, benzene and ozone in the air. Vehicles emit numerous carcinogenic chemicals, diesel contains benzene, formal dehyde and 1, 3 – butadiene all three are well recognised carcinogenics. All these pollutants are responsible for causing health hazards. Burning of material also causes serious respiratory problems and are even carcinogenic. It is unquestionable that citizens of Delhi are certainly

		entitled to better quality of air and environment. Though, these three sources of pollution are independent of each other and require different and distinct preventive and restorative directions, but have to be dealt with a common object of ensuring attainment of better ambient air quality in NCR Delhi. This necessitated the issuance of Notice to the State of Haryana, State of Uttar Pradesh and State of Rajasthan which have adjacent border with NCR Delhi. Learned counsel appearing for these States have accepted Notice and are present before the Tribunal. They also commonly conceded that adequate measures are required to be taken for prevention and control of pollution and maintenance of air quality. They also further state that all these States would fully cooperate with the Government of NCT of Delhi and would comply with the directions of the Tribunal for attainment of the object aforestated. An argument has been advanced before us to say that banning of 15 years old vehicles in Delhi would be unfair to the owners of the cars and consequently if cars are sent outside Delhi it would mean that they will cause pollution in other cities and hence, it would shift the pollution. This submission is not only misconceived but void of reasoning as well. Foremost, it pre-supposes that the vehicles of more than 15 years age are not causing pollution. The direction for not permitting the 15 years old vehicles to ply in Delhi may cause some hardship but certainly that hardship on individual or group of individuals must give way to the public cause

		of better environment and public health, which as per constitutional mandate is the fundamental right of the public at large. Individual rights must concede in favour of public rights. Furthermore a 15 year old vehicle may have greater adverse impact on the air quality and environment in a congested area with heavy vehicles density in comparison to when it is driven in an area which is open, with thin vehicle density has a greener belt and wider air dispersion possibility. It is an established fact that particulate problem is most severe in the area having dense population coupled with heavy traffic intensity. Although new engine design have come into existence to reduce emission but the gain has got over shadowed the increasing number of vehicles and the increasing miles travelled per vehicle per year (Wargo et al 2006; Environment and Human Health Inc. Connecticut, USA) with heavy engine. We have to give precedence to the environment and public health and, therefore, the directions must be adhered to without delay and default. Having considered various aspects and after seriously pondering over the suggestions made at the Bar or in the Chamber meeting, we are of the considered view that further directions are called for in the larger public interest and to ensure prevention of air pollution emanating from the three primary sources aforestated. It has also been brought to our notice that nearly 30 lakhs litres of petrol is wasted because of traffic jams and held-up-at signals. This data, however, relates to

		the year 2009 which must naturally have increased considerably now. There are certain definite steps that required to be taken by the concerned Authorities to ensure free flow of traffic and avoid traffic congestion on the roads. **Directions:** 1. Our order dated 26th November, 2014 and 28th November, 2014 shall continue to be in force till further orders and shall be strictly enforced by all concerned Authorities. 2. We direct a team of CPCB, DPCC, a Scientist from MoEF, a Scientist from State Boards of State of Rajasthan, State of Haryana and State of Uttar Pradesh to take ambient air quality samples from the entire NCR Delhi at different intervals and times. The samples would be taken during the peak hours as well as non-peak hours. The sample shall definitely be collected in the early morning hours and late evening hours. The complete analysis of this data for all parameters of NAAQS 2006 shall be made and comparison with the national ambient air quality specified in the Notification dated 18th November, 2009 issued by the MoEF in relation to the air quality standards specified therein shall be made. This report shall also identify the environmentally safest period of the day when residents of Delhi would be exposed to minimum injury to their health.

3. The data so collected shall be treated as base line data for issuance of further directions to improve air quality in Delhi. As already indicated these three principle sources of pollution of air have to be separately dealt with. There cannot be any commonality in the issuance of directions and measures to be taken for prevention and control under each head. Thus, we would pass directions specific to each of the above stated sources:

Vehicular Pollution

1. In addition to the directions already issued we further direct concerned Authorities and Administration to consider the proposal for charging of higher parking fee, higher registration fee and imposition of congestion charges. They shall put their respective suggestions on record before the next date of hearing.
2. We direct all the State Governments, particularly NCT Delhi, to take effective steps to enhance public transportation facilities and provide due infrastructure in that behalf. It will be ensured that public transport becomes more user friendly rather than causing waste of energy by plying empty buses on the roads.

   It is a matter of common knowledge that air conditioned buses are being run by DTC for long part of the day ply but without passengers. Thus, DTC should run buses of different capacity and

		size at different timings and on different routes. All such buses would be driven on CNG fuel only. 3. The DTC shall ensure that the buses running by it do not cause congestion. This transport should be of greater utility to the public and distinct incentives should be provided to the general public to encourage use of public transport. 4. The DTC shall ensure that every bus belonging to DTC or operating under its directions is subjected to mechanical check up through computerised system once every month and will be subjected to check for PUC atleast twice a month. 5. The DTC shall formulate a proper group of staff to carry out above directions/functions and submit a compliance report to the Depot Manager who in turn will inform the highest Authority of the DTC. The above regular computerised check will not absolve the DTC from being subjected to random checks by the concerned Authorities for the purposes of issuance of PUC. It shall be ensured that these buses do not exceed the prescribed emissions standard. 6. The Government and all concerned Authorities shall ensure free flow of traffic in Delhi. Parking spaces shall be earmarked. Parking of vehicles in excess and beyond the specified parking area shall be strictly prohibited. In any case, there shall be no parking permitted on metalled roads in Delhi and appropriate Authority shall take due steps for taking penal action against the

		defaulting persons or firms or contractors who violate this direction. **General directions** 1. Obstructions in free flow of traffic result in traffic jams that lead to higher emission of pollutants in the atmosphere. Thus, we direct the Authorities to ensure that there is no unauthorised parking and whenever a vehicle breaks down on the roads, the same should be removed immediately and without any undue delay. Authorities particularly the Police, thus should make the towing cranes easily accessible. 2. The persons who violate these directions besides being liable for different actions that may be taken against them by the Corporation or appropriate Authority under the law in force, would also be liable to pay compensation and the amounts may be determined by the Tribunal on the principle of 'Polluter Pays' for causing and/or abating pollution in NCR Delhi. 3. The ambient air quality of Delhi needs to be improved even if harsh directions within the framework of law are required to be issued. Keeping in view the gravity of harm to human health due to inferior ambient air quality of Delhi. Improvement even by a decimal of the air quality would go long way in air improving public health and environment in Delhi. Thus, we direct the Governments and all public and other Authorities to immediately install air filters in the colleges,

		schools, gardens and other public places which are visited by a greater number of people in the day. 4. The check post, as directed ealier at the entry points to Delhi, would be manned and monitored commonly by Police, transport department and Weight and Measures Department of NCT of Delhi, and also Officers of the similar Department from the concerned States shall accompany. 5. Online weighing machines shall be installed at a short distance away from the entry post of Delhi. Record of online data of weighing machines in respect of goods carrying vehicles would be maintained regularly and checked by the senior Officer of Police and Transport Department who shall sign and verify such data every day. 6. The check post would only let such vehicles pass onwards which are found to be neither overloaded nor polluting. 7. These Check Post Staff shall make all efforts to ensure that there is no congestion at the entry points of Delhi and no vehicle standing at the Border should be allowed to keep its ignition on. 8. The concerned Authorities and Government should take steps to ensure expeditious completion of the project of Kundli-Manesar-Palwal Express Way, which we are informed is likely to be completed by 2016. The completion of the projects would ensure that the vehicular traffic for destinations other than Delhi do not

		enter NCR Delhi, thus, reducing traffic pressure and consequently air pollution, resulting from vehicular traffic in Delhi. 9. We also direct NCT Delhi and DDA particularly to take the project for completion of a flyway and/or to connect all existing flyovers without obstruction and traffic lights on top priority. 10. The authorities concerned of all the States and NCR of Delhi shall also ensure that Eastern Peripheral Express Way should be completed in a time bound manner and the project be taken up with top priority by the concerned States. 11. We direct that the DPCC and the Transport Department shall immediately ensure installation of appropriate 'catalytic convertors', particularly for diesel vehicles, if not already fitted which would ensure reduction of pollutants entering the atmosphere in Delhi. 12. The Government of NCT will take steps to introduce and enforce BS-V vehicles in NCR Delhi. All other neighbouring States would ensure that they also take effective steps to have BS – IV compliant vehicles only. The progress report should be submitted before the next date of hearing to the Tribunal. 13. It was agreed and which we direct that Lajpat Nagar and Karol Bagh should be taken as pilot projects for de-congestion of the traffic resulting from excessive and impermissible parking in the entire area.

		14. We direct Transport Authority, Delhi Police and DPCC to take immediate and effective steps so that parking areas are marked distinctly and no vehicle is permitted to be parked beyond parking areas in Lajpat Nagar and Karol Bagh. It will be ensured that free flow of traffic is maintained in the market and colonies of the pilot projects. In Lajpat Nagar two way dual carriage while in Karol Bagh one way dual carriage flow of traffic shall be maintained. There must not be any parking on the metalled roads. The concerned Police Officers, Officers of the Corporation and other agencies/authorities shall be personally responsible for this compliance. 15. It has been brought to our notice that the forest area of Delhi is 12.12% as against national forest policy that envisaged 33% forest area. However, it may also be noticed that if the green area is added along with forest area then it may come to nearly 20.08% and from whatever point it is viewed, Delhi certainly needs a larger green area and forest cover. Thus, we direct NCR of Delhi, DPCC and Forest Department to increase the forest cover area as well as to maintain the existing green and forest covers in an appropriate manner and ensure that there is no degradation of the forest and/or green area in Delhi. 16. The Forest Department shall submit report before us as to how many trees have been planted from today till the next date of hearing. The Forest

		Department and Corporation should plant variety of trees belonging to native species in the existing open forest area and also, along the roads and other open spaces. 17. It has not been disputed that checking of vehicles and grant of PUC in the entire NCR of Delhi lacks proper functioning and supervision. Thus, we direct all the States to constitute a special team consisting of members from its Transport Department, Environment Department, Pollution Boards and from any other Department as they may consider appropriate to keep serious vigil on the functioning of the service stations or centers empowered to issue PUC. It will ensure that their machines and equipments are duly calibrated on regular intervals and PUC are issued only after checking vehicles in accordance with the norms specified. 18. It has also been seriously deliberated that garbage burning in Delhi may not be the only pollutant but it is most serious pollutant. It causes nearly 29.4% of air pollution with reference to PM10, however, its contribution in terms of pm 2.5 is not placed us which is a serious pollutant and causes health hazards. Therefore, steps should be taken to reduce level of PM 2.5 through appropriate anti pollution devices. 19. The only workable solution to this serious menace is complete prohibition on burning of garbage or other material in the open area.

		20. It has also been brought to the notice of the Tribunal that waste plastic, rubber and materials are burnt openly though prohibitory orders have been issued in the other connected matters by the Tribunal. The police has reported that no such burning is going on particularly in the area of Narela and Mundka but complaints with photographs are still being filed before the Tribunal stating clear violation of this direction. 21. Thus, we direct Police Authority and respective Municipal Corporation and the DPCC to ensure that any waste material, garbage or even leaves are not burnt in the open areas at all. For this purpose, concerned Executive Engineer of the respective organisation responsible for activities of cleanliness shall be personally responsible because this work alone cannot be carried out by the Police with its limited resources. It is important that all the public Authorities including DPCC and the representative of the State Boards effectively supervise the compliance of this direction. If any person is found to be causing such pollution then besides the actions that can be taken against him. We make it clear that such person shall be liable to pay compensation in terms of Section 15 of the National Green Tribunal Act, 2010 under the principle of 'polluter pays'. This compensation may vary depending on facts and circumstances of the case from Rs. 20,000 to Rs. 1 lakh per incident.

		22. Proper steps will be taken to spread education through different sources and even by requiring concerned Schools in the NCR, Delhi to educate students about the need for improvement of air quality and the steps that should be taken. Cooperation of the young generation should be encouraged besides providing a good incentives to the people reporting the same and steps be taken for creating environmental wings in the Capital city of India. 23. Suggestions have been made with regard to putting of cap on total number the vehicles, including cars and all other vehicles. We direct all the concerned Authorities in the respective States to collectively put their views before next date of hearing in this regard. 24. We further direct that there shall be no hot mixing on the road side. All public Authorities particularly the PWD, DDA and others should themselves, during construction and maintenance of road, ensure that coal tar, bitumen and/or asphalt mix is brought in molten condition and the same is neither burnt nor fire is put to melt these substance on the open roads. 25. The NCR Delhi, DDA and Railway Boards shall consider shifting and /or bifurcating of three sites meant for Cargo containers i.e. Tughlakabad, Okhla and area close to Anand Vihar, where heavy containers depot have been

located, 10 or 12 wheeler heavy trailers come to these areas and thus, cause serious traffic jams obstructing free flow of traffic, besides directly causing pollution in the air. If these sites are shifted or bifurcated atleast in the areas in the outskirts of NCR in consultation with the other States will help greatly in improving the air quality of NCR Delhi.

26. A suggestion was also made to fix life of the vehicle especially private and commercial.

27. Now we will be dealing with the air pollution from dust. It primarily results from demolition and construction activity going on in the NCR Delhi. Furthermore, the demolition material and construction material are transported without proper coverage and precautions, thus causing serious air pollution. It is informed that the largest contributor of air pollution is dust in NCR Delhi. This needs to be resolved at the earliest. It is also commonly conceded before us that this is one aspect which can be controlled by taking adequate measures without posing much difficulties. Still it is imperative that there should be definite will and sincerity for complying with the directions contained in this order on the part of all concerned. Hoping that all the concerned Departments of the Government, Police Authorities and Corporation would earnestly execute the directions, we issue following directions:

		1) No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on the metalled road. 2) Beyond the metalled road the area where such construction material or debris can be stored shall be physically demarcated by the Officers of all the concerned Authorities/Corporation. It shall be ensured that such storage does not cause any obstruction to the free flow of traffic and/or inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage. Every builder, contractor or person shall ensure that the construction material is completely covered by tarpaulin. All other precautions should be taken to ensure that no dust particles are permitted to pollute the air quality as a result of such storage. It shall also be ensured that appropriate protection measures are taken by raising of wind breakers of the appropriate height on all the sides of plot/area using plastic and/or other similar material, to ensure that no construction material dust fly outside the plot area and it will be the builder/contractor responsibility to ensure that their activity does not cause any air pollution during the course of the construction and/ or storage of material or construction activity. This condition shall be strictly

		adhered to by every builder, contractor, person or authority whether it relates to construction on small plot or a multistoreyed building. In the event of default they shall be liable to be prosecuted under the law in force, as well as for causing environmental pollution and shall also be liable to pay compensation which would be determined by the Tribunal in accordance with law. 3) All the concerned State Pollution Control Boards and environment departments of the State are hereby directed to maintain strict vigil and supervision over all the stone crushers to ensure that they are operating only after obtaining consent of the board/authority and are strictly conforming to the prescribed norms. 4) The Executive Engineer of each PWD or any other organisation would be personally responsible for effective compliance of these directions who shall submit Report to his Chief Engineer without delay and default every week. This will also apply to construction of all the roads, highways in the NCR Delhi. 5) All the trucks or vehicles of any kind which are used for construction purposes and/or are carrying construction materials like cement, sand and other allied material shall be fully covered. The vehicles would be properly cleaned, shall be dust free and/or other

		precautions would be taken to ensure that enroute their destinations, the dust, sand or other particles are not permitted to be released in the air and/or contaminate air. Any truck which is not complying with these directions would not be permitted to enter NCR Delhi. 6) All Authorities, Corporations of NCR Delhi shall also ensure that there will no burning of any material earmarked at the land fill sites. 7) Crop remnant burning in agricultural field falling in NCR Delhi shall be strictly prohibited. 8) All the authorities i.e. Chief Secretaries, of the respective States and NCR Delhi, Commissioner / DGP, heads of all the public authorities, bodies, organization, including the Director General of PWD, CPWD, Horticulture Department, Vice Chairman of DDA, Commissioner of the respective Corporation, Chairperson of State Pollution Control Board and all Authorities, shall issue directions forthwith for strict compliance of these directions and in default would take disciplinary action under the respective service rules for any of the breach committed by officials to the direction aforestated. 9) We also direct the inspecting team to collect stack and air ambient quality samples from and near the Indraprastha Thermal Power Station Delhi and

Barder Pur Thermal Power Plant. They should specifically provide information to contribution of these two plants to the air pollution in Delhi.

The above directions shall be enforced without delay and default by all the concerned Authorities, Corporation, DDA, DJB, Forest Department, Department of Environment, NCT Delhi, DPCC, Department of Weights and Measures, NCT Delhi and Police Force. The head of the Department of all these would be personally responsible for compliance of these directions. It is further made clear that the head of Departments shall fix responsibility of all the Officers incharge of different areas to ensure that directions are carried out without default and delay.

All the status reports, compliance of which is required above as per directions of this Tribunal would be filed before the Tribunal three days in advance of the date fixed.

Liberty is granted to all the parties, any person aggrieved or otherwise and all the Departments to approach the Tribunal if the occasions so arises for clarification of the orders passed by the Tribunal and/or for issuing further directions.

List this matter on 12th January, 2015 the date already fixed.

……,CP
(Swatanter Kumar)

		……,JM (M.S. Nambiar) ……,EM (Dr. D.K. Agrawal) ……,EM (Prof. A.R. Yousuf)

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No.21 of 2014
(M.A. NO. 87 OF 2015, M.A. NO. 90 OF 2015, M.A. NO. 155 OF 2015, M.A. NO. 200 OF 2015, M.A. NO. 203 OF 2015, M.A. NO. 219 OF 2015, M.A. NO. 234 OF 2015, M.A. NO. 247 OF 2015, M.A. NO. 248 OF 2015, M.A. NO. 274 OF 2015, M.A. NO. 283 OF 2015, M.A. NO. 284 OF 2015 & M.A. NO. 317 OF 2015)
AND
Original Application No. 95 of 2014

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D. SALVI, JUDICIAL MEMBER
HON'BLE MR. DR. D.K. AGRAWAL, EXPERT MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER
HON'BLE MR. B.S. SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014

Present:	**Applicant:**	**Mr. Sanjay Upadhyay, Mr. Adarsh Srivastava and Mr. Salik Shafique, Advs.**
	Respondent No. 1:	**Ms. Panchajanjya Batra Singh, Advocate for MoEF**
	Respondent No. 2 :	**Ms. Alpana Poddar, Adv.**
	Respondent No. 3:	**Ms. Puja Kalra, Adv.**
	Respondent No. 4 :	**Mr. Rajiv Bansal with Mr. Kush Sharma and Ms. Arpita, Advs. for DDA.**
	Respondent No. 5,6 & 7:	**Mr. Ardhendumauli Kumar Prasad, Adv.**
		Mr. D. Rajeshwar Rao, Adv. for Delhi Police (Traffic)
		Ms. Neha Kurian, Ms. Pallavi Talware, Mr. Aditya N. Prasad, Mr. Amit Verma, Mr. Atif and Mr. Sahil Sangar- Local Commissioners
		Ms. Savitir Pandey, Adv. for State of UP
		Mr. Narender Pal Singh, Adv. for R-2 & 4
		Mr. I.K. Kapka, Ms. Shikha Rai, Mr. A.K. Singh, Mr. S.K. Pabbi, Advs. For Karol Bagh Trader Federation
		Mr. Balendu Shekhar, Adv. for EDMC
		Mr. Sanjay Kumar, EE (P)
		Shri Ruchir Batra, Adv. for Lajpat Nagar Traders Association
		Mr. Chirag M. Shroff, Adv. for NCT, Delhi
		Ms. Sakshi Popli, Adv. for NDMC
		Mr. Ravinder Kumar, Adv. for NOIDA and Gr. NOIDA Authority
		Mr. Pinaki Mishra, Sr. Adv., Mr. Rahul Mehra, Ms. Zubdabegum for GNCTD
		Mr. Avnish Ahlawat, Adv. for DUCIB, DTC, Transport Dept. & GNCT
		Mr. Anil Grover, AAG with Mr. Rahul Khurana, Adv. for State of Haryana
		Mr. Janjeev Ailawali and Ms. Priya Dup, Adv.
		Mr. Ajwal Khan, Adv. for Mr. Beopul Mandal,
		Mr. Deepak Khada Ria, Adv.
		Mr. B.S. Jaiswal, IPS, Dept. Traffic, Southern Range
		Mr. Surya Kant Patil, ACP of Traffic, Southern Range
		Insp. Shailendra S. Chauhan, TI/HKG

Insp. K.C. Sharma, , TI/DFC
Insp Vijay Paal Tomar, TI/KKC
Mr. Ravindra Kumar, ACP/Traffic, Northern Range
Insp. Kailash Bisht, TI/Legal Cell
Insp. Shrender Kumar, TI/KBC
Insp. Dalbir Singh, TI/LNC

Original Application No. 95 of 2014

Present:	**Applicant:**	**Mr. Sanjay Kulshretha (Petitioner in Person), with Mr. Ashish S. Kulshreshtha, Advs.**
	Respondent No. 1:	**Mr. Vikas Malhotra and Mr. M.P. Sahay, MoEF & CC**
	Respondent No. 2 to 6:	**Mr. Ardhendumauli Kumar Prasad, Adv.**
	Respondent No. 7 :	**Ms. Savitri Pandey, Adv. for State of U.P.** **Mr. Mukesh Kumar, Adv. for NHAI** **Mr. N. Yogesh Kanna and Mr. A. Santha Kumar, Adv. for state of Tamil Nadu.** **Mr. Chirag M. Shroff, Adv. for NCT Delhi.**

	Date and Remarks	**Orders of the Tribunal**
	Item No. 01 & 02 **April 10, 2015**	The Learned Counsel appearing for the state NCT, Delhi has submitted that the Government of NCT, Delhi has taken a policy decision to implement all the directions of the Tribunal to ensure that people of Delhi get cleaner air to live and lead better life environmentally. The Learned Counsel appearing for the Union of India also states that the Government is committed for better environment. For the statements made above, and in any case, which have been widely reported, that there is definite concern and initiative being taken by the Central as well as State Government to clean the air of Delhi and to provide better ambient air quality for a healthy and decent environment to the residents of Delhi, we record our appreciation for this concern and initiative being taken by the respective Governments. We also express a pious hope that in the interest of public health and environment, the directions now being issued by the Tribunal would be implemented without default and delay.

The Learned Counsel appointed as Commissioners by the Tribunal submitted they have visited the sites (entry point of Delhi) and have prepared their report. They pray for time to file the report during the course of the day. Liberty granted. We also direct the Learned Local Commissioner to file collective report in regard to the recommendations that they wish to make for better implementation of the directions of the Tribunal.

Let the copies of the inspection report be furnished to all the Learned Counsel appearing in this case for Government and Public Authority and state, who should file their response within one week from today.

The Learned Local Commissioners are directed to visit the entry points whenever they wish to. Police shall provide them due assistance and help to enable them to execute commission without obstruction and inconvenience. Copy of the report be given to all the Learned Counsel appearing for various State authority irrespective whether they are party or not.

It is scientifically established fact that the pollutants of ambient air quality are from vehicular pollution, dust pollution, pollution by burning and emission from industry. Today we have decided to deal with this case in phases to prevent and control of air pollution on the one hand and pass directions for restoration of ambient air quality. The matter pertaining to dust emissions from building construction, transportation C&D waste, mining and allied activity is being dealt.

Development in all fields is an essential feature of a developing country. If the stake holders carry out the

development activity in fragrent violation as to the principal of sustainable development the results can be disastrous. They may have serious adverse impact not only on environment and ecology of the area but even would raise serious issues of public health. Where construction activity is one of the very significant facet of development there it is one of the serious contributor of air pollution by generating dust. Dust could be generated purely from construction activity, transportation of construction material, construction debris waste and by carrying on mining activity. Dust emission from these activities attain dangerous dimensions when its carried out rampantly and in a unregulated manner. The stack holders for short economic gains do not take environmental preventive and protections measures prescribed under laws exposing not only their workers but the entire population of the area to variety of diseases some of them are even life threatening.

Despite the fact that the Benches of the Tribunal have expert members from diverse fields of environment. The Tribunal had adopted approach of consulting the stack holders while dealing with the issues of air pollution in Delhi and the steps that are required to be taken for improving the air quality.

The Committees were constituted and even deliberations issued vide orders dated 24th November, 2014 and 01st December, 2014 in regard to controlling the polluting and improving the ambient air quality in Delhi. In the Order dated 01st December, 2014 we had issued a set of directions particularly dealing with the requirements of prevention and control of air pollution resulting from emission of dust in the atmosphere. All the directions

contained in that order shall be read and construed as part of this Order and directions issued hereinafter.

The Expert Committee constituted by the Tribunal had collected samples from 36 different sites in Delhi, Haryana and Uttar Pradesh. The analysis reports indicate significant exceeding parameters. For instance nitrogen dioxide as per the prescribed standard is to be 84 $\mu g/m^3$ was found to be between 146-208 $\mu g/m^3$ in Faridabad in Delhi. The particulate matter as against permissible of PM 10 $\mu g/m^3$ were found to be 484-276-948 $\mu g/m^3$ in Delhi and Faridabad and the surroundings areas. The particulate matters with reference to PM 2.5 is excessively violative in Delhi and has gone upto 1284 as against prescribed standard of 60 $\mu g/m^3$. Carbon dioxide in Delhi is found to be 7.81 $\mu g/m^3$ against the prescribed value of 2 $\mu g/m^3$.

Similar data was also taken note by the Tribunal in its order dated 16th March, 2015. Nitrogen dioxide was found to be 367 $\mu g/m^3$ against the prescribed value of 80 $\mu g/m^3$ on 140 occasions on 24 hours basis. The particulate matters PM 2.5 ranged between 30.41 to 1284 $\mu g/m^3$ against the NAAQS value of 60 $\mu g/m^3$. Carbon monoxide and benzene both were found to be exceeded.

This persuaded to pass the certain directions in that behalf. The same should also read as part of this order.

It has been widely reported that massive construction activity is going on without taking any precautionary and preventive measures. There are no covers scaffolding no housing of road to reduce dust dispersal. The construction materials are not covered, the workers are not provided with gadgets to prevent inhaling of dust particles particularly fine particles.

Thus there is dire need to immediately pass appropriate directions for preventing and controlling the pollution of air from dust and to improve ambient air quality particularly of NCR of Delhi.

We are not oblivious of all the difficulties that may come in the way of the bonafide purchaser and the builders for the restrained orders passed by on 16th March, 2015. But it is not only legal but even a social and corporate responsibility of all the builders to carry on construction activity or mining activity strictly in accordance with the prescribed rules. They must ensure that for small economic gains they do not expose the public including their purchasers and workers to serious diseases and adversely effecting the public health at large. The constitutional right to life, decent and clean environment has to take precedent over the right of an individual to carry on business activity.

Thus we pass the following directions:

(i) No Corporation, authority or instrumentality of the State vested with the power of sanctioning plans, drawings for construction of any commercial, residential and even construction of small plots would impose a clear condition that sanction of plans is subject to the builder, owner or person seeking sanction would strictly comply with the directions contained in this order as well as the MoEF Guidelines, 2010 while raising construction.

(ii) Such Authorities shall forth with issue notices to all the builders raising any kind of construction that they should strictly adhere to and comply with the directions contained in this order of the

			Tribunal as well as MoEF Guidelines, 2010 is relation to precautions required to be taken while carrying on construction.
		(iii)	Every builder or owner shall put tarpaulin on scaffolding around the area of construction and the building. No person including builder, owner can be permitted to store any construction material particularly sand on any part of the street, roads in any colony.
		(iv)	The construction material of any kind that is stored in the site will be fully covered in all respects so that it does not disperse in the Air in any form.
		(v)	All the construction material and debris shall be carried in the trucks or other vehicles which are fully covered and protected so as to ensure that the construction debris or the construction material does not get dispersed into the air or atmosphere, in any form whatsoever.
		(vi)	The dust emissions from the construction site should be completely controlled and all precautions taken in that behalf.
		(vii)	The vehicles carrying construction material and construction debris of any kind should be cleaned before it is permitted to ply on the road after unloading of such material.
		(viii)	Every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris shall be provided with mast to prevent inhalation of dust particles.

		(ix)	Every owner and or builder shall be under obligation to provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
		(x)	It shall be the responsibility of every builder to transport construction material and debris waste to construction site, dumping site or any other place in accordance with rules and in terms of this order.
		(xi)	All to take appropriate measures and to ensure that the terms and conditions of the earlier order and these orders should strictly comply with by fixing sprinklers, creations of green air barriers.
		(xii)	Compulsory use of wetjet in grinding and stone cutting.
		(xiii)	Wind breaking walls around construction site.
		(xiv)	All concerned Government that is state of NCT, Delhi state of U.P., state of Rajasthan and Haryana shall ensure that mining activity if otherwise permitted in accordance with law and orders of the Court is strictly regulated and carry out in a manner prescribed under rules and to ensure that least dust has emitted into air/atmosphere and all steps are taken to prevent the same.
		(xv)	The Corporation, DDA, HUDA, NOIDA, Greater NOIDA Authority and all other Authorities and instrumentalities of the state and its department shall make all efforts to increase the `tree cover' area by planting large number of trees of various species depending upon the quality content of soil

		and other natural attendant circumstances. (xvi) All the builders who are building commercial, residential complexes which are covered under the EIA Notification of 2006 shall provide green belt around the building that they construct. All Authorities shall ensure that such green belts are in existence prior to issuance of occupancy certificate. (xvii) The state Government of NCT, Delhi, Haryana, Uttar Pradesh, state of Rajasthan, all Public Authorities in these states, Corporations, Development Agencies and all other Authorities persons and Departments of the state Government, Pollution Control Boards and Police Authorities shall ensure complete and expeditious compliance of all these directions with immediate effect. a. The Station House Officer, Environmental Engineers, Engineers of the Corporation and of all the Regulatory and Development Authority responsible for sanctioning of plan, granting consent and issuance of completion certificate would be personally and strictly responsible for compliance of these directions in the area/areas that fall under their jurisdiction. In the event of default they shall be liable to pay compensation for such environmental degradation or for pollution of ambient air quality in NCR, Delhi particularly. b. If any person, owner and or builder is found to be violating any of the conditions stated in this order and or for their non-compliance such

person, owner, builder shall be liable to pay compensation of Rs. 50,000/- per default in relation to construction activity at its site and Rs. 5,000/- for each violation during carriage and transportation of construction material, debris through trucks or other vehicles, in terms of Section 15 of the NGT Act on the principle of Polluter Pay. Such action would be in addition not in derogation to the other action that the Authority made take against such builder, owner, person and transporter under the laws in force.

c. The Government of NCT, Delhi shall take immediate step to enhance the capacity of its plant for reutilisation and recycling of C&D waste. It is undisputed on record that NCR, Delhi is generating nearly 4000 MT of C&D waste every day and the capacity of the plant is not able to utilised even 10% of such generated waste. All builders shall ensure that C&D waste is transported in terms of this order to the site in question only and due record in that behalf shall be maintained by the builders, transporters and NCR of Delhi.

d. We make it clear that even if constructions have been started after seeking Environmental Clearance under the EIA notification 2006 and after taking other travel but is being carried out without taking the preventive and protective environmental steps as stated in this order and MoEF guidelines, 2010, the State Government,

SPCB and any officer of any department as aforestated shall be entitled to direct stoppage of work.

In relation to Lajpat Nagar, we make it clear that the cement Jersey Barriers would be placed at both the ends of the road. There shall be no crossing permitted from one end to the road and another end of the road. In other words, there would be no intersection. We are informed that the parking space as provided by the Board is able to accommodate nearly 550 cars which would has provided a great relief to the traffic congestion in Lajpat Nagar. This arrangement would continue in terms of the order of the Tribunal till further order. Police Authorities present before the Tribunal, shall ensure that all the directions issued by the Tribunal in regard to the de-congestion of traffic thus resulting in minimum emissions from vehicular pollution should be carried out strictly without default. The CPCB shall place on record ambient air quality analysis pre orders and post orders. We are informed that data of ambient air quality for 2007 to 2009 have been placed on record. The CPCB shall prepare a comparative table and DPCC shall fully assist in that behalf. Reference in the air quality report shall be also made regarding existing climatic condition at the time of collection of sample. Needless to mention that Delhi Metro is carrying on huge construction activities in Delhi, its public benefit and public importance cannot be denied but still they are required to ensure that they do not cause any air pollution. Therefore we direct Delhi Metro or any other Government or private construction agency carrying on massive construction project that they will strictly adhere to construction activities in terms of this

		order and the guidelines contained in MoEF guidelines, 2010. The Learned Counsel appearing for the State of Haryana, State of U.P., NOIDA and Greater NOIDA submit that they will ensure that the directions of this order and that of 16.03.2015 will be complied with forthwith. The MCD, South will file an affidavit by the next date of hearing positively stating as to which place in Lajpat Nagar they would build the multi level parking. Chief Engineer would be present before the Tribunal on the next date of hearing. List this matter on 17th April, 2015 at 02:00 PM. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. D.K. Agrawal) .....,EM (Prof. A.R. Yousuf) .....,EM (B.S. Sajwan)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(M.A. Nos. 155, 248, 394, 412 to 414, 420, 502, 618, 631, 683, 778, 778, 812, 1014, 1015, 1029 of 2015 & 1086 of 2015)
And
Original Application No. 95/2014
And
Original Application No. 303/2015

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL MEMBER
HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER
HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER

Original Application No.21 of 2014 and 95 of 2014

Present: Applicant: Mr. Sanjay Upadhyay along with Ms. Divya Sharma, Advs. Mr. Syed Meesam and Mr. Vardhman Kaushik.

Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Respondent No. 6 & 7 : Mr. Ardhendumuali Kumar Prasad, Mr. Jigdal G. Chankapa and Mr. Pryanka Swami, Advs. for MoUD & MoPNG

Mr. Narender Pal Singh, Adv, Dr. M.P. George, Sr. Scientist Kulanad Joshi, Member Secretary,. and Mr. Dinesh Jindal, LO For DPCC and for GNCT Environment

Mr. Om Prakash, Adv. MoR Northern Railway

Mr. D. Rajeshwar Rao and Mr. Charanjeet Sing, Advs. for Transport Deptt. and Delhi Police, GNCT, Delhi

Ms. Pinky Anand, ASG, Mr. Balendu Shekhar, Mr. Irene Cheiran Director for MoRTH(NHAI)

Ms. Pinky Anand, ASG and Mr. Akshay Abrol, Advs. for CONCOR

Ms. Aprajita Mukherjee and Mr. Upendra Mishra, Advs. For State of Meghalaya

Ms. Savitri Pandey and Ms. Azma Parveen, Adv. for State of U.P.

Ms. K. Enatoli Sema and Mr. Amit Kumar Singh, Adv. State of Nagaland

Mr. Atul Jha, Adv. for State of Chhattisgarh

Mr. Apoorv Kurup and Mr. A.C. Boxipatro, Advs. for State of Chhattisgarh.

Mr. Rajiv Bansal and Mr. Kush Sharma, Advs. (DDA)

Ms. Aruna Mathur, Standing Counsel, Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. For State of Sikkim

Mr. Sapam Biswajit Meitei, Ms. Kalyani and Mr. Z.H. Issaac Haiding, Advs. for State of Manipur & PCB

Ms. Vinakshi Kadar and Ms. Hemantika Wahi, Advs. For State of Gujarat

Mr. Ravindra Kumar and Mr. Gudipati G. Kashyap, Advs. for NOIDA and Gr. NOIDA
Ms. Abhisaar Bairagi, Adv.
Mr. Gopal Singh, Mr. Rituraj Biswas, and Ms. Versha Poddar, Advs. for the State of Tripura
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Rudreshwar Singh, Mr. Gautam Singh and Mr. Divya Singh, Advs. for State of Bihar and BSPCB
Ms. Nandini Gore, Ms. Natasha Sehrawat, Ms. Khushboo Bari, Mr. Bipin, Mr. Shermendra Choudhary, Advs. for Tata Motors
Mr. A.N.S. Nandkarni, Ag, Mr. Dattaprasad Lawande, Mr. S. S. Rebello, Ms. Purna Bhandari, Mr. Anshuman Shrivastava and Mr. Debarshi Bhuyan, Advs.
Mr. Kabir Shankar Bose and Mr. Saakar Sardana and Ms. Holika Sukhavi, Advs. For State of W.B. & WBPCB.
Mr. Gaurav Agarwal and Mr. Akshat Srivastava, Advs. for IGL
Mrs. G. Indira, Mr. Sumit Kumar and Mr. K.V. Jagdishvaran, Advs. For UT of Andaman & Nicobar Islands Administration
Mr. G. Indira, Mr. Sumit Kumar and Mr. K.V. Jagdivaram, Advs.
Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P.
Mr. Anil Grover, AAG and Mr. Rahul Khurana, Advs. For State of Haryana
Mr. Balendu Shekhar & Mr. Akshay Abrol, Advs. for MCD and EDMC
Mr. Naushad Ahmed Khan, Standing Counsel for Delhi Transport Corporation
Mr. Jogy Scaria and Ms. Beena Vicky, Advs.
Mr. Saurav Agarwal and Ms. Akshat Srivastava, Advs.
Ms. Sakshi Popli, Advs. for NDMC
Ms. Puja Kalra, Adv. for South Delhi Municipal Corporation and North Delhi Municipal Corporation
Mr. Ravikant Pal, Mr. Pulkit Prakash and Mr. Pragyan Sharma, Advs. for State of Mizoram
Mr. Shiv Mangal Sharma, AAG, Mr. Saurabh Sharma and Mr. Adhiraj Rajawat, Advs. For State of Rajasthan.
Mr. Sunil Satayarth, Adv. and Mr. Ashok Kumar, Adv s. For Delhi Cantonment Board
Mr. P. Venkat Reddy, Adv. for State of Telangana
Ms. Natasha Sahrawat, Ms. Nandini Gore and Mr. Aditi Bhatt, Advs. With Mr. Sharmendra Choudhary, Legal Manager, Mr. Bipin Das, Legal Manager
Mr. Avijit Roy, Ms. Kankara Arandhara and Ms. Deepika Ghatowar, Advs. For State of Assam.
Ms. Pinky Anand, Sr. Adv., ASG with Mr. Tavinder Sidhu and Ms. Gunjan Sinha Jain, Advs. for NHAI
Mr. Diljeet Titus and Mr. Utkarsh Goel, Advs., Advs. For HMCI
Mr. Om Prakash, Adv. for MoR Northern Railway
Mr. Devraj Ashok, Adv. for State of Karnataka
Ms. Soumya Jit Pani and Mr. P. Venkatesan, Advs. for State of Odhisa
Mr. Dinesh Kumar Garg and Mr. Parv Kumar Garg, Advs. AOR for State of Uttarakhand
Mr. Anil Shrivastav, Standing Counsel and Mr. Sanyam Saxena and Mr. Pranav Rishi, Advs. For State of Arunachal Pradesh & PCB

Mrs. Avnish Ahlawat and Mr. N.K. Singh, Advs for DSIU and PWD
Mr. Guntur Prabakar and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. Yogesh Kanna and Mr. Jayant Patel, Advs. for Tamil Nadu State
Mr. Atmaram. N. S. Nadkarni, Adv. General, Mr. Purna Bhandari, Ms. S.S. Rebello, Mr. Anshuman Srivastava and Mr. Debarshi Bhuyan, Advs. for State of Goa and Goa SPCB.
Ms. Alpana Poddar, Adv. along with Mr. S.L. Gundli, Sr. LO, Central Pollution Control Board
Mr. Anuj Sharma and Mr. Santosh S. Rebello, Adv.
Ms. Puja Singh, Adv.
Mr. Soumyajit Pani and Mr. P. Venkatesan, Advs.
Mr. Jeevan B. Panda and Ms. Abhisaar Bairagi, Advs.

Present: Applicant:
Respondent No.1: **Mr. Vikas Malhotra, with M. P. Sahay,Advs.**
Respondent Nos. 2 to 6: **Mr. Ardhendumuali Kumar Prasad, Mr. Pryanka Swami and Mr. Jigdal G. Chankapa, Advs.**
Mr. Rahul Choudhary, Adv. for Invenor
Ms. Prerna Singh and Mr. Prashant Mathur, Advs. For State of Andhra Pradesh
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. M. Yogesh Kanna and Mr. Jayant Patel, Advs. For State of Tamil Nadu & TNPCB
Mr. Kabir Shankar Bose and Mr. Saakar Sardana and Holika Sukhalu, Advs. For State of W.B. & WBPCB.
Mr. Suryanarayan Singh, Sr. Addl. Advocate General for State of H.P.
Ms. K. Enatoli Sema and Mr. Amit Kumar Singh, Adv. State of Nagaland
Mrs. G. Indira and Mr. K.V. Jagdishvaran, Advs. For UT of Andaman & Nicobar Islands Administration and Mr. Sumit Kumar, Adv.
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Devraj Ashok, Adv. for State of Karnataka
Ms. Aruna Mathur, Standing Counsel, Mr. Shobhit Nanda, Advs. For State of Sikkim
Mr. Sapam Biswajit Meitei, Mr. S. Vijayanand Sharma and Mr. Kalyani Goswami, Mr. Vijayanand Advs. for State of Manipur & PCB
Mr. Anil Shrivastav, Standing Counsel and Mr. Sanyam Saxena and Mr. Pranav Rishi, Advs. For State of Arunachal Pradesh & PCB
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana, Managing Director, HSIIDC, Haryana, DSP, Panipat & DSP, Rewari, Chief Engineer, HUDA adn Regional Officer, HSPCB, Gurgaon, North
Mr. Ravikant Pal, Mr. Pulkit Prakash and Mr. Pragyan Sharma, Advs. for State of Mizoram
Mr. Jayesh, Adv. for JSPCB
Ms. Puja Kalra, Adv. NDMC
Mr.Tariq Adeeb, Adv. in M.A. No. 1029 of 2015
Mr. Deepak Jain, Mr. Alok Misra, Mr. D.K. Thakur, Ms. Shantala Sankriti and Ms. Aditi Toma, Advs.
Mr. Shubham Jaiswal and Mr. Sarthak Chaturvedy, Advs.

<u>Original Application No. 303 of 2015</u>
Applicant : **Ms. Bhakti Pasrija Sethi, Ms. Prerna Kumari, Ms. Mamta Rani and Ms. Sudha Pal, Advs.**
Respondent No. 1 : **Mr. Vishwendra Verma, Mr. Pranav Verma and Mr. Karan Sinha, Advs. For MoEF**

Respondent No. 3 : **Mr. D. Rajeshwar Rao, Adv. Counsel for Transport Deptt. and Delhi Police, GNCT, Delhi**

Respondent No. 4 : **Ms. Savitri Pandey along with Ms. Azma Parveen, Advs. for State of UP.**
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advs. For State of Haryana
Ms. Alpanna Poddar, Adv. with Mr. SL Gundli, SLO for CPCB

	Date and Remarks	Orders of the Tribunal
	Item No. 28 to 30 **December 11, 2015** **ss**	It is not only undisputable, but in fact the conceded position, that there are 3 prime sources of air pollution in NCT, Delhi as well as NCR, the burning of Municipal Solid Waste and other waste in open, dust generated by construction and allied activities including sweeping of roads and finally vehicular pollution. In regard to all these three aspects, Tribunal had already passed comprehensive directions vide its order dated 26th November, 2014, 04th December, 2014, 07th April, 2015, 28th April, 2015, 07th July, 2015, 17th April, 2015, 14th July, 2015, , 27th July, 2015, 30th July, 2015, and 02nd December, 2015. The Learned Additional Solicitor General appearing for Union of India has stated the aspect on capping of vehicles, it is primarily for the NCT, Delhi to take a stand before Tribunal and as far as end of life of vehicle is concerned, Ministry has already taken the stand that commercial diesel vehicles attaining age of 10 years should be directed to take PUC certificate every 6 months and after 15 years they should be condemned. However, in relation to petrol vehicles, the Union of India does not favour scrapping of vehicle on ageing or otherwise. The Learned Counsel appearing for NCT, Delhi submits in relation to various queries raised by the Tribunal for implementation of the directions already issued that he

needs further time. He further states that the clear stand of the Government is to impose even and odd car system on the alternative days and for considering all other aspects which would be simultaneously operative to achieve the objective and reduction in air pollution in Delhi, he prays for some time.

We think that the authorities concerned must sit together and clearly answer the queries raised by the Tribunal as well as relation to the compliance of the directions already issued which in their considered opinion if implemented simultaneously with the odd and even car system proposed to be introduced would make it for more effective and result oriented. We direct that by way of last opportunity, we grant time to all the Learned Counsel appearing in the case to seek instructions and report to the Tribunal on those aspects. The Learned Additional Solicitor General submits that the Central Government's view of providing certain special benefits for condemnation/scrapping of vehicles have been favorable as has been stated in the note put up before the Tribunal today. Let the Government of NCT, Delhi, consider this view and clearly take stand as to the system to be adopted for scrapping of vehicles particularly diesel vehicles which are more than 10 years of age and the consequential benefits in registration, scrapping, incentive and other incidental benefits that would be granted to the owner of the vehicle in respect of new vehicle like Registration fee/excise duty. Let these instructions be taken by the next date of hearing.

The Learned Counsel appearing for NCT, Delhi submits that in all the RTOs in Delhi around 1300 to

		1400 vehicles are being registered everyday which include all types of vehicles heavy and light including two wheelers. Obviously, reasonably good number of vehicle are also being registered at Gurgaon, Bahadurgarh, Ghaziabad and NOIDA. These are over and above the vehicles registered in Delhi. In view of the serious contribution of vehicular pollution to the air quality of NCT, Delhi it is important that the Government should take a serious view and a decision, whether any vehicle particularly Diesel Vehicle (old or new) should be registered in the NCT, Delhi. As an interim measure till next date of posting subject to hearing of all the concerned parties, we direct that Diesel Vehicles of more than 10 years of age as already directed, as well as new diesel vehicle would not be registered in NCT, Delhi. We also direct the Government to take a conscientious decision in regard to not buying any diesel vehicle, whether by the Central or the State Government. The Learned Counsel should take clear instructions in that regard. We direct all the Public Authorities, Corporation, DDA, Police and other Public Department to prepare an Action Plan for phasing out of diesel vehicles particularly the trucks being used by all these bodies. Let this Action Plan be placed before the Tribunal on the next date of hearing. Another very serious aspect is that incidents of waste burning in the open have been brought to the Notice of the Tribunal and they are even widely reported. In furtherance to the Directions, we hereby direct all the

		Corporations, DDA, Cantonments and SHOs of the concerned Police Stations that they would ensure that no waste is burnt in the open and none is disobeying the directions, besides rendering himself liable for punitive action under law and to pay Environmental Compensation as per Section 15 and 16 of NGT, Act, 2010 at the rate of Rs. 5,000/- per event. Similarly, it would also apply to dumping of construction and other waste material in public places and on the river bed. We hereby also direct that builders who keep their dust, sand, cement, brick and other construction materials on the public place and road, as per the directions of the Tribunal already issued, would not be permitted to do so. Besides, seizing such materials under the provision of the Municipal Corporation Act of the Delhi, they would be liable to pay environmental compensation at the rate of Rs. 50,000/- per incident as already directed. Even the construction material which is stored within the building should be covered, and it should be ensured that there is no emission and it does not disperse into the atmosphere. This will also apply to transportation of construction materials. These directions will be applicable to NCR Delhi as afore indicated. All the Authorities may file list of offenders before the next date of hearing. Let all concerned authorities issue public Notice and these directions should be brought into the public domain by the concerned authorities before they take punitive action. In relation to taking of adequate measures for preventing air pollution in schools particularly Government, Corporation Schools, NCT Delhi is directed to submit a proposal for creating green belt,

		converting the ground by grass and installation of air filters in the schools. The DDA, all Bodies including NDMC, Delhi Cantonment Board and Government should also examine the possibilities of sprinkling water. List this matter on 06th January, 2016. .....,CP (Swatanter Kumar) .....,JM (M.S. Nambiar) .....,EM (Prof. A.R. Yousuf) .....,EM (B.S. Sajwan)

.

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

M.A. No. 284 of 2015, M.A. No. 755 of 2016, M.A. No. 756 of 2016, M.A. No.766 of 2016, M.A. No. 847 of 2016, M.A. No. 848 of 2016, M.A. No. 924 of 2016, M.A. No. 892 of 2016, M.A. No. 974 of 2016, M.A. No. 979 of 2016, M.A. No. 983 of 2016, M.A. No. 984 of 2016, M.A. No. 967 of 2016, M.A. No. 986 of 2016 & M.A. No. 1050 of 2016
In
Original Application No. 21/2014
And
M.A. No. 156 of 2016
In
Original Application No. 21/2014
And
Original Application No. 21/2014 (Only Notices)
And
Original Application No. 21/2014
(M.A. NO. 172/2016, M.A. NO. 567/2016, M.A. NO. 690/2016, M.A. NO. 783/2016, M.A. NO. 949/2016, M.A. NO. 950/2016, M.A. NO. 1037/2016, M.A. NO. 1038/2016, M.A. NO. 1078/2016, M.A. NO. 1079/2016, M.A. NO. 1080/2016, M.A. NO. 1091/2016, M.A. NO. 1092/2016, M.A. NO. 1082/2016, M.A. NO. 1083/2016, M.A. NO. 1142/2016, M.A. NO. 1134/2016, M.A. NO. 1135/2016, M.A. NO. 1136/2016, M.A. NO. 1137/2016, M.A. NO. 1138/2016, M.A. NO. 1155/2016 & M.A. NO. 1162/2016)
And
Original Application No. 95/2014
(M.A. No. 1156/2016)
And
Original Application No. 303/2015
And
Original Application No. 181 /2013
(M.A. No. 824/2015)
And
Original Application No. 609 /2016

IN THE MATTER OF :

Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Omesh Saigal Vs. Govt. Of NCT of Delhi & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER
HON'BLE MR. RANJAN CHATTERJEE, EXPERT MEMBER

Present: Applicant: Mr. Sanjay Upadhyay and Mr. Salik Shafiq, Advs.
Ms. Diya Kapur, Adv. And Petitioner in Person and Mr. Nikhil Ratti Kapoor, Advs.
Respondent No. 1: Ms. Panchajanya Batra Singh, Advs. For MoEF & CC

Mr. Rajiv Bansal, Mr. Kush Sharma, Mr. Anurag Tripathi and Mr. Anirudh, Advs. for DDA
Mr. Pritpal Singh Nijjar, Mr. Amit Kumar and Mr. Siju Thomas, Advs.
Mr. Himanshu Kaushik, Adv.
Mr. D. Rajeshwar Rao, Mr. Charajeet Singh, Advs., Delhi Police and Transport Deptt.
Mr. Rajul Shrivastava, with Ms Ayushi Sharma, Advs. MPPCB
Mr. Anurag Kumar, Adv. For Ms. Sakshi Popli, Adv. NDMC
Mr, Guntur Prabhakar and Mr. Guntur Pramod Kumar, Advs. for State of A.P.
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Atul Jha Adv. for State of Chattisgarh
Mr. Devraj Ashok, Adv. for State of Karnataka
Mr. Ardhendumauli Kumar Prasad, Mr. Panshul Chandrachud and Mr. Jaydip Pati, Advs.
Mr. Balendu Shekhar and Mr. Vivek Jaiswal, Advs. for EDMC
Mr. Ram Sajivan Maurya, SMD and Minining Officer and Mr. Ajit Kumar Pandey District Gonda
Mr. Pinky Anand, ASG with Mr. Balendu Shekhar, Mr. Rajesh Ranjan, Ms. Somya Rathore and Ms. Smidha Mehra, Advs. for MoRTH and Ministry of Heavy Industries, MoEF
Mr. Edward Balho, Ms. Elix Gangmel and Mr. K. Luikang Michael, Advs. for State of Nagaland
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advs.
Ms. Puja Kalra, Adv. for NDMC, SDMC
Ms. Bhavana Duhoon, Advs. for National Highways Authority of India
Mr. Sanjeev Ralli with Mr. Trinayan Sonowal, Advs. for Intervener (Chandni Chowk Vyapar Mandal)
Mr. Mahesh Dutt Tripathi, Adv. for Delhi cantonment Board
Mr. Anil Soni, AAG and Mr. Naginder Beniwal, Advs. for State of Punjab
Mr. Ashish Negi, Adv. for Ms. Richa Kapoor, Advs. for State of Punjab
Mr. Suryanarayan Singh, Addl. AAG
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Advs. for GNCTD,
Mr. Narender Pal Singh with Dr. M.P. George and Mr. Dinesh Jindal, LO, DPCC
Ms. Alpana Poddar, Adv. and Mr. Bhupinder Kr. LA., Central Pollution Control Board
Mr. Mukesh Verma, Adv.for MPCB
Mr. Vinay P. Singh, Adv. for Mercedese Benz.
Mr. Amit Agarwal and Ms. Asha Basu, Adv. for West Bengal Pollution Control Board
Ms. Puja Singh, Adv. for Hemantika Wahi, Adv. for State of Gujarat & GSPCB
Mr. Hemant Jain, Ms. Usha Jain and Mr. K. Sunil, and Mr. Aviral Mittal, Advs.
Mr. Sumit Kishore, Adv. for PNGRB
Mr. P. Venkat Reddy and Mr. Prashant Kr. Tyani, Advs. for State of Telengana
Mr. Ravindra Kr. Kashyap and Mr. Gudipti G. Kashyap, Advs. for NOIDA and Greater NOIDA
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Gaurav Dubey, Adv. for K2 International
Ms. Priyanka Sinha Advs for State of Jharkhand
Mr. Anuj Sarma, Adv. For State of Goa
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advs.
Mr. Sandeep Narain and Ms. Natasha Sarawat and Ms. Khushboo Bari and Mr. Bipin Das, Advs. for Tata Motors Ltd.M. A. No. 172 of 2016
Mr. Gopal Singh and Ms. Varsha Poddar, Advs.
Mr. Anil Grover AAG and Mr. Rahul Khurana, Adv. Mr. Sandeep Yadav, Adv. for State of Haryana, HSPCB, MCF, MCG, HUDA
Mr. Raj Kumar, Adv.

Mr. Narender Pal Singh, Adv. and Mr. Dinesh Jindel, LO, DPCC
Mr. Priyanaka Swami, Adv. for Nagar Nigam Ghaziabad
Mr. Sarurabh Rajpal, and Mr. Adhiraj Singh, Advs. for Rajasthan Pollution Control Board with Secretary Environment, Rajasthan Mr. R.K. Grover
Mr. Taruna A. Prasad, adv. for MoEF
Mr. R. Rakesh Sharma and Mr. M. Marutha Samy, Advs. for State of Tamil Nadu and TNPCB
Mr. V.K. Shukla, Adv. from State of M.P.
Mr. Hemant Jain with Ms. Usha Jain and Mr. K. Sunil and Mr. Amiral Mittal, Advs.
Mrs. Rani Chhabra and Ms. Priyanka Samy, Advs. In MA 358/2016 and 545/2016
Mr. Yatendra Sharma and Mr. Satyarat Sharma, adv. in M. A. No. 979/2016
Ms. Rasna Kaukat, adv. for Manushi Sangathan
Mr. Anoop Verma, Mr. Anil Soni, AAG with Mr. Naginder Benipal, Adv. in M. A. Nos. 983 & 984
Ms. Arushi Khandelwal, Adv. in M. A. No. 976/16
Mr. Ankit Verma, Adv. For State of Uttar Pradesh
Mr. Sunil K. Jain AOR and Mr. Punya Garg, adv. in M. A. No. 949/16
Mr. Darpan Wadhwa, and Mr. Arjun Syal, Advs. in M.A. 1078/1097/1080/1091/1092, 1134, 1135, 1136, 1137, 1138/2016, Mr.Yatender Sharma and Satyajeet 979/16
Ms. Aruna Mathur and Mr. Avneesh Arputham and Ms. Anuradha Arputham, Advs. for State of Sikkim
Mr. Soumyajit Pani, Adv. for State of Odisha
Mr. Vijay K. Sondhi and M,s. Cauveri Birbal Ms. Divya Sharma Ms. Avantika, Mr. Aranyak Pathak and Ms. Nayamat Sistani, Advs.
Mr. Sapam Biswajit Meiti and Mr. Naresh Kumar Gaur, Advs. for State of Manipur
Mr. Om Prakash, Adv. Ministry of Railways
Ms. Neha Makhija, Adv. for Mr. Gaurav Dubey, Adv. in MA Nos. 1082 & 1083
Mr. Pranav A. Kapur, Mr. Siju Thomas and Mr. Amit Kumar, Advs. in MA 783/2016
Mr. Vinod S. Bhardwaj, Adv.
Mr. A.R. Takkar, Mr. Ankur Sharma and Ms. Shriya Takkar, Advs.
Mr. Joydeep Mazumdar and Mr. Debojyoti Bhattacharya, Advs.
Mr. Nishe Rajen Shonker and Mr. Gajendra Khichi, Advs.
Mr. Manoj Mittal and Mr. Tahay Ayde, Advs.
Mr. Pragyan Sharma and Ms. Ananditi Kumar, Advs. For State of Mizoram
Mr. Sarthak Chaturvedi and Mr. Rohit Pandey, Advs. for Andaman & Nicobar Administration
Mr. Raman Yadav, Adv. for Ghaziabad Dev. Authority
Mr. Anand S. Pathak, Mr. Amit Kumar Mishra and Ms. Hima Lawrence, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Air quality in Delhi and its surrounding areas touched a new height in the last 10 days or so. It adversely affected the public health and persons of all generations without exception. The Ambient Air Quality was so hazardous that it affected the Eyes, ENT, upper Respiratory track and Lungs, particularly to school going

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	children, infants, office going persons and obviously the poor strata of society suffered endlessly. It is appropriate at this stage to refer to the Ambient Air Quality parameters that were recorded by the Central Pollution Control Board, Delhi Pollution Control Committee and the State Boards of the neighbouring States particularly Haryana, Uttar Pradesh, Punjab and Rajasthan. The standard norms for PM_{10} is 100 µg/m^3 and for $PM_{2.5}$ 60 µg/m^3. These values were found to be utterly violated and it recorded the value of PM_{10} as 1690 µg/m^3 and $PM_{2.5}$ as 885 µg/m^3 at Anand Vihar, Delhi The average value recorded for Delhi for PM_{10} were 950 µg/m^3 and for $PM_{2.5}$ 590 µg/m^3 on 30th October, 2016. According to the NCT, Delhi on 31st October, 2016 recorded value of PM_{10} 1684 µg/m^3 and 1331 µg/m^3, respectively. In Faridabad, even on 07th November, 2016 the recorded values were 414 µg/m^3 and 985 µg/m^3 respectively. In Ghaziabad and NOIDA on different dates, the value recorded for PM_{10} was 720 µg/m^3, 820 µg/m^3 and 910 µg/m3 respectively. Even on Mandir Marg, New Delhi on 02nd November, 2016 the $PM_{2.5}$ value recorded was 985 µg/m^3. In district Alwar, Rajasthan the value recorded was 188 µg/m^3 for PM_{10}. However, the Learned Counsel appearing for the State of Rajasthan submits that they do not have instruments available for measuring $PM_{2.5}$. In Bhiwari on 28th October, 2016 the value of PM10 was recorded as 508 µg/m^3. This data provided by different States shows that Ambient Air Quality in all these areas is hazardous to human health. In the light of the above statistics, the Tribunal was compelled to direct personal appearance of the concerned

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Secretaries from each State and NCT, Delhi. All these officers appeared before the Tribunal and the matter was heard for three days continuously. One major disclosure that came to the forefront was that all concerned officers conceded that there was hardly any proper enforcement and implementation of the laws in force and the Judgments of the Hon'ble Supreme Court of India and this Tribunal. However, hardly any suggestions came forward from any quarters as to how the implementation should be made more effective and result oriented. There are seven major contributors of air pollution in all these States more particularly NCT, Delhi. These are:- 1. Construction activity and carriage of construction material. 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. All these contributory pollutants were deliberated upon at length before this Tribunal from time to time and detailed orders covering all the facets of air pollution were covered under different orders of the Tribunal. We may refer to the orders of the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015, 10th April,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2015, 28th April, 2015, 18th May, 2015 and 11th December, 2015. All these orders/judgments dealt with the various sources of pollution except agriculture residue burning. This aspect was dealt with in the comprehensive judgment of the Tribunal in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors in Execution Application No. 12 of 2016 In Original Application No. 118 of 2013 decided on 10th December, 2015. The judgment in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention and Control) Authority & Ors provided for precautionary, preventive as well as incentive oriented steps that the State of Punjab was required to take to ensure that this menace would be stopped at the earliest. The judgement provided for punitive action, and incentive to farmers to stop burning of Crop/Agriculture residue. The State of Punjab was called upon to provide incentive including the requisite machines as stated in the Judgment for extraction of agriculture residue from the field and its transportation to power generation plants, Cement Plants, Companies manufacturing Board from agriculture residue and from Bio-mass plants including reducing ethanol. We must notice at this stage itself that all the States particularly the State of Punjab has not been able to implement the Judgment in its true spirit and substance. It is conceded before us that the residue of nearly 70% of the agricultural land under paddy cultivation was put on fire during the period immediately after the harvesting. Similarly in Haryana there was burning of agricultural residue but may be at a little lower scale. This committee shall work specifically under the orders of the Tribunal.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The State of Uttar Pradesh and State of Rajasthan were no exception, though their contribution to the pollution was not greater than other States. This aspect needs to be examined and rigorous steps need to be taken by the respective States to ensure that there is no agriculture/crop burning any more in the future. We would be passing directions in that behalf separately. We may also notice here that the World Health Organisation (for short 'WHO') has published its report in September, 2016. They have published a list of 20 most polluted cities in the world. Out of these 10 cities are located in India. These are Delhi, heading the table, Gwalior, Patna, Kanpur, Allahabad, Alwar, Firozabad, Raipur, Ludhiana and Khanna. A study has also been conducted by I.I.T., Kanpur, on behalf of NCT, Delhi, and it is stated that out of the sources of pollution which we have already mentioned, above 22.70% has been contributed by the transport sector. It is estimated that 66 % of this pollution is resulting from diesel trucks, buses and diesel vehicles. The study also shows, along with other studies, that level of $PM_{2.5}$ and PM_{10} is almost 17 times of the prescribed limits and has serious adverse impact on the public health. The Ministry of Environment, Forest and Climate Change has also brought out the air quality index and it has termed 431 $\mu g/m^3$ PM_{10} as 'severe pollution' as stated by the Learned ASG. This shows that the 'severe category' carved out by Ministry of Environment, Forest and Climate Change has been left much behind as the value of PM_{10} has touched the value of 1990 $\mu g/m^3$ in Delhi. This is the extent and kind of pollution that the citizens of Delhi are exposed to.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	The basic and fundamental question that arises for consideration of this Tribunal is whether the State Government and more particularly NCT, Delhi can provide any justification acceptable scientifically in law as to why the people of Delhi should be exposed to such severe pollution and have endlessly suffered from one disease or the other. This equally applies to other States as well. The Hon'ble Supreme Court of India decades back had declared that Article 21 of Constitution of India has to be expanded so as to include right to decent and clean environment as a fundamental right. Fundamental right is the right provided by the Constitution to the citizens and it could claim its enforcement to which the State can hardly raise a defense particularly of its inability to enforce laws on an environmental front. We must say that since past three days not even a single point has been raised before the Tribunal which could even be remotely comprehended and be a reasonable ground on the part of these authorities for not protecting environment in relation to this zone of the country and particularly in NCT, Delhi. The main plank of the officers who were present in person along with their learned counsel of respective States had only expressed their inability to implement. This ought to be the last submission that could be made in response to an action for enforcement of fundamental rights. We find no merit in any of the submissions advanced to express inability to enforce the law. The judgment of the Hon'ble Supreme Court of India and the Tribunal particularly when they are specific, unambiguous and have provided complete mechanism for enforcement of judgments and orders. The State owes a

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	constitutional duty to protect public health and to provide at least clean air for its citizens to breathe. The principle of inter-generational equity does not support any development even if it is carried under the doctrine of sustainable development where the next generation would be exposed to the worst environmental and ecological environment. The children of today have a right to breathe clean air and play in the play ground rather than be ordered to be shut down in their respective homes. The present generation in any field including in the field of Governance owes a duty in law and on morality to provide cleaner and better earth to its next generation. Times have come where all concerned authorities irrespective of their stature must show concern to improve the environment and Ambient Air Quality in these States and more particularly in the NCT, Delhi. As we have already noticed, the Ambient Air Quality in these States and particularly in NCT, Delhi/NCR, Delhi have reached the limit which are unimaginable, unacceptable and are a clear indication of negligence on the part of the concerned authority to the disadvantage of the human health of the citizens. The prescribed limit of PM_{10} and $PM_{2.5}$ is 100 $\mu g/m^3$ and 60 $\mu g/m^3$ respectively have been grossly exceeded. The experts appearing before us submit that the daily average of these values is even lower that is 60 $\mu g/m^3$ and 40 $\mu g/m^3$ respectively. If the daily average is to be taken into consideration then the violation is nearly 20 times in excess. Viewed from any rational angle, this is disastrous. It may be appropriate that the concerned authoirities including the Central Pollution Control Board has located

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	at the air pollution in somewhat different way. It appears that to attain the prescribed standards as of now would be a dream difficult to achieve as of today. The normal pollution in contra distinction to severe or Environmental Emergency has to be examined and controlled by taking different and distinct measures, depending upon the situation e.g. where the Particulate Matters values are in excess of 431 $\mu g/m^3$ in case of PM_{10} and 251 $\mu g/m^3$ in the case of $PM_{2.5}$. Therefore, the pollution has to be treated as severe. To put it in other words, emergent measures have to be taken to control the air pollution in any of these States particularly in NCT, Delhi, once it crosses the above limits. These limits have been suggested by the expert appearing before the Tribunal with reference to the Air Quality Index of NCT, Delhi. Normal steps to be taken to prevent and control air pollution and providing cleaner air quality to the people of these States and Delhi. Even if they are below the above standards, but once they cross the prescribed standards, then it must be the duty of the States and NCT, Delhi to take emergent measures which would even include the providing of such emergent preventive measures that may require enforceability of highest degree in the interest of public health and environment. In the light of the above discussion, now we proceed to record the directions that has to be passed in the interest of environment, public health and tranquility of Ambient Air Quality and to implement the fundamental right that is granted to the citizens of India. All the judgments and orders passed by the Tribunal dated 26th November, 2014, 04th December, 2014, 07th April, 2015,

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	10th April, 2015, 18th May, 2015, 28th April, 2015 and 11th December, 2015 in the of Vardhaman Kaushik Vs. Union of India & Ors. In Original Application No. 21/2014 and 10th December, 2015 in the case of Vikrant Kumar Tongad Vs. Environment Pollution (Prevention Control) Authority & Ors. shall be applicable, mutatis mutandis, to the orders passed in the case of respective States and NCT, Delhi. All the States of Punjab, Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi as already noticed, these directions and orders provided for all preventive, precautionary, punitive and enforceable directions which would protect and ensure that the sources of pollution as afore-indicated do not cause air pollution and bring the Ambient Air Quality to the values as has been seen in the last 10 days in the States and particularly NCT, Delhi. All the concerned Officers, Authorities, Legal Authorities, Pollution Control Boards and other Corporations etc. would be responsible for proper implementation and enforcement of the directions contained in these orders in relation to different sources of pollution. We constitute the following centralized monitoring Committee and State Monitoring Committee for ensuring proper implementation of the judgments and the laws relating to prevention and control of air pollution :- 1. The Centralised Monitoring Committee shall consist of:- a. Secretary, Ministry of Environment, Forest and Climate Change (Chairman). b. Chief Secretaries of the States of Punjab,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	Haryana, Uttar Pradesh, Rajasthan and NCT, Delhi. c. Member Secretary of the Central Pollution Control Board and the Member Secretaries of the State Pollution Control Boards. d. Professor Mukesh Khare from I.I.T., Delhi. e. Member Secretary of each State Pollution Boards would be at liberty to bring one expert with him, if they so desire. f. Additional Director General of Health Services to be nominated by the Union Secretary, Health. This committee would meet once in two months and by rotation in all the States including NCT, Delhi, where the first meeting would be held. a. This Committee would supervise implementation of all the directions contained in the judgment of the Tribunal in relation to various sources of pollution, particularly agriculture residue burning. b. It shall also provide guidelines or directions to the State Committee for prevention and control of air pollution in relation to all its aspects, not limiting to the directions contained hereinabove and in the orders referred above. c. The Committee shall take implementation Status Report from the State Committees, and if necessary, get it verified through

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	independent sources and then submit its final report after every three months to the Tribunal. The Committee will also record its satisfaction or otherwise with regard to implementation and enforcement of the directions issued. d. In the event the Committee finds that any officer belonging to any cadre, authority, Pollution Control Board or even by independent statutory body has failed to implement the directions, orders, judgments and the law in relation to control of air pollution, it shall recommend initiation of disciplinary proceedings against that official without hesitation or reservation. We make it clear that the officer against whom such a Committee recommends disciplinary, should be independent of the proceeding that this Tribunal may initiate against such defaulting officials/officer of any State/NCT, Delhi. If technical experts of the Committee make any suggestion and the same is found relevant, then the committee shall record and bring it to the notice of the Tribunal. **State Level Committee.** Following shall be the composition of State Level Committees: 1. Chief Secretary as the Chairperson,

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	2. Secretary Environment, 3. Secretary Urban Development and Housing, 4. Member Secretary of the Pollution Control Board of the States, 5. Chairman of the Development Authority of the District/State, 6. Secretary of the Department responsible for Developing Agency and Corporations of the State, 7. Director of Medical Services who is a professional shall be the Member of the Committee, Commissioner/Additional DG of Delhi Police of NCT of Delhi and similar officers from the other States. This Committee shall be responsible for enforcement of the directions/orders/judgments and the law in relation to prevention and control of air pollution more particularly judgment afore-referred. It will be the duty of this Committee to verify that the directions are actually implemented at the ground level and would not leave the things on mere paper. This Committee shall prepare action plan in consonance with the advance circular the same and ensure their implementation. The Committee shall also publicise requisite matter through media or otherwise, particularly in relation to burning of agriculture residue. It will inform the farmers of the benefits and the incentives that are available to them in consonance with the orders afore-referred for not burning of agriculture residue. It should be informed to them that it is not a mere liablity but could become useable asset and bring

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	financial benefit to them. We also direct that the concerned State/NCT, Delhi and the State Committees shall constitute a special task force to ensure that there is no burning of waste of any kind, roads are mechanically cleaned and there is no undue traffic congestion in the city particularly during the period of environmental emergency. The Chairman of the Centralised as well as State Committee shall be at liberty to invite or summon any Officer/Expert/ Official from any other department or Ministry or Research Organisation for carrying on the business and object of the Committee more effectively. If invited no officer/Expert of any department or Ministry or Research Organisation would avoid to appear before the Committee and provide its required input. The state level committee shall hold its meeting every month. The First meeting of the centralised Committee Leaded by Secretary Environment would be held on 17th November, 2016 while that of the State Level Committees would be held on 24th November, 2016. The State level committee shall submit the report to the centralised committee at least three days in advance to the date of the meeting of that committee. **Independent Clause** The most important aspect in relation to which we require to issue directions is the situation of the States

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	and particularly NCT of Delhi as faced in the last 10 days where the air pollution enters an alarming situation that is severe pollution. Then immediate steps are required to be taken as an 'environmental emergency'. We have already noticed on the advice of experts that where P.M_{10} exceeds the value of 431µ/M^3 and P.$M_{2.5}$ 251 Microgram Per Cubic Meter, then it is a situation of 'severe pollution'. If we exceed those of values reached 500 or 300 respectively then it is a case of 'environmental emergency'. The State owes a Constitutional Statutory and public law obligation to protect the Air Pollution and provide to its citizen at least breathable air if not absolute clean air to breathe. If the situation reaches that level of these States and particularly NCT of Delhi shall take besides all other preventive and controlling measures of pollution as indicated in the orders/judgments and law particularly orders afore-referred inter-alia but more particularly it would take following measures without delay and default. 1. It shall ensure that the water is sprinkled through helicopters all over the city and other areas where the values are found to be in excess of the above standards. 2. It shall immediately provide happy seeders in the agricultural fields to ensure removal of agricultural residue and its utilization at the concerned quarters including Power Generation Plants, Bio-Mass Plants, and Cement plants, Industries manufacturing Building and allied products. 3. The State Government and NCT of Delhi shall issue

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	the order to all such companies, plants and public undertakings to discharge their Corporate Social responsibility and collect the agriculture residue from the field of farmers while providing them with money as consideration for lifting of the agricultural residue. 4. All the stone crusher working in the area shall be directed to shutdown forthwith. 5. All the Power Generation Plants, Brick kiln, Hot Mix Plant, if found to be emitting in excess of prescribed standards, should be ordered to be shut down temporarily and till they take remedial measures and bring the standards within particular limit. Thermal plants, Waste to Energy Plants also may be shut down only if they violate the parameters or otherwise. 6. All the construction, demolition activities and transportation of construction material shall be stopped temporarily till the ambient air quality standards are brought down below the severe pollution standards afore-stated. 7. The authority would ensure that the DG sets if in operation anywhere should be adhering to the prescribed norms. In the event of default they should be not only shut down but even confiscated. **General Directions.** 1. The committee afore-referred shall prepare a complete action plan for environmental emergency as well as prevention and control of air pollution, wherever parameters are found to

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	be in excess of prescribed standards. 2. This action plan should be strictly in consonance with the judgement and orders afore-referred. Of course the Committees are at liberty to provide any additional measures that are required to be taken. 3. The action plan so prepared shall be submitted to the Central Committee which will approve the same and fix the period for its implementation in regular course of business of the concerned authority, Corporations, etc. 4. Each of the states shall in its very first meeting notify one district which has major land use as agriculture. This district could be taken as a model district for implementation of the direction and orders in relation to complete stoppage of burning of agriculture/crop residue. The Committee will ensure that all the incentive in terms of the judgement are provided with utmost priority. 5. There should be all preventive, precautionary and effective steps taken well in advance to the next harvest season. 6. It shall then submit a specific report upon field inspection whether there has been complete extinguishment of the practice of crop burning in that area or not, and the reasons thereof. Then it shall implement the scheme in rest of the States in a gradual manner. 7. All the States Governments, Public Authorities and Development Agencies shall introduce

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	vacuum cleaning machines for removal of dust and waste from the roads in a gradual manner. Cleaning of dust manually should be stopped. Mechanical cleaning of the roads should be introduced. Manual cleaning of dust only helps in re-generation of pollution and does not effectively cause cleaning of roads or air either. 8. Police Authorities and the local bodies should ensure that wherever mechanised cleaning of dust is introduced, at the relevant time the vehicles ought not to be parked on either side of the roads. 9. It should be ensured that there should be no leaves, municipal solid waste, plastic, agriculture residue, oil and oil products are burnt in open or otherwise. Strict punitive action should be taken in accordance with the orders of the Tribunal, if any person is found to be violating these directions and orders passed by the Tribunal. 10. 50% of the staff of the Corporations, Committees, Development Agencies and the concerned department of the Government should be on field inspection to ensure proper and effective implementation of the directions. The staff on field duty shall submit a report to the Officer in-charge, who would then submit a report to the State Committee, bring to its notice whether the implementation and effectiveness of the orders and directions by the said authorities was satisfactory or not.

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	11. The Traffic Police, PWD and all public authorities shall ensure that there is free flow of traffic and there are no undue jams on the traffic lights or otherwise. 12. The person who violates the directions of the Tribunal in regard to vehicular pollution should be strictly made liable in terms of the judgement of the Tribunal for payment of environmental compensation. This compensation could be recovered by the concerned department and representative of the authorities including the Police. 13. We have already noticed in our judgement that on the basis of the data available, nearly three lakhs litres of petrol is burnt in NCT of Delhi everyday by stationery vehicles in the traffic jam or the traffic light. The Committee shall consider this aspect with utmost priority and submit its suggestion to the Tribunal for orders. 14. We direct all the State Governments, NCT of Delhi also to issue guidelines with regard to manufacturing, sale and burning of crackers in the jurisdiction of the respective States/NCT of Delhi. Such direction must be taken into consideration that the crackers if permitted are of the nature which would generate least smoke and produce least noise. It should be within the prescribed parameters. 15. All authorities concerned should create social awareness particularly in schools and colleges

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	as to the dis-advantage and adverse impact on public health of indiscriminate burning of crackers on different festive seasons. 16. We also direct the State Governments and NCT of Delhi particularly the State of Punjab to consider withdrawal of incentive provided to the agriculturists who are found to be defaulting and burning agriculture/crop residue. We take note of the fact that the Government of Punjab has already issued Notification dated 22nd October, 2013, wherein burning of agriculture/crop residue has been prohibited. 17. The order of the Tribunal in relation to all diesel vehicles more than 10 years of age and petrol vehicles which are more than 15 years of age shall not ply on the roads of NCT of Delhi, shall be enforced rigorously. The other States are directed to take decision, in relation particularly to diesel vehicles which are of more than 10 years of age. 18. We direct NCT of Delhi, DDA, all Corporations and PWD to ensure that all its parks, flyovers, roads around the government building, there is greenery and study has been conducted and found that if greenery is spread over all the flyovers and roads of NCT of Delhi, it will help in increasing of oxygen by 20%. It will help a large number of people to breathe fresh air. Efforts should be made to cover open land with green grass.

	Item No. 01 to 08 **November 10, 2016** SS, AK & JG	19. All the concerned authorities shall ensure that the waste dumping sites are not put on fire, under any circumstances. 20. We grant liberty to all the government departments, PWD etc to bring before the Tribunal offenders or defaulting persons with complete details. If such list is filed, the Tribunal shall issue notice to them for payment of environmental compensation and for passing of such other punitive orders as may be necessary in the facts and circumstances of the case. 21. The Committee would also recommend the steps that various authorities are required to take for providing health care and immediate treatment to the public who suffer from effects of air pollution. 22. All the amounts collected under the orders of the Tribunal for environmental compensation should be utilized only for the purpose of prevention and control of air and water pollution in NCT of Delhi and the concerned States subject to the orders of the Tribunal. The copy of this order be furnished by dasti. List the matter for further directions on 9th January, 2017. List all the miscellaneous applications of 16th November, 2016 at 3 PM. ……,CP (Swatanter Kumar)

	Item No. 01 to 08 **November 10, 2016** **SS, AK & JG**	.....,JM (Dr. Jawad Rahim) .....,JM (Raghuvendra S. Rathore) .....,EM (Ranjan Chatterjee)

NATIONAL GREEN TRIBUNAL, NEW DELHI

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 21/2014
(Only Noticees – Sarojini Nagar)
And
Original Application No. 21/2014

(M.A. No. 828/2017, M.A. No. 829/2017, M.A. No. 889/2017, M.A. No. 1177/2017, M.A. No. 1314/2017, M.A. No. 1361/2017, M.A. No. 1366/2017, M.A. No. 1371/2017, M.A. No. 1375/2017, M.A. No. 1387/2017, M.A. No. 1384/2017, M.A. No. 1431/2017, M.A. No. 14 40/2017, M.A. No. 1452/2017, M.A. No. 1453/2017, M.A. No. 1454/2017, M.A. No. 1455/2017, M.A. No. 1456/2017, M.A. No. 1457/2017, M.A. No. 1458/2017, M.A. No. 1459/2017, M.A. No. 1461/2017, M.A. No. 1460/2017, M.A. No. 1465/2017 M.A. No. 1466/2017, M.A. No. 1467/2017 , M.A. No. 1476/2017 , M.A. No. 1486/2017 , M.A. No. 148 7 /2017 , M.A. No. 148 8 /2017 , M.A. No. 14 89 /2017 , M.A. No. 14 90 /2017 M.A. No. 1493/2017, M.A. No. 1494/2017, M.A. No. 1495/2017 & M.A. No. 1496/2017)
And
Original Application No. 95/2014
(M.A. No. 1156 of 2016)
And
Original Application No. 303/2015
And
Original Application No. 609 /2016
And
Original Application No. 179 of 2016
(M.A. No. 1388/2017 & M.A. No. 1389/2017)

IN THE MATTER OF:

Vardhaman Kaushik Vs. Union of India & Ors.
And
Sanjay Kulshrestha Vs. Union of India & Ors.
And
Supreme Court Women Lawyers Association Vs. Union of India & Ors.
And
Diya Kapur & Ors. Vs. Union of India & Ors.
And
Mahendra Pandey Vs. Govt. of NCT of Delhi & Ors.

CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON
HON'BLE MR. JUSTICE U.D.SALVI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: **Applicant :** **Mr. Sanjay Upadhyay Ms. Upama Bhattacharjee, and Mr. Saumitra Jaiswal,Advs.**
Mr. Shivam Bajaj., Adv in M.A. No. 1384
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan and Mr. Rahul Sharma and Mr. Tarun, advs
Mr. Pinaki Mishra, Sr. Adv, Mr. Sudhir Mishra and Ms. Ritwick Nanda, ADv
Mr. S.M. Ali, Special Sec., Dr. Anil Kumar, Director, Mr. Dinesh Jindal, LO for Delhi Pollution Control Committee
Mr. Arjun S. adv.
Mr. Gaurav Dubey, Adv.
Mr. Amit Dubey, Mr. Karan Cjawla Adv.
Mr. Gunyan S. Jain, adv
MR. Ankit Tyagi, Adv.
Mr. Udaibir Singh Kochar Adv.
Mr. Debarshi Bhuyan Adv
Mr. Shiv Mangal Sharma, AAG, Mr. Saurabh Rajpal and Ms. Sikha Sandhu Mr. Adhiraj Singh Rajwat, Advs. Mr. R. K. Gorver Sec. Environment Rajsastha

Mr. Bhanwar Pal Singh Jadon and Dr. Sandeep Singh, Adv.
Mr. Pradeep Misra and Mr. Daleep Kr. Dhyani, Advs.
Mr. Vijay Sondhi, Ms. Cauveri Birbal, Mr. Sarvajeet Kumar Thakur, Advs.
Mr. Soumyajit Pani, Adv wth Mr. Chittaranjan Singh, Advs.
Dr. Sandeep Singh and Mr. Vinay Pal, Advs.
Mr. Dinesh Kumar Garg, Adv. and Mr. Deepak Mishra, Advs. for State of Uttarakhand
Mr. Anshuman Srivastava, Adv.
Mr. Krtika Sachdeva and Mr. Mukesh Kumar, Advs
Mr. Raman Yadav and Ms. Varnita Rastogi, Advs. for GDA
Mr. Nikhil Singhav, Ms. Nikita Pandey and Mr. Mohit Seth and Ms. Kanak Bose, Advs.
Ms. Monica Lakhanpal, Applicant in person and Mr. Vaibhav Gaggar and Ms. Sumedha Darg, Advs.
Mr. Aman Sarma and Mr. S.S. Rebello, Advs.
Mr. Amit Agarwal, Ms. Asha Basu Adv. for WBPCB
Ms. Deep Shikha Bharati, Adv. for MoEF
Mr. Shuvodeep Roy Adv. for State of Assam
Mr. V. K. Shukla and Ms. Vijay Laxmi, Advs. for State of M.P.
Mr. Pradeep Misra, Mr. Daleep Dhyani, Advs. for UPPCB
Mr. Sumit Kishore, Adv. for PNGRB
Ms. Priyanka Sinha, Ms. Ajita Tandon Adv.
Mr. Rajul Shrivastava, Adv. for MPPCB
Mr. Kshitiz Ahuja, Adv.
Mr. Gaurav Dubey, Adv.
Mr. Ajay Marwah for HPPCB
Mr. D. K. Thakur, AAG for State of Himachal Pradesh
Mr. Pradeep Mishra and Mr. Daleep Dhyani, Adv for UPPCB
Mr. Vibhav Misra, Ms. Saumya Misra and Mr. Yashveer Singh, Advs. for DTC
Mr. Devraj Ashok, Adv.
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advs.
Mr. Raja Chatterjee, Mr. Piyush Sachdev, Mr. Abhinandini Yadav Advs. for State of West Bengal
Ms. Priyanka sinha and Ms. Ajita Tondon, Adv. for Jharkhand
Mr. D. Rajeshwar Rao, Adv.
Mr. Atul Jha, Adv. for State of Chhattisgarh
Mr. Rajneesh Bhardwaj and Mr. Raj Kishan Gaur, Advs
Mr. Rajneesh Bhardwa Mr. Rahul Sharma and Mr. Gaurav Dubey advs
Mr. Arjun Syal, Mr. Shreyan Das Adv.
Mr. Rajkumar, Adv with Mr. Bhupender Ms.Preeti, L.A for CPCB
Mr. Jayesh Gaurav, Adv. for JSPCB
Mr. Anil Grover, AAG & Mr. Rahul Khurana , Adv. for HSPCB, MCG, MCF & HUDA
Mr. A.K. Prasad and Mr. Shashank Saxena, Advs. for MoPNG
Mr. Ravindra Kumar, Adv. for NOIDA & Greater NOIDA
Ms. Sakshi Popli, Adv
Mr. Rakesh Sharma Mr. V. Mowli, Advs. for State of TN and TNPCB
Mr. Gopal Singh, Mr. Rituraj Biswas, Advs. for State of Tripura
Mr. Anil Shrivastav, and Ms. Sujaya Bardhan and Mr. Rituraj Biswas, Advs.
Mr. Raj Kumar, Adv. with Mr. Bhupender Kumar, LA for Central Pollution Control Board
Mr. Mukesh Verma, Adv. for MPCB
Ms. Sugandha Batra, Adv.
Mr. Mukul Singh, Adv. for Ministry of Environment, Forest and Climate Change
Mr. R.S. Suri, Sr. Adv. and Mr. Varun Khanna, Adv.
Mr. Tarunvir Singh Khehar and Ms. Guneet Khehar, Mr. Sandeep Mishra, Advs. for GNCTD
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Lalit Mohan, Advs for Delhi Development Authority
Mr. Arjun Sawhney adv in M. a. No. 1435/2017
Ms. S. Ghosh, Adv., Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Advs.
Mr. Apurua Kumar adv.
Ms. Aruna Mathur, Mr. Avneesh Arputham and Ms. Anuradha Arputham, , and Ms. Simran Jeet, Advs. For State of Sikkim & Pollution Control Board
Dr. Abhishek Atrey, Adv. for Ministry of Environment, Forest and Climate Change
Ms. Yogmaya Agnihotri, and Ms. Prity, Advs.for CECB
Mr. Tarveen Singh Nanda, Mr. Anchit Sharma and Mr. Satumita Ghosh, for Delhi Cantonment Board

Mr. Soumyajit Pani and Mr. Chittaranjan Singh, Adv for State of Odisha,
Mr. Om Prakash, Adv.
Mr. Gautam singh and Ms.. Shibani Ghosh advs.
Mr. Nishe Rajen Shonker and Ms. Anu K. Joy, Advs. for State of Kerala.
Mr. Parag Tripathi, Sr. Adv., Mr. R.S. Suri, Sr. Adv and MR. Abeer Kumar, Adv.
Mr. Jayesh Gaurav, Adv.
Ms. Hemantika Wahi and Ms. Puja Singh Advs.
Dr. Sandeep Singh Adv. and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. Dileep Poolakkot, Adv.
Mrs. Rani Chibber and Ms. Priyanka Sony, Advs.
Mr. Jogy Scaria, Adv., Ms. Beena Victor, Ms. Mrianda Solaman Advs. for Kerala State Pollution Control Board
Ms. Sumedha Dang, Adv.
Mr. Edward Belho, AAG, K. Luikang Michael and Ms. Ms. Hoineithiam Advs. For Nagaland.
Ms. Priyanka Swami, Adv. for Ghaziabad Nagar Nigam and State of Uttar Pradesh
Mr. Shivam Bajaj Adv.
Ms. Aditi Singh Adv. for Narender Pal Singh Adv and Mr. Dinesh Jindel LO
Dr. Sanjay Kulshreshtha, Applicant in person
Mr. Rishabh Sharma, Advs.
Mr. Gautam Singh, Mr. Rudreshwar Singh Advs. for BSPCB
Mr. Gautam Singh and Mr. Sohoeab Alam, Advs. for State of Bihar
Mr. Balendu Shekhar, Adv., Mr. Sriansh Prakash, Mr. R.K. Maurya, Mr. Ravi Gopal Advs. for East Delhi Municipal Corporation
Mr. Shubham Bhalla, Adv.
Mr. Pragyan Pradip Sharma, Adv Ms. Nitesh , Advs.
Mr. S.M. Sharma and Mr. Saurabh Rajpal, Advs. for State of Rajasthan and RSPCB
Mr. Kamlajeet Singh AAG
Mr. Nagiender Benipal, Adv
Ms. Yogmaya Agnihotri, Adv., Ms. Prity, Adv.
Dr. Abhishek Atrey, Adv.
Ms. Priyanka Ghorawat, Adv.
Ms. Shashi Juneja Adv.
Mr. A.R. Takkar, with Mr. Amarjeet & Ms. Shriya Takkar, Advs. for Ambica Steel Ltd.
Mr. K.V. Jagdishvaran, Mr. Bhupesh Narula & Mr. G Indira, Advs. for UT of Admanan and Nicobar Administration
Ms. Priyanka Sinha, Adv. for State of Jharkhand
Dr. Sandeep Singh, Adv., Mr. Utkarsh Sharma and Mr. Vinay Pal, Adv. for State of Uttar Pradesh
Mr. D. Rajeshwar Rao and Mr. Abhinav Srivastav, Adv for Delhi Police
Ms. Alpana Poddar and Mr. Bhupendra Kumar, LA and Mr. Kamal Bandhu, ALO
Ms. Puja Kalra, Adv.
Mr. Ankur Chhibber and Mr. Nitish Negi, Advs.
Mr. Kamaljeet Singh, AAG
Mr. Udaibir Singh Kochar Adv
Mr. Gautam Dhamija, Adv.
Mr. Rishabh Sharma, Mr. Nitish NEgi, Adv. and Mr. Nawani, Assistand Engineer
Mr. Rajneesh Bhardwaj, Mr. Raj Kishan Gaur, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar, Mr. Sandeep Mishra Advs.
Mr. Ajay Kumar Misra, Sr. Adv., Mr. Vandil Misha and Ms. Anuradha D. Mishra, Advs.
Mr. Y.D. Sharma, Adv.
MR. Krishna Menon, Mr. Gautam Bhanja and Mr. Daniya Nayyar, Advs.
Mr. Pinaki Misra, Sr. Adv. and Mr. Manoj Kumar and Ms. Geeta Das, Adv.
Mr. Sanchar Anand and Mr. Apoorv Singhal, Advs.
Mr. Jitendra Kumar Tripathi and Mr. simar Pal, Advs.
Mr. Shibashish Mishra and Mr. sylona Mohapatra, Advs.
Ms. Kritika Sachdeva and Ms. Somya Rathore, Advs.
Mr. Naginder Benipal, Adv. for PPCB
Mr. Pinaki Misra and Mr. Mayank Das, Advs. for NBCC
Ms. Shyel T. and Mr. Rishabh Sharma,. Advs.
Mr. Manoj Kumar Das adv.
Ms. Sugandama Batra, Adv.
Mr. Arun K. Sinha, Advs.

Mr. Rajueesh Bhardwaj and Mr. Aj Kishan Gaur, Advs.
Mr. M. Paikaray and Mr. S. Panda and Mr. A. K. Panda, Advs.
Mr. Shubham Bhalla and Ms. Roopam Rai, Advs.
Mr. Arun Monga and Ms. Divya Sharma, Advs.
Mr. Roshmani KH, Mr. Sapam Biswajit , Adv.
Mr. Ajit Sharma and Mr. Adnan Siddiqui, Advs.
Mr. Leishangthe Roshmani Adv.
Mr. Anchit Sharma, Mr. Dipankar Wadhwa, Mr. Satamita Ghosh, Advs.
Mr. Ardhendhumauli, Kr. Prasad, Mr. Shashank Saxena, Advs.
Mr. Anil Grover, AAG, Mr. Rahul Khurana, Adv. with S. Narayan, Member, Secretary, HSPCB
Mr. Mukul Singh, Adv. for MoEF.
Mr. Amit Agrawal, Adv.

	Date and Remarks	**Orders of the Tribunal**
	Item Nos. 27-32 **December 18, 2017**	When this matter came up for hearing in the earlier part of the day, we had passed the following order: We have heard the learned Counsel appearing for the various stakeholders, State Governments, local authorities and the Applicant. We have also perused the action plans/affidavits submitted on behalf of the States of Uttar Pradesh, Rajasthan, Haryana, Punjab, NCT of Delhi, MoEF&CC and the Applicant. Keeping in view the limitation of time, we would dictate the detailed order during the course of remaining day. Thus now, we proceed to record the detailed order. All the States concerned with NCR Delhi i.e. NCT of Delhi, State of Uttar Pradesh, State of Rajasthan, State of Haryana and State of Punjab have filed their Action Plans in furtherance to the orders of the Tribunal. It is stated that these Action Plans have been prepared with reference to the Graded Response Action Plan (for short, "GRAP"), directions issued by Courts as well as judgments of the Tribunal in *Vardhman Kaushik vs. Union of India* . There are two fundamental aspects that need to be considered by the Tribunal for issuance of the directions in preventing and controlling the air pollution in NCR of Delhi. Firstly, that the Tribunal has passed a detailed judgment dated 10th November, 2016 in the case of *Vardhman Kaushik vs.*

	Item Nos. 27-32 **December 18, 2017**	*Union of India*, in Original Application No. 21 of 2014 which deals with all the sources of air pollution and the preventive steps that should be taken by all the concerned stakeholders including different Departments of the States. Secondly, the Tribunal had also passed a separate judgment dated 10th December, 2015 in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.,* Original Application No. 118 of 2013 in relation to the crop residue burning in these States to prevent and control the deterioration of ambient air quality as a result of indiscriminate crop residue burning. The GRAP has provided detailed guidelines. The concerned State Governments have not been able to implement these directions in their true spirit. The non-implementation of these directions is largely attributable to inaction and non-cooperation between the various departments of the State and the Governments of the different States. If the ambient air quality of NCR of Delhi has to be improved then there has to be a common framework, including all precautionary, preventive and punitive measures which should be uniformly applied by all the States. The various State Governments have classified the pollution levels under different categories. Each category has been assigned the lowest as well as the highest value in that category. There is no unanimity in such categorization. For instance, the Delhi Government has under Category–I, which is supposed to be the minimum has provided the value of PM_{10} greater than 500 $\mu g/m^3$ and $PM_{2.5}$ greater than 300 $\mu g/m^3$ to start taking the steps that are stated under this category. According

	Item Nos. 27-32 **December 18, 2017**	to the State of Uttar Pradesh they will start taking steps once the value is greater than 61 µg/m^3 and less than 90 µg/m^3 of $PM_{2.5}$ and PM_{10} is more than 101 µg/m^3 and less than 250 µg/m^3. Similarly, the other States have also provided different prescribed value. We may notice that value of PM_{10} is 100 µg/m^3 while the $PM_{2.5}$ is 60 µg/m^3. We may notice that these are not the only two pollutants which are responsible for causing pollution and adversely affecting the human health. There are other constituents i.e. SO_2, NOX, Hydro-Carbon, CO, BTEX, VOC and other components which have direct impact on human health. Thus, an approach has to be adopted which is more precautionary and preventive rather than curative. Importantly, the authorities are bound to take recourse of precautionary principle and ensure decent and clean environment to the public at large, living in NCR Delhi and in fact all over the country. It is commonly conceded before the Tribunal by all the stakeholders that there is very bleak possibility of bringing the ambient air quality of NCT of Delhi/NCR Delhi within the prescribed parameters of PM_{10} at 100 mg and $PM_{2.5}$ at 60 including the values of other pollutants that we have referred above. The State of Punjab has not even filed an action plan as contemplated under the orders of the Tribunal. It has just filed an affidavit stating that they would be installing ambient air quality monitoring stations that would measure 12 parameters on real time basis. Despite the fact that all the State Governments were directed to file action plans taking into consideration the

	Item Nos. 27-32 **December 18, 2017**	guidelines provided in GRAP, the judgments of the Courts and the Tribunal, as afore-stated, all the State Governments have filed the action plans which are not only at substantial variance, but in fact, go contra to each other. It is not only difficult but impossible to reconcile all these plans. The measures or steps to be taken under the respective action plans are entirely at variance even with regard to the same categorization. States of Uttar Pradesh, Rajasthan and Haryana have framed four categories while NCT of Delhi has framed three categories relatable to different values of ambient air quality in their action plans. We may notice that vide Notification dated 4th July, 2016, the Central Government in furtherance to the order of the Hon'ble Supreme Court of India dated 7th January, 1998 passed in W.P. (C) No. 13029 of 1985 reconstituted the Environmental Pollution (Prevention and Control) Authority (for short, "EPCA"), realizing that the high level of air pollution in NCR Delhi/NCT of Delhi was a matter of serious concern and required urgent measure. In compliance to the order of the Hon'ble Supreme Court dated 2nd December, 2016, the Central Government *vide* its Notification dated 12th January, 2017 reconstituted EPCA as implementing authority for GRAP. During the pendency of this application on different occasions, ambient air quality reports were filed by the CPCB, DPCC and even the Applicants and all the reports clearly demonstrate that all the parameters were found to be excessive.

	Item Nos. 27-32 **December 18, 2017**	We would just refer to the reports placed on record by the CPCB prepared on the basis of the data collected by it from October 2015 to January 2016. This report has categorized the pollution levels into good, satisfactory, moderately polluted, poor, very poor, severe and severe+ where the value of $PM_{2.5}$ in ambient air quality would be more than 300 µg/m^3. Strangely, at no point of time, the ambient air quality was found to be good in NCR Delhi. In fact, it was found to be poor and severe and above 60% in the month of October, 2015, 73% in November 2015, 67% in December 2015 and 68% in January 2016. Similarly, values of ambient air quality in relation to PM_{10} was found to be excessive for 66% in the month of October 2015, 87% for November 2015, 75% for December 2015 and 72% for January 2016. This statistics clearly shows that all the time, the ambient air quality of NCT of Delhi is polluted and for most of the period of the month it is severe and above. This is the quality of air that we are providing to the people living in NCR Delhi and NCT of Delhi. It is a clear violation of their fundamental right. The Supreme Court of India has declared right to decent and clean environment as a fundamental right within the ambit and scope of Article 21 of the Constitution of India. The Legislature enacted the laws for protection of environment and natural resources. The Constitution of India in terms of Article 47 (A) and 15 (A) (g) read with Article 21 mandated the State to protect the environment and imposed fundamental duty upon the

	Item Nos. 27-32 **December 18, 2017**	citizens to protect the environment and the natural resources and the judiciary to ensure the protection of the fundamental rights granted to the citizens of India. That is the stature provided to protection of environment, ecology and the natural resources in our country. The right to life has been infringed with impunity by the persons, Authorities and States upon whom lay Constitutional and statutory obligations to provide decent and clean environment to the public at large, particularly in relation to inhaling of clean air and drinking clean water. The Central Pollution Control Board has provided monitoring stations in various parts of NCT of Delhi, the analysis reports clearly show persistent hazardous ambient air quality not only in NCT of Delhi but even in NCR of Delhi and other parts of the country. It is undisputable and, in fact, has been exhibited in various platforms including display sites of Central Pollution Control Board and Delhi Pollution Control Committee where the value of PM_{10} and $PM_{2.5}$ is in flagrant violation to the prescribed value. It is surprising that the Central Pollution Control Board, Delhi Pollution Control Committee and other State Boards have not even bothered to test all the 8 parameters in the samples collected by them. Some of States claim though they have tested their parameters however, none of the display board displays results. The components like SO_2, NO_2, CO and Ozone which have a serious impact on the quality of the ambient air more often not remained ignored. Undoubtedly, they have serious impacts on human health as well.

	Item Nos. 27-32 **December 18, 2017**	The doctrine of preventive and precautionary principle with greater emphasis on inter generational equity has been violated, ignored at every relevant stage. The fundamental rights particularly which relates to right to life cannot be subjected to economic limitation. More often than not, the Supreme Court has held that the normally economic limitations cannot be raised as a defence to fundamental right, particularly right to life. We are informed that certain directions have been issued by the administration which certainly are not adequate and they do not comply with the judgment of the Tribunal, despite the fact that the matter was kept pending and various applications have been filed for different purposes. There is no Authority which is able to show the effective compliance of the directions contained in the judgment, this coupled with the above situation and apparent non-cooperation and no coordination amongst the various wings of the States and its instrumentalities has led to environmental degradation. In the judgements of *Vardhman Kaushik vs. Union of India & Ors.,* O.A. No. 21 of 2014 decided on 10th November, 2016, *Vikrant Kumar Tongad vs. Union of India & Ors.,* O.A. No. 118 of 2013 decided on 10th December, 2015, this Tribunal had passed directions in greater detail stating the steps/measures that should be taken by the State Governments, local authorities and the concerned stakeholders for improving the ambient air quality in and around NCT of Delhi. It is not necessary for us to refer to those orders at this stage. Suffices it to note that the orders were passed in great detail with specific

	Item Nos. 27-32 **December 18, 2017**	directions but unfortunately they remained un-complied. Amongst other, seven major contributors of air pollution are as under: 1. Construction activity and carriage of construction material 2. Burning of Municipal Solid Waste and other waste. 3. Burning of agriculture residue. 4. Vehicular Pollution. 5. Dust on the roads. 6. Industrial and thermal power house emission including fly-ash. 7. Emissions from Hot-Mix Plants and Stone Crushers. In this judgment, the Tribunal had noticed all the sources of pollution of ambient air quality and the manner in which preventive and precautionary steps are to be taken for tackling the pollution from each source. The judgment also directed taking of punitive steps/actions wherever the situation demanded and/or there was violation of the directions passed by the Tribunal. We are of the considered view that there is no dearth of existing laws, guidelines and directions of the Court in relation to prevention and control of pollution of the ambient air quality in NCT of Delhi but it is the implementation of laws and directions that is entirely wanting. Now, we will deal with the fundamental issues arising for consideration of the Tribunal in the present case. This relates to categorization. 'Categorization' has

	Item Nos. 27-32 **December 18, 2017**	all through been a matter of debate before different *forums,* including the authorities which had the statutory responsibility for prevention and control of air pollution. The CPCB has already created six categories which refer to different levels of pollution and these are good, satisfactory, moderately polluted, poor, very poor, severe and above severe. The GRAP has formulated five categories, i.e., severe+ or emergency, severe, very poor, moderate to poor and moderate. The different States have differently categorized its level of pollution and there is no uniformity. It needs to be noticed here that as per the GRAP, if $PM_{2.5}$ is between 61 µg/m^3 to 90 µg/m^3 and PM_{10} is 101 µg/m^3-250 µg/m^3, it would be treated as of moderate pollution. Government of NCT of Delhi though refers to the GRAP but while providing parameters of category-I when the action would start for prevention and control of pollution, the values reflected for that category of the Ambient Air Quality is PM_{10} less than 500 µg/m^3 and $PM_{2.5}$ less than 300 µg/m^3, which means that hardly any action would be taken with reference to the Precautionary Principle when the values exceed the prescribed values, i.e., above 100 µg/m^3 in the case of PM_{10} and 60 µg/m^3 in the case of $PM_{2.5}$. In our considered view, we feel that within the prescribed framework of GRAP and the CPCB, this concept of categorization needs clarity and certainty. The Tribunal consider it appropriate and, therefore, direct that there shall be four categories in relation to pollution of AAQ and also states the steps that must be taken to prevent and control of such pollution. The pollution levels in ambient air quality can fairly be

	Item Nos. 27-32 **December 18, 2017**	classified as follows: 1) Category I (Average): When PM_{10} is more than 100 µg/m^3 but below 300 µg/m^3 and $PM_{2.5}$ is more than 60 µg/m^3 but below 180 µg/m^3. 2) Category II (Severe): When PM_{10} is more than 300 µg/m^3 but below 700 µg/m^3 and $PM_{2.5}$ is more than 180 µg/m^3 but below 400 µg/m^3. 3) Category III (Critical): When PM_{10} is more than 700 µg/m^3 but below 1000 µg/m^3 and $PM_{2.5}$ is more than 400 µg/m^3 but less than 600 µg/m^3. 4) Category IV (Environmental Emergency): When PM_{10} is above 1000 µg/m^3 and $PM_{2.5}$ is above 600 µg/m^3. The levels of pollutants in the AAQ have direct nexus to public health. Higher pollutants in the AAQ have higher health impacts and risks to life. The need for complying with the precautionary principle and take timely action to prevent higher pollution has been emphasized in the above and even the previous orders of the Tribunal. It is the need of hour that all authorities and stakeholders must make concerted efforts to tackle major environmental problems of the present times. This can be tackled only by taking varied but appropriate steps at the appropriate stage. It is expected of all concerned, including the State and the citizens, to equally participate in tackling these environmental menaces. Collective responsibility can only provide the solution in resolving this. At the very outset, we reiterate the directions issued by this Tribunal in its judgments of *Vikrant Kumar*

	Item Nos. 27-32 **December 18, 2017**	*Tongad* and *Vardhaman Kaushik* (supra) and order dated 4th December, 2014 in *Vardhman Kaushik* and direct that all those directions shall apply *mutatis mutandi* and be read as part of this judgement. Therefore, we state the steps/measures that should be taken by State Governments, local authorities, stakeholders including the people at large, relatable to a particular category afore-stated. 1) Action/Steps to be taken when the pollution level fall in Category I: a) All concerned should make every effort to increase the green/forest cover. There shall be complete prohibition of burning of garbage, biomass and/or any kind of waste anywhere. Violation thereof would invite the penalty of ₹5000/- for each default (order dated 28th April, 2015). The respective Corporations, Local Authorities, Pollution Control Boards and police authorities would be responsible for ensuring this compliance. b) The Pollution Control Boards, Local Authorities and the State Governments should ensure stringent enforcement of all pollution laws, particularly, in relation to the industries or activities which cause emissions into the air for carrying on their activity. There should be regular inspection of Thermal Power Plants through the respective Pollution Control Boards and the Local Authorities to ensure that the Thermal Power

	Item Nos. 27-32 **December 18, 2017**	Plants are not emitting any gases or substances in excess of prescribed limit. c) The States and its instrumentalities shall encourage composting of biomass. d) Mechanized sweeping of roads. e) Regular checking of vehicles to ensure that they are maintaining their emissions within the prescribed values. f) Organizing public awareness programmes for prevention and control of air pollution. g) The vehicles which are more than 10 years old in the case of diesel and 15 years old in the case of petrol, should not be permitted to ply on the roads and they should be seized. Such vehicles should be deregistered by the concerned RTO. Steps should be taken to ensure free flow of traffic. Overloading of heavy vehicles should not be permitted and the vehicles which are found to be overloaded should be challaned and they should also pay environmental compensation in terms of the order dated 7th October, 2015 of the Tribunal. Strict vigilance should be maintained for visible emissions likely to cause air pollution and appropriate action be taken, without delay and default. The Government shall also provide the due incentive for scrapping of old cars as well as provide concession in registration of new cars to such car owners (order dated 28th July, 2016). h) All State Governments and their instrumentalities including public authorities shall ensure that

	Item Nos. 27-32 **December 18, 2017**	there is no crop residue burning in the agricultural fields or anywhere else. Due incentives and even machines like happy seeder, etc. should be provided to the farmers wherever necessary and recourse to punitive provisions should be taken. The State Government, its instrumentalities and the monitoring Committees shall take effective steps through publicity (print or electronic media) to inform the farmers at large the adverse impacts of burning of crop residue upon the environment, public health and the soil on the one hand. While on the other, utilising crop residue for providing them some income for productive and beneficial purposes like fuel in plants, bio-mass or thermal, manufacturing of boards, compact wood and such other useful items. i) When the car/vehicle stops on red traffic lights, the owner/driver of the vehicle should be directed to put off ignition of the car. For this purpose, the traffic police and other regulating agencies should propagate and advice the driver of the vehicle to take such precautionary steps. In the event of default, the traffic police should enforce the same in accordance with law as it would prevent avoidable vehicular emissions. j) All State Governments should identify and provide alternative routes for heavy vehicles outside the cities so that there is no traffic congestion in the city, particularly, NCT of Delhi. The heavy transport

	Item Nos. 27-32 **December 18, 2017**	vehicles whose final destination is not Delhi but enter Delhi en-route, shall not be permitted to enter Delhi. Such traffic should be diverted from Sonipat and Panipat. k) All efforts should be made to operationalise Western Expressway and Eastern Expressway. NHAI, Central Government and the concerned State Governments shall fully cooperate and provide assistance for the same. l) The State Government and all its instrumentalities shall endure their best to introduce battery and electric mass transportation system, incentives/ concession shall be provided for buying the hybrid vehicles. m) The State Government and the concerned departments should take effective steps to enhance public transport facilities and provide due infrastructure in that behalf. It will be ensured that public transport become more user-friendly. Due prevention should be taken to ensure that empty buses do not ply on the roads, proper time table relatable to the passenger peak load should be prepared by DTC and all other stakeholders. The State Governments, transport authorities and all other concerned agencies particularly NCT of Delhi, shall provide destination buses which will have not more than three bus stops within the colony of its origin and then would go non-stop to its point of termination. The destination buses could be ordinary buses

	Item Nos. 27-32 **December 18, 2017**	but preferably should be air conditioner buses. This direction must be complied with now, without delay and default (order dated 20th April, 2017). n) In this behalf the other directions stated in the order of the Tribunal dated 4th December, 2014 should also be complied with in terms of the order of the Hon'ble Supreme Court and this Tribunal. No vehicles which are BS-I, BS-II compliance would be permitted to ply on the roads, this will include heavy as well as light vehicles. o) The Government and all its concerned departments shall put a cap on the number of vehicles of all kinds that can ply in NCT of Delhi. Government should formulate policy of putting higher registration fee and road tax on purchase of second vehicle by the same person, body, company, society or trust. p) No parking should be permitted on the metalled roads. Parking at Multi-level or earmarked parking should be encouraged and incentives be provided in that behalf. q) All builders involved in construction of buildings, howsoever, small or big would ensure compliance to the laws in force and the directions of the Tribunal. No dust should be emitted during demolition. No construction material should be kept on the roads. The construction material inside the plot should also be kept in covered conditions and labour should be provided with all

	Item Nos. 27-32 **December 18, 2017**	anti-pollution gears during the course of construction. The State Governments, Pollution Control Boards and local authorities shall maintain due vigil in this regard (order dated 4th December, 2014). r) Regulation of hours and vehicles for loading and unloading of vehicles particularly in the congested area (order dated 16th March, 2015). s) All steps shall be taken by the State Governments, Horticulture Department, Corporation, Directorate of Education and all the private schools that to ensure increase of green belt in their respective schools within a period of one month from the date of pronouncement of this order. Large number of trees should be planted. 2) Category II (Severe)-Action and measures to be taken and penalties to be imposed: 1. All the steps directed under category I shall continue to be strictly enforced in relation to this category as well. 2. All the brick kilns, thermal plants and heavy industries which are causing emissions would be instantaneously stopped and inspected by Pollution Control Board and all other concerned authorities and if their emissions are found to be beyond the prescribed standards, such plants shall be directed to be shut down. 3. Intensifying public transport service and taking rigorous steps for avoiding traffic congestion particularly at peak hours.

	Item Nos. 27-32 **December 18, 2017**	4. Increasing the frequency of public transport, mechanized cleaning of roads and seizure of any diesel generator found emitting in excess of prescribed standards and no permission for its usage for any purpose whatsoever. 5. There shall be complete prohibition on burning of any material, waste or bio-mass. The Government shall issue warning to the public at large requiring them to take appropriate precautionary steps and not to expose themselves to the high pollutants during particular hours of the day. 6. The Government shall immediately take steps for segregating the office time for various offices including the Government Departments. The Government shall provide destination buses and make every effort to discourage the use of private vehicles, including two-wheelers, cars and heavy vehicles. 7. All necessary steps should be taken to ensure that the construction activity is carried on strictly as per prescribed guidelines and the directions of the Tribunal. The transportation of the construction material should also be strictly in accordance with the directions issued earlier such as ensuring that carrying of construction material of any kind, particularly sand, cement, etc., is done after properly covering the transportation vehicle. In default, the concerned Government, Board and the local authority shall invoke the penal directions in regard to payment of environmental compensation

	Item Nos. 27-32 **December 18, 2017**	at the rate of ₹5,000/- per event for transporting material in violation of directions and ₹50,000/- in relation to storage of construction material of any kind (order dated 11th December, 2015). 8. All State Governments should identify and provide alternative route where there is no traffic congestion in the city, particularly, NCT of Delhi so that the heavy transport vehicles whose final destination is not Delhi but en-route they enter Delhi, shall not be permitted to enter Delhi and such traffic would be diverted from Sonipat and Panipat. In the event they enter Delhi then they shall be liable to pay environmental compensation at the rate of ₹700/- for 2 axles, ₹500/- for 4 axle and ₹1000/- for 3 axles. 3) Category III Critical (Measures required to be taken)- Category III would relate to pollution of ambient air quality, i.e., severe and high and without exception have serious adverse impacts on public health and environment. Thus, the measures that are required to be taken under this category have to be preventive and punitive both. 1. All the directions contained under category I and II shall be enforced without default and delay. All those directions shall *mutatis mutandi* apply under this category as well. 2. The construction shall be stopped immediately and no construction would be permitted during the duration when the PM_{10} is falling under this category, particularly,

	Item Nos. 27-32 **December 18, 2017**	towards the higher value i.e. 1000 µg/m^3 or $PM_{2.5}$ is towards higher value of 600 µg/m^3. 3. There shall be complete prohibition on burning of crop residue and all the departments concerned, particularly, the Pollution Control Board and the Government Department would take recourse to the punitive provisions for payment of environmental compensation in terms of the judgement of this Tribunal in the case of *Vikrant Tongad vs. Environment Pollution (Prevention and Control) Authority & Ors.* dated 10th December, 2015. Officers who are found to be avoiding performance of their statutory duties in consonance with these directions would be liable to departmental action in accordance with law. 4. There shall be complete prohibition on transportation of construction material during the relevant period. 5. To avoid traffic congestion and consequential air pollution, the scheme of odd and even shall be implemented by the respective State Governments/Departments of the State. 4) Category IV (Environmental Emergency): The directions and steps directed hereinafter shall be carried out by the State Governments, concerned Departments, Local Authorities and all the stakeholders, when PM_{10} exceeds 1000µg/m^3 and $PM_{2.5}$ exceeds 600µg/m^3, respectively. 1. All the directions under category I, II and III, respectively shall apply *mutatis mutandis* even to this category. All State Governments would

	Item Nos. 27-32 **December 18, 2017**	comply with all such directions. Besides, we also issue the following directions. i) There would be a complete prohibition on all kind of construction activity and transportation of construction material. The default or violation of directions would incur penalty/environmental compensation to the extent of Rs. 1 Lakh for every default. ii) All the brick kilns functioning in NCR Delhi shall be closed. iii) There will be complete and absolute prohibition on burning of all agricultural residues. Penal actions shall be taken and environmental compensation imposed in accordance with the orders on the defaulters/offenders. iv) All the Thermal Power Plants in NCT of Delhi shall not operate. v) There shall be complete prohibition and ban on lifting, transportation and generation of fly ash. The concerned State Government and Authorities shall sprinkle water from the high rising buildings or through helicopters to ensure that excessive parameters are immediately brought down to reasonable limits. vi) There shall be complete prohibition on use of DG sets. The trucks and heavy vehicles carrying material including trailers shall be

	Item Nos. 27-32 **December 18, 2017**	prohibited from entering NCT of Delhi. Only the heavy vehicles carrying essential goods like medicine, food etc. would be permitted, while all other heavy vehicles will not be permitted to enter NCT of Delhi for the duration of Environmental Emergency. vii) Whenever there is environmental emergency, i.e., PM_{10} exceeds 1000 $\mu g/m^3$ and $PM_{2.5}$ exceeds 600 $\mu g/m^3$ then the NCT of Delhi shall consider and pass appropriate orders in regard to closure of the schools for that period. The period for which the schools remain closed as a result of passing of such order would be treated non-working days and would not contribute towards the percentage of attendance. The schools would be provided with an option to run on weekend following the closure period, if they so desire. viii) The Central Government and NCT of Delhi and all other State Governments shall issue guidelines in relation to use of bursting of crackers including kind of crackers that can be burst and the area where such activity would be prohibited and/or permitted, duration thereof and under what event and circumstances. There shall be complete prohibition on bursting of crackers. Such guidelines shall

		be issued within a period of two months from the date of passing of this order. **GENERAL DIRECTIONS:** 1. All the above directions and the directions contained in the orders of the Tribunal dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 all in the case of *Vardhaman Kaushik* (supra) and 10th December, 2015 in the case of *Vikrant Kumar Tongad* (supra) shall be implemented and enforced by the concerned State Governments, its Departments, instrumentalities, local authorities and all the stakeholders, without delay and default. 2. Implementation of these directions is mandatory and no authority shall have any discretion to vary their implementation in any form. They shall come into force and be implemented automatically with reference to the extent of pollution in the ambient air quality of NCT of Delhi 3. Odd and Even Scheme shall be applied in terms of these directions without any exception. No Authority would be entitled to use any discretion in enforcement of this direction. 4. The State Governments and all concerned agencies particularly the Pollution Control Boards shall prosecute by filing appropriate complaints in terms of Section 15 of the Environment (Protection) Act, 1986, against the defaulters and offenders of these directions and the environmental laws in force,

		without delay and default. 5. The environmental compensation imposed in terms of these directions against any defaulter or violator shall be recovered in accordance with law by the concerned State, Agencies, Boards, Local Authorities, etc., without delay and default. 6. The environmental compensation collected under the directions of the Tribunal in terms of orders/judgement dated 4th December, 2014, 10th April, 2015, 20th July, 2015, 7th October, 2015 and 10th November, 2016 in the case of *Vardhman Kaushik vs. Union of India & Ors.*, O.A. No. 21 of 2014 and dated 10th December, 2015 in the case of *Vikrant Kumar Tongad vs. Union of India & Ors.*, O.A. No. 118 of 2013 and this order shall be kept in separate account and will be utilized for implementing projects in terms of these directions and for prevention and control of air pollution in NCT of Delhi. 7. Every laxity, dereliction of duty and non-compliance of these directions by the officers/officials shall lead to initiation of proceedings as well as action for violating the orders of the Tribunal before the Tribunal and in accordance with law. 8. Copy of this order and all the above referred orders should be placed before any agency and/or Committee constituted by the Government for prevention and control of pollution of ambient air quality in NCR/NCT of Delhi. It will be appropriate

		that the authorities/agency/committees would have advantage of having the orders of the Tribunal before them as a base document so as to facilitate execution and enforcement thereof. 9. The Authority or any other Committee would be free to take such steps or measures as they may deem necessary for cleaning ambient air quality of NCR/NCT of Delhi, in addition to the directions contained in this order and other orders afore-stated. However, they should not act and pass directions which are in derogation to the orders of the Courts and this Tribunal. 10. The Secretary, Environment of every State and the Member Secretary of that State Pollution Control Board shall file in every three months a comprehensive report before the Tribunal, without default. In this report ambient air quality standards in relation to all pollutants upon analysis shall be reported and also the measures/steps taken by that State in relation to prevention and control of air pollution, in accordance with directions contained in this judgement. In the event the report is not filed, the concerned officers shall be liable to be proceeded against in accordance with law for violating the orders of the Tribunal. We further, direct that copy of this order be circulated to the Chief Secretaries, Central Pollution Control Board, State Pollution Control Boards, MoEF&CC and all other Committees constituted, without any delay.

		The application is thus disposed of without any order as to cost. .....,CP (Swatanter Kumar) .....,JM (U.D. Salvi) .....,EM (Dr. Nagin Nanda)

NATIONAL GREEN TRIBUNAL, NEW DELHI

Item No. 8 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 283/2020

R.S. Virk Applicant

Versus

Central Pollution Control Board Respondent(s)

Date of hearing: 03.12.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

ORDER

1. This application seeks remedial action to mitigate the impact of dust pollution arising out of dry sweeping of roads in metro cities. According to the applicant, dust pollution contributes to about 43% of the air pollution. Suggestion is that dust suppressant should be used alongwith water as a remedial measure.

2. In *M.C. Mehta vs. Union of India & Ors., (2020) 7 SCC 573*, following direction was issued:

> *" xxx xxx xxx*
> *20. For taking care of the road dust* ***let water sprinklers/dust suppressors be used on the roads. An IIT expert suggested about the appropriate water pressure for the sprinklers. At what pressure water should be sprinkled so as to reduce the pollution and dust so that it does not add to the pollution. Let the Corporations act on advice of the expert of the IIT. Such roads where traffic congestion is more, let traffic plan be also prepared in such a manner so that there is no extra burden on a particular road so that traffic congestion is taken care of. It is for the concerned traffic authorities to take immediate steps in this regard."***

3. The issue of vacuum cleaning of roads has been considered by the Hon'ble Supreme Court in *M.C. Mehta vs. Union of India, (2016) 4 SCC 269*, at page 281 as follows:

> *" xxx xxx xxx*
>
> ***13. We, accordingly, direct the Government of NCT of Delhi to take immediate steps for repair of pavements and make pavements wherever the same are missing and also to take immediate steps for procurement of the requisite vacuum cleaning vehicles for use on Delhi roads expeditiously but not later than 1-4-2016."***

4. We note that as per 'Air Quality Monitoring Emission Inventory & Source Apportionment Studies' for Delhi conducted by the NEERI, Nagpur in December, 2018, dust pollution was noted to be one of the contributors to the air pollution of Delhi. The contribution of road dust was found to be 52.5% to PM_{10} emissions. The sources of dust pollution are wind blown, natural dust, road dust, re-suspension, construction dust and particles generated from combustion sources. It was observed that the dust components can be controlled.

5. We also note that in the Graded Response Action Plan (GRAP) for Delhi and NCR prepared by the CPCB, there is a provision for **"increase frequency of mechanized cleaning of road and sprinkling of water on roads. Identify road stretches with high dust generation"** by Municipal Corporations, PWD and NHAI when the air quality is 'severe'. There is also a study of "Source Apportionment of $PM_{2.5}$ & PM_{10} Concentrations of Delhi NCR for Identification of Major Sources" by the Automotive Research Association of India (ARAI) and The Energy and Resources Institute (TERI) in August, 2018 noting as follows:

"4.1 PM_{10}

Seasonal variation of PM10 shows higher contribution of dusty sources in summer (38%–42%) as compared to winter in Delhi-city as well as NCR Towns. This can be attributed to dry conditions and higher wind velocities resulting in entrainment of dust. However, contribution of dusty sources (e.g. road, construction and soil dust) was also significant in winter season (23%–31%). contribution of vehicles to PM10 was slightly higher in winter (17%–18%) in Delhi-city and NCR Towns than in summer (15%–16%)."

6. This Tribunal has been considering remedial action for control of air pollution in 122 Non-Attainment Cities (NACs) in the country in *OA 681/2018, News item published in "The Times of India" Authored by Shri Vishwa Mohan titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15."* The Tribunal directed constitution of Air Quality Monitoring Committees (AQMCs) in all the States/UTs having NACs comprising of Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State. The AQMCs work under the Principal Secretary, Environment of the State and finally under the Chief Secretary. The function of the AQMCs is to prepare and execute action plan for control of the air pollution.

7. In view of acknowledged fact that dust pollution is significant component of air pollution and sweeping of roads is one of the sources of dust pollution **sprinkling of water before sweeping of roads including the pavements needs to be explored, as directed by the Hon'ble Supreme Court quoted above**. The water to be used for the purpose of sprinkling should be treated STP water and not the fresh water. Further mitigation which may be considered is planting of grass/raising small herbs and shrubs on the sides of the pavements and on open dusty

areas including the areas on the sides of the pavements. The pavements may also be appropriately covered so as to prevent generation of dust.

8. Accordingly, we direct all the Municipal Corporations/Local Bodies in NCR where air quality levels are normally non-compliant and in all other cities with the air quality 'poor' and above to take necessary steps to ensure sprinkling of water before sweeping of roads, using treated water from STPs, and take further steps of planting of grass/raising small herbs and shrubs on the sides of the pavements/road shoulders and on open dusty areas, including the areas on the sides of the pavements/right of way. The pavements may also be appropriately covered so as to prevent generation of dust. Attention also needs to be given to stop burning of biomass/waste and regulate construction and demolition activities following the laid guidelines and protocols under GRAP/NCAP. All the Municipal Corporations/Local Bodies may send their reports to the Principal Secretary, Environment of the State, heading the AQMCs, once in a quarter. First such report may be furnished by 01.02.2021, mentioning the steps initiated and thereafter every quarter such action taken reports may be furnished. The Principal Secretary, Environment heading the AQMCs may compile the data and furnish the same to the CPCB. First such report by AQMCs may be furnished to the CPCB by 28.02.2021. The CPCB may give a consolidated report by 31.03.2021 to this Tribunal in OA 681/2018 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF

The application is disposed of.

A copy of this order be forwarded to the Chief Secretaries, Secretaries, Environment and Urban Development Department/Local Bodies of all the States/UTs and the CPCB by e-mail for compliance.

The Secretary, Urban Development/Local Bodies may forward a copy of this order to all the Municipal Corporations/Local Bodies in the States/UTs for compliance forthwith.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

December 03, 2020
Original Application No. 283/2020
DV

Item No. 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 681/2018

(With reports dated 05.04.2021 and 05.02.2021)

In Re: News item published in "The Times of India" Authored by Shri Vishwa Mohan Titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15"

Date of hearing: 08.04.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE B. AMIT STHALEKAR JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE MR. SAIBAL DASGUPTA EXPERT MEMBER

Respondent(s): Mr. Raj Kumar, Advocate for CPCB
Mr. Pradeep Misra, & Mr. Daleep Dhyani, Advocates for UPPCB

ORDER

S. No.	CONTENT	PARA No.
I	The issue: Remedial Action for air pollution in 124 Non-Attainment Cities (NACs) and other air polluted areas where air quality is poor and above and Noise pollution	1-2
II	Order dated 08.10.2018	3 – 14
III	Orders in related matters	15 – 20
IV	Review of compliance status of directions for remedial action - orders dated 15.03.2019, 06.08.2019, 20.11.2019 and 21.08.2020	21-25
V	Consolidated Report of CPCB dated 05.04.2021 with regard to compliance status of directions dated 21.8.2020	26 – 27
VI	Consideration of report of the Oversight Committee for UP dated 27.03.2021 about compliance status in UP and recommendations for this order	28 – 29
VII	Current (Fifth) and final review on the subject - Analysis of the CPCB report dated 05.04.2021 for this order	30 – 55
VIII	Consideration of way forward and Directions	56 - 60

I. **The Issue: Remedial Action for air pollution in 124 Non-Attainment Cities (NACs) and other air polluted areas where air quality is poor and above and Noise pollution – need for intervention of the Tribunal in view of inadequacy of measures taken so far**

1. The question for consideration is remedial measures to be adopted to enforce the Ambient Air Quality Standards with reference to the provisions of the Air (Prevention and Control of Pollution) Act, 1981 (the Air Act) and the Environment (Protection) Act, 1986 (the EP Act) in 124 cities classified as 'Non-Attainment Cities' (NACs)[1] based on monitoring of the ambient air quality. Though initially scope of consideration was limited to NACs, we propose to cover other air polluted areas where air quality is poor and above in this order. Further question is compliance of Noise Pollution (Regulation and Control) Rules, 2000 (Noise Rules) framed under the provisions of the EP Act.

2. The Government of India (GoI) has prepared National Clean Air Programme (NCAP) proposing to reduce the pollution in next 10 years - 35% in next 3 years, 50% in next 5 years and 70-80% in next 10 years but question remains whether preparation of such programme is enough to discharge the Constitutional obligation to ensure maintenance of air quality standards as per norms so that health of the citizens is not adversely affected. While all efforts to reduce pollution are welcome, this cannot be understood to condone violations of laid down air quality standards till pollution reduction is achieved. Efficacy of the programme is required to be tested with reference to result on the ground in terms of reduction of pollution. If infact instead of reduction, pollution is increasing, what further measures are required and what directions are called for by this Tribunal under Sections 15/20 of the NGT Act, 2010.

II. Order dated 08.10.2018: Constitution of AQMC in States for preparing action plans to control air pollution for NACs

[1] NAC has been defined as those "Cities which are exceeding annual average concentrations of any of the notified parameters with respect to National Ambient Air Quality Standards for consecutively five years".

3. Proceedings were initiated suo motu vide order dated 08.10.2018, based on the newspaper report[2] to the effect that 102 cities (later increased to 124) were identified as NACs for not meeting the prescribed standards of air quality. Such reported violations gave rise to substantial question of environment requiring directions of this Tribunal for protection of environment by requiring enforcement of statutory standards of air quality for giving effect to the sustainable development and in the interest of public health. Adverse health impact of air pollution is well acknowledged.

4. Categories of air quality and its adverse health effect can be noticed from following tables extracted from the judgment of the Hon'ble Supreme Court in *Arjun Gopal & Ors. v. UOI & Ors.*[3]*:*

Table 1

AQI	***Associated Health Impacts***
Good (0-50)	***Minimal impact.***
Satisfactory (51-100)	***May cause minor breathing discomfort to sensitive people.***
Moderately polluted (101-200)	***May cause breathing discomfort to people with lung disease such as asthma, and discomfort to people with heart disease, children and older adults.***
Poor (201-300)	***May cause breathing discomfort to people on prolonged exposure, and discomfort to people with heart disease.***
Very Poor (301-400)	***May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases.***
Severe May (401-500)	***May cause respiratory impact even on healthy people, and serious health impacts on people with lung/heart disease. The health impacts may be experienced even during light physical activity.***

Table 2

AQI Category, Pollutants and Health Breakpoints								
AQI category (Range)	***PM_{10} 24-hr***	***$PM_{2.5}$ 24-hr***	***NO_2 24-hr***	***O_3 8-hr***	***CO 8-hr (mg/m^3)***	***SO_2 24-hr***	***NH_3 24-hr***	***Pb 24-hr***
Good (0-50)	***0-50***	***0-30***	***0-40***	***0-50***	***0-1.0***	***0-40***	***0-200***	***0-0.5***
Satisfactory (51-100)	***51-100***	***31-60***	***41-80***	***51-100***	***1.1-2.0***	***41-80***	***201-400***	***0.5-1.0***

[2] Dated 03.08.2019 in the Times of India under the heading "NCAP with multiple timelines to clean air in 102 cities to be released around August 15".
[3] (2017) 1 SCC 412

Moderately polluted (101-200)	***101-250***	***61-90***	***81-180***	***101-168***	***2.1-10***	***81-380***	***401-800***	***1.1-2.0***
Poor (201-300)	***251-350***	***91-120***	***181-280***	***169-208***	***10-17***	***381-800***	***801-1200***	***2.1-3.0***
Very poor (301-400)	***351-430***	***121-250***	***281-400***	***209-748****	***17-34***	***801-1600***	***1200-1800***	***3.1-3.5***
Severe (401-500)	***430+***	***250+***	***400+***	***748+****	***34+***	***1600+***	***1800+***	***3.5+***

5. The Air Act stipulates stopping of any activity violating norms of air quality and taking steps for prosecution or other regulatory measures[4] which have been read to include recovery of compensation on 'Polluter Pays' principle[5]. National Ambient Air Quality Standards are laid down under Section 16(2)(h) of the Air Act. Notification dated 18.11.2009, issued by the CPCB is as follows:

> *"In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No. 14 of 1981), and in super session of the Notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-*

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	***Pollutant***	***Time Weighted average***	***Concentration in Ambient Air***		***Methods of Measurement***
			Industrial, Residential, Rural and Other Area	***Ecologically sensitive area (notified by Central Govt.)***	
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1	*Sulphur Dioxide (SO2), mg/m³*	*Annual**	*50*	*20*	• *Improved West and Geake* • *Ultraviolet fluorescence*
		*24 hours***	*80*	*80*	
2	*Nitrogen Dioxide (NO2), mg/m³*	*Annual**	*40*	*30*	• *Modified Jacob & Hochheiser (Na-Arsenite)* • *Chemiluminescence*
		*24 hours***	*80*	*80*	

[4] Section 22 read with Section 31A of the Air Act and

[5] Aryavart Foundation Vs. M/s Vapi Green Enviro Limited & Ors. O.A No. 95/2018, Indian Council for Enviro Legal Action & Ors. v. Union of India & Ors. (1996) 3 SCC 212 Para 16, Vellore Citizens Welfare Forum v. Union of India & Ors. (1996) 5 SCC 647 Para 12 to 18 - holding that 'Polluter Pay' principle is accepted principle and part of environmental law of the country, even without specific statute.

3	*Particulate Matter (size less than 10 mm) or PM^{10} mg/m^3*	*Annual**	*60*	*60*	• *Gravimetric* • *TOEM* • *Beta attenuation*
		*24 hours***	*100*	*100*	
4	*Particulate Matter (size less than 2.5 microns) or $PM_{2.5}$ mg/m^3*	*Annual**	*40*	*40*	• *Gravimetric* • *TOEM* • *Beta attenuation*
		*24 hours***	*60*	*60*	
5	*Ozone (O3) mg/m^3*	*8 hours ***	*100*	*100*	• *UV photometric* • *Chemiluminescence* • *Chemical method*
		*1 hour ***	*180*	*180*	
6	*Lead (Pb) mg/m^3*	*Annual**	*0.5*	*0.5*	• *ASS / ICP method after sampling on EPM 2000 or equivalent filter paper* • *ED – XRF using Teflon filter*
		*24 hours***	*1.0*	*1.0*	
7	*Carbon Monoxide (CO) mg/m^3*	*8 hours***	*2*	*2*	*Non Dispersive Infra RED (NDIR) Spectroscopy*
		*1 hour***	*4*	*4*	
8	*Ammonia (NH3) mg/m^3*	*Annual**	*100*	*100*	• *Chemiluminescence* • *Indophenol blue method*
		*24 hours***	*400*	*400*	
9	*Benzene (C6H6) mg/m^3*	*Annual**	*5*	*5*	• *Gas chromatography based continuous analyser* • *Adsorption and desorption followed by GC analysis*
10	*Benzo (a) Pyrene (BaP) – particulate phase only ng/m^3*	*Annual**	*1*	*1*	*Solvent extraction followed by HPLC / GC analysis*
11	*Arsenic (As) ng/m^3*	*Annual**	*6*	*6*	*AAS / ICP method after sampling on EPM 2000 or equivalent filter paper*
12	*Nickel (Ni) ng/m^3*	*Annual**	*20*	*20*	*AAS / ICP method after sampling on EPM 2000 or equivalent filter paper*

* *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.*

** *24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.*

Note: *Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation."*

6. The Central Pollution Control Board (CPCB) compiled its report on the basis of NAMP data for the years from 2014-2019 and published a list

of 102 NACs[6]. Presently, the list has gone upto 124 NACs which is as follows:

"List of 124 Non-Attainment cities

State	S. No.	City
Andhra Pradesh (13)	1.	Guntur
	2.	Kurnool
	3.	Nellore
	4.	Vijayawada
	5.	Vishakhapatnam
	6.	Anantapur
	7.	Chitoor
	8.	Eluru
	9.	Kadapa
	10.	Ongole
	11.	Rajahmundry
	12.	Srikakulam
	13.	Vizianagaram
Assam (05)	14.	Guwahati
	15.	Nagaon
	16.	Nalbari
	17.	Sibsagar
	18.	Silchar
Bihar (03)	19.	Patna
	20.	Gaya
	21.	Muzaffarpur
Chandigarh (01)	22.	Chandigarh
Chhattisgarh (03)	23.	Bhilai
	24.	Korba
	25.	Raipur
Delhi (01)	26.	Delhi
Gujarat (03)	27.	Surat
	28.	Ahmedabad
	29.	Vadodara
Himachal Pradesh (7)	30.	Baddi
	31.	Damtal
	32.	Kala Amb
	33.	Nalagarh
	34.	Paonta Sahib
	35.	Parwanoo
	36.	Sunder Nagar
Jammu & Kashmir (2)	37.	Jammu
	38.	Srinagar

[6] https://cpcb.nic.in/uploads/Non-Attainment_Cities.pdf

Jharkhand (01)	39.	Dhanbad
Karnataka (04)	40.	Bangalore
	41.	Devanagere
	42.	Gulburga
	43.	Hubli-Dharwad
Madhya Pradesh (06)	44.	Bhopal
	45.	Dewas
	46.	Indore
	47.	Sagar
	48.	Ujjain
	49.	Gwalior
Maharashtra (18)	50.	Akola
	51.	Amravati
	52.	Aurangabad
	53.	Badlapur
	54.	Chandrapur
	55.	Jalgaon
	56.	Jalna
	57.	Kolhapur
	58.	Latur
	59.	Mumbai
	60.	Nagpur
	61.	Nashik
	62.	Navi Mumbai
	63.	Pune
	64.	Sangli
	65.	Solapur
	66.	Ulhasnagar
	67.	Thane
Meghalaya (01)	68.	Byrnihat
Nagaland (02)	69.	Dimapur
	70.	Kohima
Orissa (07)	71.	Angul
	72.	Balasore
	73.	Bhubaneswar
	74.	Cuttack
	75.	Rourkela
	76.	Talcher
	77.	Kalinga Nagar
	78.	Dera Bassi
	79.	Gobindgarh
	80.	Jalandhar

Punjab (09)	81.	Khanna
	82.	Ludhiana
	83.	Naya Nangal
	84.	Pathankot/Dera Baba
	85.	Patiala
	86.	Amritsar
Rajasthan (05)	87.	Alwar
	88.	Jaipur
	89.	Jodhpur
	90.	Kota
	91.	Udaipur
Tamilnadu (03)	92.	Thoothukudi
	93.	Trichy
	94.	Madurai
Telangana (04)	95.	Hyderabad
	96.	Nalgonda
	97.	Patancheruvu
	98.	Sangareddy
Uttar Pradesh (16)	99.	Agra
	100.	Allahabad
	101.	Anpara
	102.	Bareily
	103.	Firozabad
	104.	Gajraula
	105.	Ghaziabad
	106.	Jhansi
	107.	Kanpur
	108.	Khurja
	109.	Lucknow
	110.	Moradabad
	111.	Noida
	112.	Raebareli
	113.	Varanasi
	114.	Gorakhpur
Uttarakhand (03)	115.	Kashipur
	116.	Rishikesh
	117.	Dehradun
	118.	Kolkata
	119.	Asansol
	120.	Barrackpore
	121.	Durgapur
	122.	Haldia

	123.	Howrah
	124.	Raniganj

”

7. As already mentioned, the GoI prepared National Clean Air Programme (NCAP) proposing to reduce the pollution in next 10 years - 35% in next 3 years, 50% in next 5 years and 70-80% in next 10 years. The data shows that as against number of NACs being 95 in the year 2017[7], the number increased to 102 in the year 2018, then to 122 and now to 124. Further, data of air quality for the entire Country is still not available in absence of adequate monitoring stations. Thus, the action taken so far is certainly inadequate, calling for intervention of this Tribunal as per mandate of law under Sections 15/20 of the NGT Act.

SC judgements on control of air polluting activities: vehicular pollution[8], industrial and construction sector pollution[9], power sector pollution[10] and agricultural sector pollution:

8. The Tribunal noted the concern arising from such large-scale air pollution which grapples the country in spite of statutory mechanism under the Air Act, directions of the CPCB under section 18(1)(b), dated 29.12.2015 and directions of the Hon’ble Supreme Court for control of

[7] http://cpcbenvis.nic.in/airpollution/finding.htm. Based on ambient air quality data obtained (2008-2010) under National Air Quality Monitoring Programme (NAMP)

[8] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[9] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[10] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

vehicular pollution[11], industrial and construction sector pollution[12], power sector pollution[13] and agricultural sector pollution[14] and orders of this Tribunal dealing with the said issues[15].

9. In M.C. Mehta v. UOI, it was observed:

> *"1. The urgency for protection and improvement of the environment etc. has not been doubted for a long time. After the Stockholm Conference, 1972, in India several legislative steps have been taken for implementation of the programme. In addition to Article 47 in Part IV of the Constitution which imposes a duty on the State to improve the public health mentioned as one of the primary duties. Article 48A was inserted by the Constitution (42nd Amendment) Act, 1976 with effect from 3-1-1977 expressly to the effect that "the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country". Thereafter, the Environment (Protection) Act, 1986 (the Act) was enacted to provide for the protection and improvement of the environment and for matters connected therewith. The Statement of Objects and Reasons emphasises the world-wide concern over the decline in environmental quality and the urgency of steps required for the protection and improvement of the environment. It is clear that the possibility of any deterioration in the environmental quality was excluded and emphasis at the minimum was on protection with the endeavour to improve the then existing state of environmental quality. Any further decline in the environmental quality at least after the enactment of the Act is undoubtedly a failure to perform this obligation by the State, contrary to the constitutional scheme.*
>
> *2. It cannot be disputed by anyone that there has been considerable further decline in the environmental quality even after enactment of the Environment (Protection) Act, 1986, notwithstanding the resolve to prevent which the constitutional amendment was given effect to by enactment of the statute.*

---

[11] Rural Litigation and Entitlement Kendra, Dehradune and Others Vs State of U.P. Others (1985) 2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 4 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[12] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 176, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (2004) 1 SCC 491, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 3 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[13] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[14] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[15] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

3. Even a cursory perusal of the provisions of the enactment reveal the emphasis on the need for not mere protection but also improvement of the environmental quality. The definitions including that of "environment" in Section 2 of the Act, the extent of the powers of the Central Government in Section 3 and the further power to give directions in Section 5 are alone sufficient to indicate the high degree of duty imposed on the State for which large powers are given to enable discharge of that duty. We may refer in particular to Sub-section (3) of Section 3 which confers powers on the Central Government to constitute an authority or authorities considered necessary or expedient by it for the purposes of this Act and the further power to give directions under Section 5.

4. In spite of a number of matters, including this writ petition of 1985 having been brought in the Court as PIL, the required attention does not appear to have been paid by the authorities concerned to take the steps necessary for discharge of this duty imposed on the State by the provisions mentioned above except for the enactment of the said statute. The least which ought to have been done in this direction was to constitute a high-power committee at the national level of eminent persons and to ensure Constitution of similar authorities at the State level in exercise of the power given by Sub-section (3) of Section 3 of the Act to ensure that the object of the enactment was duly served. The several aspects of the environment which this Court is required to deal with in this writ petition are all covered not merely by the general provisions in Sub-section (1) of Section 3 but also by the specific matters specified in Sub-section (2) thereof. It is only on account of the absence of the authority/authorities contemplated under Sub-section (3) of Section 3 that this Court is required to deal with these matters in this writ petition and several other similar writ petitions pending in this Court, in addition to those which are pending in different High Courts. It is also a matter of concern that notwithstanding the pendency of these matters in this Court for so long no steps have been taken as yet by the Central Government for the Constitution of the authority/authorities contemplated by Sub-section (3) of Section 3 so that even now these matters can be taken care of by the authorities intended for the purpose.

5. It is undoubtedly a matter of universal concern that the quality of the environment continues to deteriorate even now. Any further delay in the performance of its duty by the Central Government cannot, therefore, be permitted. Suitable directions by the Court to require performance of its duty by the Central Government is mandated by the law and have, therefore, now to be given. We consider it appropriate that before issuing such directions, the Central Government should be given one more opportunity to indicate all the measures taken by it so far for discharge of the duty enjoined on it by the above provisions in Part IV of the Constitution and the Environment (Protection) Act, 1986.

6. It need hardly be added that the duty cast on the State under Articles 47 and 48A in particular of Part IV of the Constitution is to be read as conferring a corresponding right on the citizens and, therefore, the right under Article 21 at least must be read to include

the same within its ambit. At this point of time, the effect of the quality of the environment on the life of the inhabitants is much too obvious to require any emphasis or elaboration.

7. We may also add that the Central Government in addition to stating all the steps taken so far, as indicated above, must also place before the Court the national policy, if any, drawn up in this behalf for the protection and improvement of the environment and the steps it proposes to take to restore the quality of the environment at least to the level at which it existed in 1977 together with the time-frame for the implementation of the programme. These particulars be furnished on the affidavit of the Secretary, Ministry of Environment and Forests, Government of India."

CAP and GRAP for NCR

10. The Tribunal also referred to a Comprehensive Action Plan (CAP) for air pollution control for NCR prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and Delhi Pollution Control Committee (DPCC) on 05.04.2017[16] and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017 stipulating specific steps for different levels of air quality such **as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns, control of generator sets, open burning, open eateries, road dust, construction dust, etc.[17]**

Unfavourable ranking of India in terms of air pollution

11. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India

[16] Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.
[17] S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[18]

12. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes **stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanized cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees,** etc.

13. The MoEF&CC has by various notifications put **restrictions on activities in Coastal areas, Flood plains, Taj corridor Eco-sensitive zones, etc. in view of ecological sensitivity and impact of such activities on environment if such activities are carried out in unregulated areas.** This needs to be extended to the NACs in view of impact on public health and environment to give effect to the 'Precautionary' and 'Sustainable Development' principles. Some of the well-known sources of air pollution are:

1. Construction activity and carriage of construction material.
2. Mining and transportation of mined material.
2. Burning of Municipal Solid Waste and other waste.
3. Burning of agriculture residue.
4 Bursting of crackers.
5. Vehicular Pollution
6. Diesel gen-sets
7. Dust on the roads.
8. Industrial and power house emissions including fly-ash.
9. Emissions from coal fired activities brick kilns, Hot-Mix Plants and Stone Crushers.

[18] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece, https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

Tribunal's Intervention by 8.10.2018 order - Constitution of Air Quality Monitoring Committee (AQMC) in States, supervised by Chief Secretaries to prepare and execute action plans to control air pollution – with air quality monitoring and public grievance redressal portals

14. The Tribunal, after consideration of the issue on 08.10.2018, directed as follows:

> " *i. All the States and Union Territories with non-attainment cities must prepare appropriate action plans within two months aimed at bringing the standards of air quality within the prescribed norms within six months from date of finalization of the action plans.*
>
> *ii. The Action Plans may be prepared by six-member committee comprising of Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State. The Committee may be called Air Quality Monitoring Committee (AQMC).* ***The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries*** *concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination.*
>
> *iii. The Action Plans may take into account the GRAP, the CAP and the action plan prepared by CPCB as well as all other relevant factors. The Action Plans may be forwarded to the CPCB by 31.12.2018. The same may be placed before the Committee as directed in direction no. vi.* ***The Action Plan will include components like identification of source and its apportionment considering sectors like vehicular pollution, industrial pollution, dust pollution, construction activities, garbage burning, agricultural pollution including pollution caused by burning of crop residue, residential and indoor pollution*** *etc. The action plan shall also consider measures for strengthening of Ambient Air Quality (AAQ) monitoring and steps for public awareness including issuing of advisory to public for prevention and control of air pollution and involvement of schools, colleges and other academic institutions and awareness programmes.*
>
> ***iv. The Action Plan will indicate steps to be taken to check different sources of pollution having speedy, definite and specific timelines for execution.***
>
> ***v. The Action Plan should be consistent with the carrying capacity assessment of the non-attainment cities in terms of vehicular pollution, industrial emissions and population density, extent of construction and construction activities etc. The carrying capacity assessment shall also lay emphasis on agricultural and indoor pollution in rural areas. Depending upon assessed carrying capacity and source apportionment, the authorities may consider the need for regulating number of vehicles and their parking and plying, population***

density, extent of construction and construction activities etc. Guidelines may accordingly be framed to regulate vehicles and industries in non-attainment cities in terms of carrying capacity assessment and source apportionment.

vi. *The Committee comprising of (a) Shri. Prashant Gargava, Member Secretary, CPCB, (b) Dr. Mukesh Khare, Professor, IIT Delhi, and (c) Dr. Mukesh Sharma, Professor, IIT Kanpur shall examine the Action Plans and on the recommendations of the said Committee, the Chairman, CPCB shall approve the same by 31.01.2019.*

vii. *The Chief Secretaries of the State and Administrators/ Advisors to Administrators of the Union Territories will be personally accountable for failure to formulate Action Plans, as directed.*

viii. *The CPCB, SPCBs and State Pollution Control Committees shall develop a public grievance redressal portal for redressal of public complaints on air pollution along with a supervisory mechanism for its disposal in a time bound manner. Any visible air pollution can be reported at such portal by email/SMS.*

ix. *The CPCB and all the State Pollution Control Boards and Pollution Control Committees shall collectively workout and design a robust nationwide ambient air quality monitoring programme in a revised format by strengthening the existing monitoring network with respect to coverage of more cities/towns. The scope of monitoring should be expanded to include all twelve (12) notified parameters as per Notification No B-29016/20/90/PCI-L dated 18th November, 2009 of CPCB. The continuous Ambient Air Quality Monitoring Stations (AAQMS) should be preferred in comparison to manual monitoring stations. The CPCB and States shall file a composite action plan with timelines for its execution which shall not be more than three months. It is expected that all such AAQMS shall be connected to central server of CPCB for reporting analysis of results in a form of Air Quality Bulletin for general public at regular intervals atleast on weekly basis and ambient air quality on continuous basis on e-portal. MoEF&CC will provide requisite funds for the purpose. MoEF&CC in consultation with Ministry of Housing and Urban Affairs, MoRTH, Ministry of Petroleum and Natural Gas, Ministry of Agriculture, Cooperation and Farmers Welfare or any other Ministry to lay down such guidelines as may be considered necessary for improvement of air quality in the country."*

III. Orders in related matters - dated 16.01.2019 in OA 606/2018, 26.02.2020 in OA 773/2018, 01.12.2020 in OA 249/2020, 03.12.2020 in OA 283/2020, 05.02.2021 in OA 95/2018, order dated 14.11.2019 in O.A. No. 1038/2018, order dated 23.07.2018 in O.A No. 451 of 2018, order dated 17.03.2021 in O.A. No. 67/2019 and order dated 17.02.2021 in O.A. No. 1016/2019

a. Order dated 16.01.2019 in OA 606/2018: Requiring Chief Secretaries of all States/UTs to study and appear before the Tribunal to remedy significant environmental challenges including air pollution in NACs

15. In pursuance of order dated 16.01.2019 in OA 606/2018, the Chief Secretaries of all States/UTs appeared in person. The orders specified areas of environmental concern being waste management, pollution of water bodies, non-attainment cities, polluted industrial areas, sand mining and enforcement mechanism, including compensation regime for restoration of environment. After interaction with them, the Tribunal inter alia directed further monitoring at their level atleast once every month and sending quarterly status reports. The Chief Secretaries were to constitute environmental cells directly under them and monitor compliance atleast once in a month. Similarly, District Magistrates were to monitor compliance at district level with the assistance of District Task Force as per District Environment Plan.

b. Order dated 26.02.2020 in OA 773/2018 regarding remedial action for unregulated parking and traffic congestion:

16. The Tribunal considered another overlapping issue of unregulated illegal parking on the roads, adding to air pollution and impacting public health.[19] Vide order dated 26.02.2020, reference was made to the stand of the Ministry of Road Transport & Highways (MoRTH) that the Ministry was engaged in undertaking carrying capacity study for transport infrastructure. The Tribunal directed the concerned joint Secretaries of MoRTH as well as Ministry of Housing and Urban Development, Govt. of India and Member Secretary, CPCB to remain present in person, after acquainting themselves fully on the subject. Accordingly, a report dated 16.06.2020 has been filed by the MoRTH and by the Ministry of Urban Affairs jointly on the subject of undertaking carrying capacity of the roads.

c. Order dated 01.12.2020, in OA 249/2020: ban on crackers having regard to poor and below air quality

[19] OA 773/2018, Metro Transit Private Limited v. South Delhi Municipal Corporation & Ors.

17. Vide order dated 01.12.2020, in OA 249/2020, *Tribunal on its own motion v. Ministry of Environment, Forest & Climate Change & Ors.*, the Tribunal imposed ban on sale and use of fire crackers in all cities/towns where air quality was 'poor' and 'below' and restricted their use where air quality was 'moderate' or 'below' to green crackers only upto 2 hours on specified festivals. It was also directed that atleast one AAQMS must be set up at every District Headquarter and if online station was not possible atleast a manual station was required to be set up which did not cost much. Air quality data was also directed to be placed on the website of the District Administration. Direction as also issued for assessment and recovery of compensation for violations.

d. Order dated 14.11.2019 in O.A. No. 1038/2018, order dated 23.07.2018 in O.A No. 451 of 2018, order dated 17.03.2021 in O.A. No. 67/2019 and order dated 17.02.2021 in O.A. No. 1016/2019 – polluted industrial areas, crop residue burning, use of pet coke as fuel and brick kilns in NCR

18. The Tribunal has also considered the issues of remedial action against pollution as indicated by Comprehensive Environmental Pollution Index (CEPI) showing 100 industrial areas polluted vide order dated 14.11.2019 in OA No. 1038/2018, *News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels"*, vide order dated 23.07.2018 in O.A No. 451 of 2018, *Smt. Ganga Lalwani V. Union of India and Ors.*, on the subject of regulation and control of pollution by burning of crop residue, vide order dated 17.03.2021 in OA No. 67/2019, *Sumit Kumar v. State of Himachal Pradesh & Ors.*, on the subject of control of pet coke and vide order dated 17.02.2021 in OA No. 1016/2019, *Utkarsh Panwar v. Central Pollution Control Board & Ors.* on the subject of regulation and control of brick kilns and issued directions.

e. Order dated 03.12.2020 in OA 283/2020: Dust Control during road sweeping

19. Vide order dated 03.12.2020 in OA 283/2020, *R.S. Virk v. Central Pollution Control Board*, the Tribunal directed all Municipal Corporations, local bodies in the NCR and other cities where air quality was 'poor' and above to take steps **to ensure sprinkling of water before sweeping of roads, using treated water from STPs and to take steps for planting of grass/raising small herbs and shrubs on the sides of the pavements/road shoulders and on open dusty areas, including the areas on the sides of the pavements/right of way. Also directed that the pavements may also be appropriately covered so as to prevent generation of dust. It was also directed that the issue of stopping burning of biomass/waste and construction and demolition activities be duly regulated and the local bodies may send their action taken reports to the Principal Secretaries, Environment heading the AQMCs every quarter, who may thereafter send their reports to CPCB.**

f. Order dated 05.02.2021 in OA No. 95/2018: Need for Data Grid for better planning and monitoring

20. The Tribunal, vide order dated 05.02.2021 in OA No. 95/2018, *Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.*, referred to the need for authentic data being compiled to facilitate planning and monitoring. It was observed:

> *"20. Further, for improving monitoring and planning, authentic data needs to be compiled at all levels. Initiative will have to be taken consistent with Digital India initiatives by the MoEF/MoJS/MoUD/CPCB and based on such policy decisions, the Environment departments of all States/UTs will have to compile data in their respective jurisdiction, preferably District-wise. On that basis District Environment Data Grid (DEDG), State Environment Data Grid (SEDG) and National Environment Data Grid (NEDG) can be set up and continuously updated. The Grid can be connected to online monitoring systems. Comprehensive Environment Pollution*

Index (CEPI) is being prepared limited to the Industrial Area but the Grid can cover larger areas and aspects and can be source of research and planning. It can also facilitate monitoring of and be in sync with other government initiatives such as National Mission for Clean Ganga, Swachh Bharat and Jalshakti Abhiyan etc. Based on such data, it may also be easier to study 'carrying capacity' of different areas to plan siting policy for various activities.

xx xx xxx

22. xxx……xxx……xxx

viii. Consistent with Digital India initiatives, MoEF&CC/ MoJS/CPCB may consider setting up and periodically updating National Environment Data Grid (NEDG) linked to the State Environment Data Grids (SEDGs) DEDGs and further linked to available portals like online air/water quality, Sameer and other monitoring stations to facilitate analysis, research and planning on the subject. It may be further interlinked to initiatives like NMCG/Swachh Bharat/Jal Jeevan Mission."

IV. Review of compliance status of directions for remedial action - Orders in this matter dated 15.03.2019, 06.08.2019, 20.11.2019 and 21.08.2020

Order dated 15.3.2019: First review of progress of implementation of directions dated 8.10.2108. Further directions in view of inadequate progress

21. Vide order dated 15.03.2019, the Tribunal considered the status of compliance by various States/UTs in the matter of preparing and executing action plans for control of air pollution in pursuance of order dated 8.10.2018. **Since there was large scale non-compliance, further directions were issued.**

Order dated 06.08.2019: Second review of progress in preparing and executing action plans and to include Noise control measures and develop Emergency Response systems with mock drills

22. Further review was undertaken vide order dated 06.08.2019. Following questions were framed for consideration:

a. *Whether a robust nationwide real time online continuous ambient air quality monitoring programme has been designed as*

admittedly there are shortcomings in the current air quality monitoring regime in view of area coverage and quality of data?

b. *Whether more cities have been identified as NACs and strategy to deal with the same has been prepared?*
c. *Whether the States with NACs have prepared time bound and budgeted Action Plans for bringing the air quality of NACs in their States within the prescribed norms?*
d. *Whether the components of such Action Plans are in conformity with the directions in order dated 08.10.2018*[20]*?*
e. *Whether environmental compensation regime has been designed on 'Polluter Pays' principle?*
f. *Whether CPCB, SPCBs and PCCs have developed a public grievance redressal portal?*
g. *Further directions to deal with the situation."*

23. Status with reference to each of the above questions was examined and following directions were issued:

I. *CPCB, SPCBs and PCCs need to ensure assessment and installation of the requisite number of real time Online Continuous AAQMS within six months from today and indicate progress in this regard before the next date.*

II. *The Expert Team of CPCB to design a model/SOP for source apportionment and carrying capacity assessment within two months which may be replicated for all the NACs. In the light of such study, further action may need to be considered by MoEF&CC within three months thereafter in terms of regulating the number of vehicles, action in terms of shift to e-vehicles and CNG vehicles, intensifying public transport system, mechanical cleaning of roads, enhancement of public parking facilities etc., improvement in fuel quality and traffic management, regulation of construction activities, strict adherence to siting guidelines with regard to stone crushers, mining, brick kilns, thermal power plants, coal handling, air polluting industries, hot mix plants, etc. Besides, activities like crop burning and burning of trash wood/leaves/debris for heating in winters to be strictly regulated and violations penalized as has been done by notifications for ESZ, CRZ, Ganga Flood plains etc.*

III. *Concerned Town & Country Planning departments (with whatever be the name in the State) of all the States/UTs may ensure review of master plans specially for the NACs to be consistent with carrying capacity and source apportionment study reports within six months of such reports being available and furnish compliance reports to this Tribunal and CPCB.*

---

[20] (I) Identification of source of pollution; (II) Determining source apportionment including sectors like vehicular pollution, industrial pollution, dust pollution, construction activities, garbage burning, agricultural pollution including pollution caused by burning of crop residue, residential and indoor pollution etc; (III) measures for strengthening of Ambient Air Quality (AAQ) monitoring and (IV) Steps for public awareness including issuing of advisory to public for prevention and control of air pollution and involvement of schools, colleges and other academic institutions and awareness programmes.

IV. *Concerned States may evolve enforcement mechanism for closing/shifting of industrial units other than household industries from residential/non-conforming areas in the light of law laid down in M.C. Mehta vs Union of India, (2004) 6SCC 588.*

V. *SPCBs/PCCs need to develop interactive public grievance redressal portals on the pattern of CPCB portal "Sameer" within two months if not already done.*

VI. *Actions Plans need to be prepared by States for the additional 20 NACs on the pattern of 102 NACs within three months and after its approval by CPCB within two months, States must initiate time bound action on remediation within next three months.*

VII. *CPCB may finalize the pending action plans within two months. Environmental compensation may be deposited by the defaulting States in terms of our order dated 15.03.2019 with the CPCB.*

VIII. *Timeline prescribed for reviewing action plans with regard to its report dated 15.07.2019 by the CPCB for further micro planning may be reduced from six months, preferably to four months. CPCB may give appropriate directions to the SPCBs/PCCs accordingly.*

IX. *CPCB must forthwith come out with a compensation regime within two months for air as well as noise pollution to the extent such norms have not yet been laid down.*

X. *Having regard to adverse impact on public health and constitutional mandate that right to clean air is a fundamental right, the MoEF&CC may modify the NCAP by reducing the timelines and increasing the target for reduction of air pollution.*

XI. *Noise Limiters need to be installed on potential noise polluting devices, including retrofitting the existing devices. Appropriate directions be issued by the States/UTs within three months in the same manner as directed by this Tribunal for Delhi vide order dated 01.08.2019 in O.A. No. 519/2016, Hardeep Singh & Ors. vs SDMC & Ors.*

XII. *The CPCB may also evaluate existing air quality monitoring mechanism of all States and UTs and furnish a report to this Tribunal before the next date in terms of capacity of its scientific and technical personnel both in terms of number of personnel and skill/competence and outreach programmes on public awareness and suggestions for improvement.*

XIII. *The CPCB and States may have robust Emergency Response System and preparedness by way of mock drills and measures to be taken in the scenario when air pollution levels become severe plus and severe.*

XIV. *The SPCBs and PCCs to submit details of 'consent' funds to CPCB and this Tribunal within two months alongwith Action Plans on the basis of template provided by CPCB. CPCB may scrutinize and approve such action plans within two months in accordance to our*

order dated 22.01.2019 in O.A. No. 101/2019. Finally, the State PCBs and PCCs may execute their Action Plans within next one year thereafter.

XV. *The Environmental Compensation levied by State Transport Departments may be divided in the ratio of 50:25:25 amongst the States, the SPCBs/PCCs and the CPCB.***"**

Order dated 20.11.2019: Third review of progress – direction to remedy inadequate monitoring and enforcement by strict enforcement of polluter pays principle and steps for accountability by way of adverse ACR entries exploring use of Campa Funds

24. Thereafter, vide order dated 20.11.2019, further progress was reviewed with reference to the directions issued on 6.8.2019 in the light of the report dated 14.11.2019 filed by the CPCB. Since progress achieved was not adequate, further directions were issued on the issues earlier considered as well as the issue of tackling the problem of remediation of legacy waste dump sites which were also a source of air pollution, adversely affecting public health. Directions issued in the said order are:

"29. In view of above, we direct as follows:

i) Let assessed number of stations be installed within one year and quarterly progress reports furnished to CPCB by all the SPCBs/PCCs. First such report may be furnished by 01.04.2020. All such stations should be connected to the server of the CPCB and data displayed at the national portal on online real-time basis with AQI in public domain. CPCB may have its own stations at such critical locations as considered necessary. All the 12 notified parameters should be duly monitored by the CAAQMS. In default of compliance, SPCB/PCCs will be liable to pay compensation @Rs. 5 Lakh per month starting from 01.01.2021. Failure may also be reflected in the ACRs of the Member Secretaries of SPCBs/PCCs.

Procurement of such equipments may preferably be through Government E-marketing (GeM) Portal of Govt. of India. CPCB may take steps to have standards/ specifications and accredited/ reputed vendors notified on the said portal. CEO, GeM, may also take necessary steps in the matter.

ii) Let SA and CC be completed within three months by the SPCBs/PCCs utilizing available data, based on which MoEF&CC may take further follow up action in terms of direction para II of order dated 06.08.2019 quoted above. SPCBs/PCCs may furnish action taken report to CPCB so

that CPCB can file an appropriate report before this Tribunal. For any default, compensation will be liable to be paid @ of Rs. 5 lakh per month after 01.04.2020. Failure may also be reflected in the ACRs of the Member Secretaries of SPCBs/PCCs. MoEF&CC may file compliance report before the next date.

iii) *The review of master plans may now be carried out in the light of the studies within six months from the date of such studies in above terms. Mechanism for shifting industrial units from residential areas may be evolved immediately. Let both these aspects be complied by the all the States/UTs and reports furnished to the CPCB. The Chief Secretaries concerned may monitor compliance. In default, the concerned States/UTs will be liable to pay compensation @ Rs. 5 lakhs per month after the stipulated timeline already mentioned. The compensation may be recovered by the States/UTs from the erring officers and appropriate entries may also be made in the ACRs of the concerned Heads of the Departments. The CPCB may prepare a comprehensive report and furnish the same before the next date.*

iv) *PGRPs may be developed for the remaining NACs and report furnished by the SPCBs/PCCs to CPCB within two months. In default, SPCBs/PCCs concerned will be liable to pay compensation @ Rs. 2 lakhs per month from 01.02.2020. CPCB may file a compliance report. Failure may also be reflected in the ACRs of the Member Secretaries of SPCBs/PCCs.*

v) *Compliance may also be ensured for the remaining cities and report furnished to CPCB by the States/UTs by 31.01.2020. In default, compensation will be liable to be paid @ Rs. 10 lakhs per month from 01.02.2020. The compensation may be recovered by the States/UTs from the erring officers and appropriate entries may also be made in the ACRs of the Heads of the Departments concerned.*

vi) *Let the approved action plans be executed accordingly in terms of the timeline provided therein and compliance report furnished by Chief Secretaries of the concerned States/UTs to CPCB on quarterly basis starting from 01.04.2020. CPCB may file compliance report before this Tribunal. Failure on this regard may be visited with adverse consequences.*

vii) *Let the States/UTs ensure compliance of directions with regard to the remaining cities in terms of observations in Para 18 within by 30.06.2020. In default, the States/UTs will be liable to pay @Rs. 5 lakhs per month till compliance. The compensation may be recovered by the States/UTs from the erring officers and appropriate entries may also be made in the ACRs of the concerned Heads of the Departments.*

viii) *Let the NCAP be revisited in terms of observations in Para 20 before the next date, failing which the Tribunal have no*

option except to take coercive measures against concerned officers.

ix) Let the directions for control of noise pollution be complied with in terms of observations in Para 21 and report furnished to CPCB by 31.03.2020. CPCB may furnish a comprehensive report to this Tribunal. If the said direction is not complied with, the defaulting States/UTs will be liable to pay compensation @Rs. 2 lakhs per month which may be collected by the CPCB and recovered from the salary of the concerned Heads of the Departments.

Procurement of requisite equipments may preferably be through Government E-marketing (GeM) Portal of Govt. of India. CPCB may take steps to have standards/specifications and accredited/reputed vendors notified on the said portal. CEO, GeM, may also take necessary steps in the matter.

x) Let the evaluation of monitoring stations be done positively by 31.12.2019 in terms of observations in Para 22 and a compliance report filed before the next date. As already directed, the evaluation should not only be sound in terms of scientific and technical capacity but also effectiveness of the outreach programme.

xi) Let the steps for ERS be taken as per observations in Para 23 and compliance report filed before the next date. The States have not given their response which may now positively be done within one month, failing which the Tribunal have no option except to take coercive measures against concerned officers.

xii) The Chhattisgarh State PCB is directed to take remedial steps and modify its action plan on the subject of EC and Consent funds in terms of instructions of CPCB and direction of this Tribunal. Fresh action plan may be furnished to CPCB by 31.01.2020. We also disapprove the inaction by other SPCBs/PCCs in not complying with the directions. All other SPCBs/PCCs may give their action plans latest by 31.01.2020. In default, the erring SPCBs/PCCs will be liable to pay environmental compensation @Rs. 5 lakhs per month till compliance of the directions which may be liable to be recovered from the concerned Chairmen and Member Secretaries. Failure may also be reflected in the ACRs of the Member Secretaries of SPCBs/PCCs. CPCB may file a consolidated report on the subject before the next date.

xiii) It needs to be explored by the MoEF&CC and concerned States/UTs whether a part of CAMPA funds can be utilized for special afforestation drive in 122 NACs. If so, further necessary action be taken and a report furnished to this Tribunal by the MoEF&CC before the next date.

xiv) Apart from other steps, focused attention may be required to ensure bio-remediation of legacy waste dump sites for which

this Tribunal has already issued exhaustive directions in O.A. No. 519/2019 as already noted in para 9 above.

xv) With regard to finalization of Emergency Response System (ERS), we are of view that the State Disaster Management Authorities in coordination with the SPCBs/PCCs and State Units of Meteorological Departments may include emergency as a part of disaster management and develop ERS accordingly which may be placed in public domain.

xvi) The States/UTs which are able to successfully control air pollution in measurable terms in respect of 122 NACs may place their successful models and best practices on their respective websites for the benefit of others."

Order dated 21.08.2020: Fourth Review of progress in actions plans for control of air and noise pollution in terms of earlier directions in the light of report about compliance status

Major deficiencies in compliance status found and further directions issued: inadequate monitoring stations, lack of SA and CC studies, lack of micro planning, inadequate procurement of equipments for control of noise, lack of adequate initiatives in remedying legacy waste sites, lack of coordination with disaster management authorities to prevent environmental disasters – remedial directions

25. The matter was last considered on 21.08.2020 in the light of reports of CPCB dated 06.03.2020, 21.07.2020 and report dated 18.08.2020 of the MoEFF&CC, declining to reduce time for abating air pollution under NCAP and two reports dated 06.03.2020 and 15.07.2020 filed by the Oversight Committee for compliance of environment issues for the State of UP, headed by Justice SVS Rathore, former Judge of the Allahabad High Court at Lucknow.[21] The Tribunal reviewed the progress pointwise and also considered report of Ministries of Road Transport & Highways and Urban Development dated 16.06.2020 with reference to order in OA 773/2018 on overlapping issue. The operative part of the order containing directions on consideration of all the issues is as follows:

"I. <u>Directions:</u>

[21] Constituted Vide order dated 16.03.2020, OA 670/2018, Atul Singh Chauhan v. Ministry of Environment, Forests and Climate Change & Ors.

30. In view of the above, the directions are summed up as follows:

i. The work of completing remaining 175 monitoring stations needs to be expeditiously completed within next six months. Work in this regard may commence within one month, which may be monitored by the CPCB, by holding periodical online meetings with the Chairman/Member Secretaries of State PCBs/PCCs or other authorities. The funds available under the 'consent mechanism'/'environmental compensation' may be utilized for the purpose by the State PCBs/PCCs. It will be preferable that out of the above, 25 stations are set up by CPCB/State PCBs/PCCs jointly (with CPCB financing out of its EC funds), following an appropriate procedure to ensure best price and quality;

ii. Carrying Capacity and Source Apportionment studies may be simultaneously undertaken by the State PCBs/PCCs, utilizing the 'consent mechanism'/ 'environmental compensation' fund. Work in this regard may commence within one month and completed in six months. State PCBs/PCCs will be at liberty to either undertake the study in-house or by hiring any other agencies. However, as far as possible a uniform policy may be adopted in this regard which may be finalized by the CPCB in consultation with all State PCBs/PCCs in same manner as in direction i. It will be preferable that 25 such studies are conducted jointly by CPCB/State PCBs/PCCs (with CPCB financing out of its EC Funds) to set a pattern;

iii. Let further steps of prohibiting/shifting polluting activities which are found unsustainable/non-conforming and beyond carrying capacity of NACs, as a consequence of SA/CC Studies or otherwise, to other locations, in the interest of public health and protection of environment to give effect to 'Sustainable Development' principle be taken by the States/UTs;

iv. The States may take further steps to set up and operate PGRPs expeditiously, within three months. The CPCB as well as State PCBs/PCCs may evaluate functioning of such portals on real time basis in the direction of protection of environment. In particular analysis may be undertaken about the number of complaints received, effective steps for redressal taken and improvement achieved and planned. Such exercise may be ongoing but in the first instance may be compiled as on 31.12.2020 and report filed by the State PCBs/PCCs with the CPCB within one month thereafter;

v. Action plans for newly added 20 NACs be completed expeditiously on the pattern of such plans for 102 cities, already prepared;

vi. All the concerned States/UTs may execute action plans, including control of stubble burning, where ever necessary and bursting polluting and noise generating fire crackers and give information about the status of compliance of action plans as on 31.12.2020 to CPCB

before 15.1.2021. They may also give information in a tabulated form about the extent of improvement achieved, if any, in terms of reduction in pollution load. Steps in terms of action plans completed, actions ongoing and actions incomplete;

vii. Detailed micro level planning be undertaken in respect of each NAC by the concerned State/UT expeditiously and status as on 31.12.2020 be furnished to the CPCB within one month thereafter;

viii. The States/UTs may address the gaps communicated by the CPCB with respect to the action plans for control of noise pollution and the States/UTs which have not yet furnished their action plans may do so positively by 31.12.2020. Compensation regime for violations of noise pollution be applied by all the States/UTs;

ix. We find that NCAP for reduction of air pollution does not fully meet the mandate of sustainable development. Violation of laid down air pollution levels resulting in large number of deaths and diseases needs to be addressed expeditiously. Targeted time of reduction of pollution loads needs to be reduced and planned steps need to be sternly implemented on the ground. MoEF&CC may take further action as per law in the light of observations in para 19 above.

The States may utilize CAMPA funds, undertaking special afforestation drives in forest lands or other permissible locations in 122 NACs as per CAF Act, 2016 to abate pollution in the said cities. The CEO of CAMPA may hold a video conferencing with all the States PCBs/PCCs to coordinate and facilitate the utilization of CAMPA Funds;

x. Let all the States/UTs take further action for procurement of equipments and taking other steps for control of noise pollution in 122 NACs as discussed in para 20 above and direction (viii) above, including applying compensation regime prepared by the CPCB and file their respective reports of status of compliance as on 31.12.2020 by 15.1.2021;

xi. Let further steps be taken by all the States/UTs to finalise ERSs in terms of suggestion of the CPCB as quoted above in para 24, constituting a suitable mechanism similar to Task Force under GRAP for Delhi-NCR and information furnished to the CPCB by 31.12.2020;

xii. let further steps be taken to plan utilisation of consent/EC funds by all the State PCBs/PCCs in the light of order of this Tribunal on the subject dated 24.07.2020 in O.A. No. 102/2019, Ashish Kumar Dixit v. State of Uttar Pradesh & Ors by 31.12.2020.It will be preferable that MoEF&CC with assistance of CPCB lays down an institutional mechanism on the pattern of CAMPA or otherwise for proper utilization of consent and EC funds available with CPCB/State PCBs/PCCs.

xiii. Let CPCB issue a fresh direction with regard to the remediation of legacy waste sites in the light of

deficiencies noticed by the CPCB and coordinate further action with the concerned Urban Development /Local Bodies/PCBs/PCCs/Municipal Corporations. At least one site may be remediated and made a model of compliance in each of the 122 NACs. Where ever legacy waste sites remediation has not commenced, it may commence earliest having regard to the fact that timeline under statutory rules to complete such action is 7.4.2021 and continued delay is detrimental to public health and environment. Information of compliance status as on 31.12.2020 be furnished to CPCB in terms of observations in para 24 above;

xiv. All the States/UTs and PCB/PCCs may take steps to coordinate with the State Disaster Management Authorities and Meteorological Departments. The observations of this Tribunal while dealing with the problem of frequent environmental disasters in order dated 23.07.2020 in OA 134/2020, News Item published on 13.07.2020 in daily "India Today" titled "Massive fire engulf Vizag chemical plant, explosions heard, injuries reported" may also be taken into account. Action taken reports be filed with the CPCB for submission of consolidated report to this Tribunal;

xv. MoRTH may take further prompt action of undertaking carrying capacity studies with regard to road infrastructure, specially in 122 NACs, through Central Road Research Institute or any other agency which may be financed by CPCB out of compensation funds or otherwise. On that basis, proper policies be prepared to deal with the number of vehicles beyond parking capacity or carrying capacity and permitting entry or registration of number of vehicles, parking areas etc. This is necessary to reduce congestion, unregulated parking and air pollution loads in 122 NACs. CPCB may coordinate with the concerned Ministries and acquaint this Tribunal with the outcome in its next report;

xvi. The recommendations of the Oversight Committee for the State of UP, in its report dated 15.07.2020, need serious consideration and action by the concerned authorities in the State of UP. The Chief Secretary, UP may ensure further action in the State at different levels which may be coordinated and overseen by the Monitoring Committee. The oversight Committee may give its further independent report to this Tribunal before the next date by e-mail;

xvii. In view of continued violation of law on significant environmental issues, to give effect to rule of law and Constitutional mandate of clean environment and for protection of public health and environment, monitoring must be done at the level of Chief Secretaries at least once in a month and the Chief Secretaries must have environment cells attached to their offices, as earlier directed by the Hon'ble Supreme Court and this Tribunal in OA 606/2018;

xviii. *CPCB may file its consolidated report by email by January 31, 2021."*

V. Consolidated Report of CPCB dated 05.04.2021 with regard to compliance status of directions dated 21.8.2020

26. Accordingly, CPCB has filed its further consolidated report on 05.04.2021 in continuation of earlier reports dated 09.11.2020 and 15.02.2021 mentioning the pointwise status as follows:

> ***"i. The work of completing remaining 175 monitoring stations needs to be expeditiously completed within next six months. Work in this regard may commence within one month, which may be monitored by the CPCB, by holding periodical online meetings with the Chairman/Member Secretaries of State PCBs/PCCs or other authorities. The funds available under the 'consent mechanism' /environmental compensation' may be utilized for the purpose by the State PCBs/PCCs. It will be preferable that out of the above, 25 stations are set up by CPCB/State PCBs/PCCs jointly (with CPCB financing out of its EC funds), following an appropriate procedure to ensure best price and quality;***
>
> *As per the Direction of Hon'ble NGT, 20 new Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed in non-attainment cities during the period and as on date 193 CAAQMS installed in non-attainment cities. Other states are in process of installation of the monitoring station as per the criteria and information is being collected by CPCB.*
>
> *The proposal for setting up of 25 CAAQM Stations in Non-Attainment Cities has been approved under EC funded project for Rs. 25 crores by CPCB. Capital cost Rs. 1 crore per station has been sanctioned to 20 States/Uts for installation of CAAQM Stations in the identified 25 Non-Attainment cities (ANNEXURE -I). The Operation & Maintenance cost shall be borne by respective SPCB/PCC. Sanction letter has been issued to respective SPCBs for signing of TOR to release funds.*
>
> ***ii. Carrying Capacity and Source Apportionment studies may be simultaneously undertaken by the State PCBs/PCCs, utilizing the 'consent mechanism 'I 'environmental compensation' fund. Work in this regard may commence within one month and completed in six months. State PCBs/PCCs will be at liberty to either undertake the study in-house or by hiring any other agencies. However, as far as possible a uniform policy may be adopted in this regard which may be finalized by the CPCB in consultation with all State PCBs/PCCs in same manner as in direction i. It will be preferable that 25 such studies are conducted jointly by CPCB/State PCBs/PCCs (with CPCB financing out of its EC Funds) to set a pattern;***
>
> *As per information provided by states, Source Apportionment (SA) study is Completed in 09 States (14 cities); under progress in 15*

States (68 cities); and in proposal stage in 14 States (40 cities). The detail status is enclosed at ANNEXURE -II.

Carrying capacity (CC) study is under progress in 9 States (42 cities); and in proposal stage in 18 States (51 cities). The detail status is enclosed at ANNEXURE -III.

CPCB requested SPCBs/PCCs to propose the name of the 2-3 cities from their respective states for joint SA and CC studies. 25 non-attainment cities are identified, based on the criteria developed by CPCB and in concurrence with SPCBs/PCCs. These studies shall be done based on framework/ methodology prepared by CPCB by using CPCB EC Funds. The list of identified cities is enclosed at ANNEXUREIV.

iii. Let further steps of prohibiting/shifting polluting activities which are found unsustainable/non-conforming and beyond carrying capacity of NACs, as a consequence of SA/CC Studies or otherwise, to other locations, in the interest of public health and protection of environment to give effect to 'Sustainable Development' principle be taken by the States/UTs;

Status for steps of prohibiting/shifting polluting activities which are found unsustainable/non-conforming and beyond carrying capacity of NACs is provided by 22 states/UTs (Jammu & Kashmir, Uttarakhand, Telangana, Delhi, West Bengal, Punjab, Uttar Pradesh, Himachal Pradesh, Andhra Pradesh, Karnataka, Maharashtra Chhattisgarh, Meghalaya, Madhya Pradesh, Nagaland, Bihar, Assam, Rajasthan, Tamilnadu, Chandigarh, Odisha and Gujarat). Jharkhand has provided action point regarding shifting of polluting industries in city action plan. The detail status is enclosed at ANNEXURE –V

Karnataka, Tamilnadu, Andhra Pradesh, Himachal Pradesh, Maharashtra, Chhattisgarh, West Bengal, Assam, Punjab, Chandigarh, SPCBs/PCCs have informed that the "steps of prohibiting/shifting polluting activities which are found unsustainable/non-conforming and beyond carrying capacity of NACs, as a consequence of SA/CC Studies or otherwise, to other locations, in the interest of public health and protection of environment to give effect to 'Sustainable Development' principle" will be done after completion of SA and CC studies.

Uttar Pradesh SPCB informed that a letter regarding shifting / prohibiting the industries in the non-conforming areas had been issued from the office of Principal Secretary, Environment, Forest & climate Change, to the Additional Chief Secretaries/ Principal Secretaries of the all the concerned departments and a meeting of Oversight Committee was held on 21.12.2020, wherein various steps has been proposed like constituted District level Committee and other nodal departments from mapping and closure of non-conforming areas and Ensuring scrutinization and geotagging of the electricity connections to prevent reissuing of electric connections to the illegal units.

Rajasthan SPCB informed that the work is not related to the state board.

iv. The States may take further steps to set up and operate PGRPs expeditiously, within three months. The CPCB as well as State PCBs/PCCs may evaluate functioning of such portals on real time basis in the direction of protection of environment. In particular analysis may be undertaken about the number of complaints received, effective steps for redressal taken and improvement achieved and planned. Such exercise may be ongoing but in the first instance may be compiled as on 31.12.2020 and report filed by the State PCBs/PCCs with the CPCB within one month thereafter;

The Public Grievance Redressal Portal (PGRPA) on the pattern of Sameer app for Non-attainment cities is developed by 15 States (Uttarakhand, Jammu & Kashmir, Gujarat, Rajasthan, Meghalaya, Maharashtra, Madhya Pradesh, Himachal Pradesh, Andhra Pradesh, Telangana, Uttar Pradesh, West Bengal, Odisha, Punjab and Delhi) & the same is under development in 3 States (Tamilnadu, Nagaland & Chandigarh). Dedicated helpline numbers/ web portal to address grievances are provided by 7 States (Assam, Chhattisgarh, Jharkhand, Karnataka, Nagaland, Tamilnadu, & Bihar). The details along with the redressal status are enclosed at ANNEXURE- VI

With regard to complain redressal status detail provided by Delhi, Himachal Pradesh, Madhya Pradesh and Uttar Pradesh is given below:

S. No.	***State***	***Status of Complaints***		
		No. of Complaints received	***Effective steps***	***Remarks***
1.	*Delhi*	*4624*	*2764 complaints resolved (60 %)*	*Between 07.10.2020 to 31.12.2020 (2 PM) in Delhi-NCR region*
2.	*Himachal Pradesh*	*28*	*26 complaints resolved (93 %)*	*From 01.04.2020 to 31.12.2020*
3.	*Madhya Pradesh*	*20*	*No information provided*	*Till 14.12.2020*
4.	*Uttar Pradesh*	*59*	*57 complaints resolved (97 %)*	*Between June 2020 08.01.2021*
5.	*Gujarat*	*No complaints received till date*		

West Bengal SPCB informed that the details of complaints received on portal will be submitted shortly.

No information is provided by 17 states (Andhra Pradesh, Assam, Chandigarh, Chhattisgarh, Jammu & Kashmir, Jharkhand, Karnataka, Maharashtra Meghalaya, Nagaland, Odisha, Punjab,

Rajasthan, Tamilnadu, Telangana, Uttarakhand and Bihar, regarding Status of Complaints on Public Grievance Redressal Portal.

v. Action plans for newly added 20 NACs be completed expeditiously on the pattern of such plans for 102 cities, already prepared;

As per Hon'ble NGT order of O.A. No. 681/2018 and criteria finalized by CPCB for categorizing non-attainment cities. ***List of non-attainment cities has been updated by CPCB based on data for the period of 2015-2019 on 21.10.2020 and 02 more cities namely Gorakpur in Uttar Pradesh and Madurai in Tamilnadu added to the list. The total 124 non-attainment cities identified based on air quality data for the period of 2015-2019.***

Out of total 22 newly added NACs, 21 city action plans, West Bengal (Asansol, Barrackpore, Durgapur, Haldia, Howrah & Raniganj), Odisha (Kalinganagar), Gujarat (Vadodara), Andhra Pradesh (Anantapur, Chitoor, Elum, Kadapa, Ongole, Rajahrnundry, Srikakulam & Vizianagaram), Uttarakhand (Dehradun), Tamilnadu (Trichy & Madurai), Uttar Pradesh (Gorakhpur) and Telangana (Sangareddy) are approved for implementation; one city Maharashtra (Thane) was requested to submit revised plans as per the recommendation of the three member committee;

vi. All the concerned States/UTs may execute action plans, including control of stubble burning, where ever necessary and bursting polluting and noise generating fire crackers and give information about the status of compliance of action plans as on 31.12.2020 to CPCB before 15.1.2021. They may also give information in a tabulated form about the extent of improvement achieved, if any, in terms of reduction in pollution load. Steps in terms of action plans completed, actions ongoing and actions incomplete;

Action taken/information received from Delhi, Andhra Pradesh, Tamilnadu, Uttarakhand, Punjab, Himachal Pradesh, Madhya Pradesh, Maharashtra, West Bengal, Bihar, Nagaland, Uttar Pradesh, Chhattisgarh, Odisha, Karnataka and Jammu & Kashmir.

Rajasthan SPCB communicated that this Direction is not related to the State board and Assam PCB informed that there are no issues related to stubble burning.

No information received from other states (Chandigarh, Gujarat, Jharkhand, Meghalaya and Telangana). Details are enclosed at ANNEXURE-VII.

vii. Detailed micro level planning be undertaken in respect of each NAC by the concerned State/UT expeditiously and status as on 31.12.2020 be furnished to the CPCB within one month thereafter;

CPCB prepared a uniform robust format to address micro level activities for the sources covered under city action plans and has been shared with respective SPCBs/PCCs. Detailed and updated submission in the format shall facilitate preparation of micro-level plan as well as streamlined monitoring of implementation of city plans in the city. Such a format shall also aid in transitioning to a dynamic digitized reporting system in future

Micro level planning has been submitted by Uttar Pradesh (Agra, Allahabad, Anpara, Bareily, Firozabad, Gajraula, Ghaziabad, Jhansi, Kanpur, Khurja, Lucknow, Moradabad, Noida, Meerut, Raebareli and Varanasi), Uttarakhand (Kashipur & Rishikesh), Maharashtra (Akola, Amravati, Aurangabad, Badlapur, Chandrapur, Jalgaon, Jalna, Kolhapur, Latur, Mumbai, Nagpur, Nashik, Navi Mumbai, Pune, Sangli, Solapur, Ulhasnagar, Thane & Vasai-Virar), Andhra Pradesh (Guntur, Kumool, Nellore, Vijayawada & Vishakhapatnam), West Bengal (Kolkata, Asansol, Barrackpore, Durgapur, Haldia, Howrah & Raniganj), Telangana (Hyderabad & Patancheruvu), Himachal Pradesh (Baddi, Damtal, Kala Amb, Nalagarh, Paonta Sahib, Parwanoo & Sunder Nagar), Tamilnadu (Thoothukudi, Trichy, Madurai & Chennai), Chhattisgarh (Bhilai & Raipur), Rajasthan (Jaipur, Jodhpur & Kota), Meghalaya (Byrnihat), Bihar (Patna), Gujarat (Surat, Vadodara & Rajkot), Haryana (Faridabad), Jharkhand (Dhanbad, Jamshedpur & Ranchi), Karnataka (Bengaluru), Madhya Pradesh (Bhopal, Dewas, Indore, Sagar, Ujjain, Gwalior & Jabalpur), Punjab (Ludhiana & Amritsar) and Nagaland (Dimapur & Kohima)

Assam, Karnataka and Punjab SPCB inform that the Micro Planning of Actions of non-attainment city/towns will be done after completion of Source Apportionment and Carrying Capacity Study.

viii. The States/UTs may address the gaps communicated by the CPCB with respect to the action plans for control of noise pollution and the States/UTs which have not yet furnished their action plans may do so positively by 31.12.2020. Compensation regime for violations of noise pollution be applied by all the States/UTs;

A Separate report will be filed to Hon'ble NGT against the Direction by CPCB.

ix. We find that NCAP for reduction of air pollution does not fully meet the mandate of sustainable development. Violation of laid down air pollution levels resulting in large number of deaths and diseases needs to be addressed expeditiously. Targeted time of reduction of pollution loads needs to be reduced and planned steps need to be sternly implemented on the ground. MoEF&CC may take further action as per law in the light of observations in para 19 above. The States may utilize CAMPA funds, undertaking special afforestation drives in forest lands or other permissible locations in 122 NACs as per CAF Act, 2016 to abate pollution in the said cities. The CEO of CAMPA may hold a video conferencing with all the States PCBs/PCCs to coordinate and facilitate the utilization of CAMPA Funds;

x. Let all the States/UTs take further action for procurement of equipments and taking other steps for control of noise pollution in 122 NACs as discussed in para 20 above and direction (viii) above, including applying compensation regime prepared by the CPCB and file their respective reports of status of compliance as on 31.12.2020 by 15.1.2021;

A Separate report will be filed to Hon'ble NGT against the Direction by CPCB.

xi. Let further steps be taken by all the States/UTs to finalise ERSs in terms of suggestion of the CPCB as quoted above in para 24, constituting a suitable mechanism similar to Task Force under GRAP for Delhi-NCR and information furnished to the CPCB by 31.12.2020;

The Emergency Response System (ERS) – GRAP for Non-attainment cities is developed/part of action plan by 15 states (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Andhra Pradesh, Punjab, Chandigarh, Delhi, Bihar, Tamilnadu, Odisha, Nagaland, Gujarat, Maharashtra, Meghalaya and Telangana) and development is under process in 03 states (Uttarakhand, Rajasthan (for Alwar city ERS prepared) and Assam). GRAP is being prepared in ***Chhattisgarh.***

For Madhya Pradesh GRAP is prepared for Indore, Bhopal, Gwalior & Jabalpur (GRAP development under process in Dewas, Sagar & Ujjain), for Jharkhand GRAP is prepared for Ranchi & Jamshedpur (no information is available for Dhanbad), for West Bengal GRAP is prepared for all cities except Kolkata, for Karnataka GRAP is prepared for Bengaluru (no information is available for Devanagere, Gulburga and Hubli-Dharwad),

As informed by Karnataka SPCB, Proposal is being sent to Revenue Dept., Govt. of Karnataka to include MS, KSPCB as a member of Disaster Management Authority. The details are enclosed at ANNEXURE -VIII.

xii. let further steps be taken to plan utilization of consent/EC funds by all the State PCBs/PCCs in the light of order of this Tribunal on the subject dated 24.07.2020 in O.A. No. 102/2019, Ashish Kumar Dixit v. State of Uttar Pradesh & Ors by 31.12.2020. It will be preferable that MoEF&CC with assistance of CPCB lays down an institutional mechanism on the pattern of CAMPA or otherwise for proper utilization of consent and EC funds available with CPCB/State PCBs/PCCs.

As per the direction of Hon'ble NGT order O.A. No. 681/2018 dated 20.11.2019, a Committee is constituted in CPCB to review and approve the Action Plans for utilization of consent funds. 01st meeting of the Committee was convened on 13-02- 2020 and action plans received from 14 SPCBs/PCCs were discussed in detail. The

Committee proposed that revised action plans as per the templates proposed by CPCB may be submitted.

The 2nd Meeting of the Committee was convened on 07.08.2020 to review the action plans received from 07 State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) namely Assam, Chandigarh, Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, Meghalaya and Punjab. All the seven plans were placed before the Committee for consideration and approval. The Committee examined these action plans and action plans of Chandigarh PCC, Chhattisgarh Environment Conservation Board, Himachal Pradesh SPCB, Jammu & Kashmir PCB and Punjab SPCB were approved.

A meeting was convened on 15-01-2021 through Video Conferencing under the Chairmanship of Dr. Prashant Gargava, MS-CPCB with the State Pollution Control Boards (SPCBs)/ Pollution Control Committee (PCCs) to discuss the action plans and proposed the following:

1. *SPCBs/PCCs shall prepare and submit Action Plans in line with orders of Hon'ble NGT, state specific requirements & priorities and effective utilization of funds before 31st January 2021 to CPCB;*
2. *SPCBs/PCCs shall provide the Annual collection of Consent and Environmental Compensation (EC) Funds to CPCB;*
3. *SPCBs/PCCs shall clearly specify the availability of Consent and Environmental Compensation Funds for execution of Action plans;*
4. *Action Plans for utilization of Consent and EC Funds shall be as per the Template provided by the Hon'ble NGT addressing the priority issues of SPCBs;*
5. *State level Committee shall be constituted for approval of action plans before submitting to CPCB and ;*
6. *Monitoring mechanism may be developed for execution of action plans by SPCBs/PCCs.*

Meeting of the Committee for Utilization of Environmental Compensation (EC) Funds was convened on 18.02.2021 to review the action plans received from State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs) in compliance of the Hon'ble NGT order O.A. No. 102/2019 dated 24.07.2020.

The Committee examined in detail the action plans received from 16 SPCBs and 03 PCCs, summary recommendations are given below:

- *Andaman & Nicobar, Assam, Jammu & Kashmir, Meghalaya, Mizoram, Nagaland and Puducherry SPCBs/PCCS does not have sufficient EC funds for execution of action plans*
- *Andhra Pradesh, Chandigarh and Sikkim have submitted action plans for more than the cost of EC Funds availability;*
- *The Action plan for Himachal Pradesh SPCB has already been approved by the Committee in the meeting held on 07.08.2020;*

- *Kerala, Rajasthan and Tamil Nadu SPCBs have submitted action plans only for a part of Utilization of EC funds. Therefore, plans may be revisited;*
- *Odisha SPCB has submitted common action plan for O.A No. 681/2018 and 102/2019. Also availability of EC fund is not provided; and*
- *Action plans received from Bihar SPCB, Chhattisgarh ECB, Gujarat SPCB and Madhya Pradesh SPCB were approved by the Committee for execution:*

xiii. Let CPCB issue a fresh direction with regard to the remediation of legacy waste sites in the light of deficiencies noticed by the CPCB and coordinate further action with the concerned Urban Development /Local Bodies/PCBs/PCCs/ Municipal Corporations. At least one site may be remediated and made a model of compliance in each of the 122 NACs. Where ever legacy waste sites remediation has not commenced, it may commence earliest having regard to the fact that timeline under statutory rules to complete such action is 7.4.2021 and continued delay is detrimental to public health and environment. Information of compliance status as on 31.12.2020 be furnished to CPCB in terms of observations in para 24 above;

As per the order of Hon'ble NGT, CPCB has issued direction on dated 27.01.2021 to all SPCBs/PCCs on following:

1. *SPCBs/PCCs to provide complete list of Legacy Waste dumpsites in their States/UTs as per format enclosed.*
2. *SPCB/PCCs to ensure that necessary action for bio-mining and bio-remediation of these dumpsites is done by the concerned Local Authorities in compliance with Provisions of SWM Rules, 2016*
3. *SPCBs/PCCs shall ensure that concerned Local Authorities engaged in the biomining process of legacy waste follow procedures as per CPCB Guidelines for Disposal of Legacy Waste with specific compliance to the following points:*
    i. *Analysis of various screened fraction materials i.e. RDF, fine earth/bio earth etc., prior to its disposal/utilization*
    ii. *Preparation of plan for utilization/disposal of screened fractions*
    iii. *Adequate provisions for leachate treatment.*
    iv. *Maintenance of records / documents for disposal/utilization of the RDFs or fine earth and other materials.*

4. *SPCBs/PCCs shall ensure that the local bodies prepare time targeted Action Plan for bio-mining/ bio-remediation of these dumpsites in compliance with points listed above. The timelines as specified in SWM Rules, 2016 and Hon'ble NGT Directions on the matter are to be adhered to for remediation of these sites.*
5. *SPCBs/PCCs to ensure that no fresh waste is disposed at these dumpsites and local authorities make proper arrangement for management of fresh solid waste*

6. *SPCB to ensure that at least one legacy waste dumpsite is remediated in their jurisdiction which can be considered as model for compliance for other legacy waste dumpsites in Non-Attainment Cities (NAC).*

Copy of the direction issued on 27.01.2021 is enclosed at ANNEXURE-IX and status of information provided by SPCBs/PCCs for the direction is enclosed at ANNEXURE-IX-A.

xiv. All the States/UTs and PCB/PCCs may take steps to coordinate with the State Disaster Management Authorities and Meteorological Departments. The observations of this Tribunal while dealing with the problem of frequent environmental disasters in order dated 23.07.2020 in OA 134/2020, News Item published on 13.07.2020 in daily "India Today" titled "Massive fire engulf Vizag chemical plant, explosions heard, injuries reported" may also be taken into account. Action taken reports be filed with the CPCB for submission of consolidated report to this Tribunal;

The Emergency Response System (ERS) – GRAP for Non-attainment cities is developed/part of action plan by 15 states (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Andhra Pradesh, Punjab, Chandigarh, Delhi, Bihar, Tamilnadu, Odisha, Nagaland, Gujarat, Maharashtra, Meghalaya and Telangana) and development is under process in 03 states (Uttarakhand, Rajasthan (for Alwar city ERS prepared) and Assam). GRAP is being prepared in Chhattisgarh.

For Madhya Pradesh GRAP is prepared for Indore, Bhopal, Gwalior & Jabalpur (GRAP development under process in Dewas, Sagar & Ujjain), for Jharkhand GRAP is prepared for Ranchi & Jamshedpur (no information is available for Dhanbad), for West Bengal GRAP is prepared for all cities except Kolkata, for Karnataka GRAP is prepared for Bengaluru (no information is available for Devanagere, Gulburga and Hubli-Dharwad),

As informed by Karnataka SPCB, Proposal is being sent to Revenue Dept., Govt. of Karnataka to include MS, KSPCB as a member of Disaster Management Authority. The details are enclosed at ANNEXURE -VIII.

A communication is received from Govt. of Uttar Pradesh for issuance of the required guidelines in the matter through National Disaster Management Authority (NDMA). CPCB also communicated to NDMA for necessary actions in this regard.

The compliance status received from the various SPCBs/PCCs on steps to coordinate with the State Disaster Management Authorities and Meteorological Departments is enclosed at ANNEXURE-X.

xv. MoRTH may take further prompt action of undertaking carrying capacity studies with regard to road infrastructure, specially in 122 NACs, through Central Road Research Institute or any other agency which may be financed by CPCB out of compensation funds or otherwise. On that basis,

proper policies be prepared to deal with the number of vehicles beyond parking capacity or carrying capacity and permitting entry or registration of number of vehicles, parking areas etc. This is necessary to reduce congestion, unregulated parking and air pollution loads in 122 NACs. CPCB may coordinate with the concerned Ministries and acquaint this Tribunal with the outcome in its next report;

Communication was sent by CPCB vide letter dated 07.10.2020 and 24.11.2020 to MoRTH to take the matter on priority and provide the cost of the aforesaid study, for consideration of CPCB. Letter enclosed at ANNEXURE-XI.

Ministry of Road Transport & Highways in its Office Memorandum No. RT16025/2/2019-T dated 21.12.2020 (ANNEXURE-XII), stated that, "as per Government of India (Allocation of Business) Rules 1961, subject matter of the 'Planning and Coordination of Urban Transport systems is allocated to the Ministry of Housing and Urban Affairs (MoHUA). Further, MoHUA has already entrusted the task of formulating methodology for assessment of Carrying Capacity to M/s Urban Mass Transit Company Ltd (UMTC).

The scope of the study being undertaken by MoHUA already covers the carrying capacity studies with regard to road infrastructure, and may be extended to 122 NACs, in compliance of the Hon'ble NGT order dated 21.08.2020."

Further, CPCB vide letter dated 13.01.2021, requested to MoHUA to take the matter on priority and provide the requirement of the funds, if any on aforesaid study, for consideration of CPCB and compliance status on the Hon'ble NGT direction.

In reference to the MoRTH Office Memorandum No. RT-16025/2/2019-T dated 21.12.2020 (ANNEXURE-XII), MoHUA, issued an Office Memorandum vide O.M. No. K-14011/23/2018-UT-I dated 20.01.2021 (ANNEXURE-XIII), wherein MoHUA stated that "the stand/contention of MoRTH is not correct and is also not in line with the facts/developments of the case" and various views are provided. It is also stated that the directions of the Hon'ble NGT in the Order dated 21.08.2020 are categorical, case specific and with reference to MoRTH's functions and mandate for framing of policies regarding road infrastructure, framing of proper policies. Accordingly, the directions of the Hon'ble NGT in their order dated 21.08-2020 are for compliance and necessary action by MoRTH and they may consider filing compliance report/ appropriate submissions before the Hon'ble NGT.

xvi. The recommendations of the Oversight Committee for the State of UP, in its report dated 15.07.2020, need serious consideration and action by the concerned authorities in the State of UP. The Chief Secretary, UP may ensure further action in the State at different levels which may be coordinated and overseen by the Monitoring Committee. The oversight Committee may give its further independent report to this Tribunal before the next date by e-mail;

Information to be submitted by Uttar Pradesh separately.

xvii. In view of continued violation of law on significant environmental issues, to give effect to rule of law and Constitutional mandate of clean environment and for protection of public health and environment, monitoring must be done at the level of Chief Secretaries at least once in a month and the Chief Secretaries must have environment cells attached to their offices, as earlier directed by the Hon'ble Supreme Court and this Tribunal in OA 606/2018;

*The environment cell is prepared by 11 states (Jammu & Kashmir, Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Punjab, Odisha, Tamilnadu, Nagaland, West Bengal and Uttar Pradesh) and status not available for 13 states (Andhra Pradesh, Chandigarh, Delhi, Gujarat, Jammu & Kashmir, Jharkhand, Karnataka, Meghalaya, Rajasthan, Telangana, Uttarakhand, Bihar and Assam). Details of development of environment cell are enclosed at ANNEXURE-XIV.***"**

27. Separate report on the subject of control of noise pollution gives the gap analysis as follows:

"*3.0* ***GAP ANALYSIS***

As per Hon'ble NGT Directions dated 15.03.2019 and 15.11.2019, action Plan submitted by States/UTs are analysed on the basis of following points:

i. Noise level monitoring in conjunction with the Police Department and take remedial action.

ii. Police Departments of all the States/UTs may obtain the Noise monitoring devices within a period of three months.

iii. Police Department of all the States/UTs may also train their staff regarding the use of such devices.

iv. Police Department of all the States/UTs may develop a robust protocol for taking appropriate action against the defaulters.

v. Use of Sound Limiter(s) in all sound system/public address system for effective control of Noise Pollution.

Accordingly, action plans submitted by 30 States/UTs were assessed based on its adequacy in addressing above-mentioned points. Detailed assessment of action plan is attached as Annexure-XLVI.

Following are the major observations based on the assessment:

i. *10 States/UTs (Delhi, Tripura, Bihar, West Bengal, Karnataka, Kerala, Gujarat, Jammu and Kashmir, Sikkim, Uttar Pradesh) have addressed all the five action points as listed above in their action plans.*

ii. *20 States/UTs (Andhra Pradesh, Andaman & Nicobar, Arunachal Pradesh, Assam, Chhattisgarh, Chandigarh, Goa, Daman & Diu & Dadra and Nagar Haveli, Himachal Pradesh, Lakshadweep, Madhya Pradesh, Maharashtra, Meghalaya, Manipur, Mizoram, Odisha, Pondicherry, Tamil Nadu, Telangana, Uttarakhand) have partially addressed the above-listed action points in their action plans.*

iii. *05 States/UTs namely Haryana, Jharkhand, Nagaland, Punjab, Rajasthan have not submitted any action plan to CPCB.***"**

VI. Consideration of Report of the Oversight Committee for UP dated 27.03.2021 about compliance status in UP and recommendations for this order

28. We have also considered the report of the Oversight Committee for UP filed on 27.03.2021 in continuation of earlier report dated 12.02.2021, giving the compliance status with reference to directions of this Tribunal in the State of UP showing non-compliances on several issues, in a tabular form. **The Chief Secretary, UP may look into the report of the Oversight Committee and take further remedial action in terms of recommendations therein**.

Separate Report of CPCB re: road dust control and fire crackers

29. The separate CPCB report in pursuance of directions in OA 283/2020 is to the effect that 12 States have initiated some action and made provision **for sprinkling of water to suppress road dust and to procure mechanical road sweepers** while other States have yet to take action. Report in pursuance of directions in OA 249/2020 is that 23 States had prepared plans **to regulate bursting of fire crackers while other States had yet to take action**.

VII. Current (Fifth) and final review on the subject – Analysis of the CPCB report dated 05.04.2021 for this order

30. The report shows progress under 17 specific heads. With regard to installing 175 monitoring stations, it is stated that 20 new CAAQMs have been installed and 25 approved. SA and CC studies are underway. There is partial progress on shifting polluting activities out of non-conforming areas. PGRPs have been developed by several States and other States have yet to do the same. **Two more cities have been added to the list of NACs** and actions plans for the NACs have been mostly prepared. Status of execution of action plans is not very clear. Micro level planning has been done for some cities. Gaps in plans and execution remain to be addressed. The issue of revising NCAP and CAMPA Funds is still to be addressed. Certain steps have also been taken for control of noise pollution, including procurement of noise monitoring devices and limiters. Emergency response systems have been partly developed. Directions issued for utilizing 'Consent' and 'EC' funds and for bioremediation of legacy waste dump sites. Carrying capacity of road infrastructure to determine parking capacity is being dealt with by the Ministry of Road Transport and Highways and Urban Development Departments. Environment Cells have been set up by some of the Chief Secretaries. **The report does not indicate the reduction in pollution level in any of the NACs as a result of steps so far taken**. **Similarly, with regard to noise pollution control, no tangible progress has been shown**. Progress on SA and CC studies is highly inadequate. Preventive and remedial measures for stubble burning need to be planned in advance for effective control of pollution. CPCB needs to undertake finger printing and marker/bio-marker pollutant analysis and identify sensitive plant species which will indicate quality of air as well as deleterious effect, if any, along with SA studies. While the

report has stated under heading (ix) that a separate report will be filed on the subjects of modification of NCAP, utilization of CAMPA Funds by undertaking special afforestation drive, no such separate report has been filed.

31. We consider it necessary to comment on some of the subjects needing pointed attention.

Inadequacy of Monitoring Stations

32. To capture the real picture which is essential for further planning and remedial action, sufficient number of monitoring stations have to be established and there has to be atleast one monitoring station in every district, as earlier directed. In this regard, we may refer to earlier order dated 21.08.2020 on consideration of the issue with reference to the data from CPCB report dated 18.08.2020. The Tribunal noted that the said report mentioned that air quality was being monitored manually at 793 locations covering 344 cities/towns in 28 States and 7 Union Territories (UTs) across the country under National Air Quality Monitoring Programme (NAMP) and through real time stations in 219 stations covering 123 cities in 18 States and 2 UTs under Continuous Ambient Air Quality Monitoring. Further, the SPCBs/PCCs are also monitoring ambient air quality manually at 126 locations covering 86 cities/ towns in 13 States under State Air Quality Monitoring Programme (SAQMP). **It was observed that there are 740 Districts in the country and above 4000 cities. It is absolutely necessary that atleast at every District Headquarter in all the 740 Districts, there should be an air quality monitoring station. It was directed that wherever such stations have not yet been set up so far (though Air Act is 39 years old), manual stations, which are very easy to set up and are not costly, must be installed at the**

earliest using simpler procedure like GeM. This step should not exceed three months. This will be the responsibility of the State PCBs/PCCs, using funds available under 'consent mechanism'/ 'environmental compensation'.

As per data furnished by the CPCB in its report dated 14.11.2019, it was mentioned that **as against requirement of CAAQMS being 800, only 176 had been installed and as against required manual stations being 1250, only 658 had been installed. The gap was directed to be filled up by the Tribunal till 20.11.2020 which was extended vide order dated 21.08.2020 for six months, which expired on 21.02.2021.**

CC and SA Studies

33. **The progress on the subject is inadequate, though important as in its absence of such studies, further planning and action may be difficult. Hazardous/polluting activities will remain unchecked without proper planning.**

Shifting of polluting activities

34. As already mentioned, in absence of CC and SA studies and master plans, shifting, prohibiting and regulating unsustainable polluting activities remain a challenge.

Effective functioning of PGRPs

35. As per report, 17 States have yet to provide information while effectiveness of functioning of PGRPs has not yet been duly evaluated.

Action Plans for NACs

36. While action plans have been prepared for almost all the NACs and are available on the websites of CPCB as well as State PCBs, timelines in

the action plans are not in consonance with the orders of this Tribunal. For enforcement of rule of law, accountability is required to fixed for every violation of standards of air quality by identifying the violators and taking action in terms of prohibiting polluting activities as well as recovering compensation for the period during which violation continued. If such plan is not prepared to make every violator accountable, there will be failure of the public trust doctrine under which the State Authorities are required to enforce the enacted law. There has to be commitment to the upholding of the air quality standards laid down and taking action for every violation. We are of view that such coercive action for failure against authorities must start atleast from 01.11.2021. Any delay in execution of action plan beyond 01.11.2021 will render the concerned States liable to pay compensation atleast @ Rs. 10 lakhs per month with liberty to recover the amount from the erring officers. Such compensation must be credited to a separate account to be operated by the Chief Secretary of the State and the amount so deposited will be spent for restoration of the environment.

Noise control

37. There are huge gaps in execution of action plans for noise control, including procurement of equipments. Such gaps need to be addressed especially by Police and environment Departments who are entrusted with the responsibility of control of noise under the Noise Pollution (Regulation and Control) Rules, 2000. Atleast from 01.11.2021, the concerned States/heads of police force must be held liable to pay compensation @ Rs. 10 lakhs per month on the same pattern as failure to enforce action plans for control of air pollution.

Afforestation drive utilizing CAMPA Funds

38. Afforestation drive is essential for control of air pollution. Coordination with the CAMPA authorities is required for utilizing the CAMPA funds for the purpose of afforestation, as already directed.

Revamping of State PCBs/PCCs utilizing 'Consent'/'EC' funds

39. According to CPCB report, certain steps have been taken but further steps need to be taken. There is dire need to revamp regulatory authorities by recruiting adequate number of personnel, atleast equal to already sanctioned posts and then reviewing the strength and also by procuring requisite equipments and establishing sufficient labs, using available consent funds.

Issue of Carrying Capacity of the roads through Central Road Research Institute by MoRTH

40. The issue remains unresolved though it is very much necessary for the purpose of planning no vehicle zones, parking capacity and other regulatory measures, including number and nature of vehicles to be allowed in NACs and other air polluted areas.

Monitoring at the level of Chief Secretaries through environment cells

41. The report shows that only 11 States have so far given information. Further action needs to be taken expeditiously.

DATA GRID Needed

42. The data grid for continuous information will go a long way in dealing with the problem. As already noted in Para 20 above, there is need for National, State, District Environmental Data Grids giving the data of air quality. Apart from improving environment, this is necessary to enforce right of the citizens to information about air quality in different areas.

Based on the level of pollution, categories of cities/districts need to be appropriately classified such as 'red', 'orange' and 'green'. Further, based on such data National Air Quality Atlas may be compiled and published on the websites of MoEF&CC, CPCB and State PCBs/PCCs and updated from time to time.

Other inadequacies in addressing challenges : SA and CC studies and further steps for control of Vehicle pollution, vehicle density, industrial pollution, coal-fired industrial activities, Unscientific mining, unplanned development, garbage Dumps, combustions - burning of garbage, crop burning, handling of other waste - plastic, bio-medical waste, dust, environmental disasters

Legacy Waste Sites remediation and other waste management, including biomedical and plastic wastes and burning of crop residue

43. The said work continues to be neglected posing serious threat to the air quality. As per directions already issued on 28.02.2020 in OA 606/2018, compensation may be recovered and utilized for restoration of the environment. The said direction is reproduced below for ready reference:

> *"1to40…xxx……xxx……xxx*
>
> *41. In view of above, consistent with the directions referred to in Para 29 issued on 10.01.2020 in the case of UP, Punjab and Chandigarh* ***which have also been repeated for other States i****n matters already dealt with, we direct:*
>
> *a. In view of the fact that most of the statutory timelines have expired and directions of the Hon'ble Supreme Court and this Tribunal to comply with Solid Waste Management Rules, 2016 remain unexecuted, interim compensation scale is hereby laid down for continued failure after 31.03.2020. The compliance of the Rules requires taking of several steps mentioned in Rule 22 from Serial No. 1 to 10 (mentioned in para 12 above).* ***Any such continued failure will result in liability of every Local Body to pay compensation at the rate of Rs. 10 lakh per month per Local Body for population of above 10 lakhs, Rs. 5 lakh per month per Local Body for population between 5 lakhs and 10 lakhs and Rs. 1 lakh per month per other Local Body with population with 5 lakhs from 01.04.2020 till compliance. If the Local Bodies are unable to bear financial burden, the liability will be of the State Governments with liberty***

to take remedial action against the erring Local Bodies. Apart from compensation, adverse entries must be made in the ACRs of the CEO of the said Local Bodies and other senior functionaries in Department of Urban Development etc. who are responsible for compliance of order of this Tribunal. Final compensation may be assessed and recovered by the State PCBs /PCCs in the light of Para 33 above within six months from today. CPCB may prepare a template and issue an appropriate direction to the State PCBs/PCCs for undertaking such an assessment in the light thereof within one month.

b. Legacy waste remediation was to 'commence' from 01.11.2019 in terms of order of this Tribunal dated 17.07.2019 in O.A. No. 519/2019 para 28[22] even though statutory timeline for 'completing' the said step is till 07.04.2021 (as per serial no. 11 in Rule 22), which direction remains unexecuted at most of the places and delay in clearing legacy waste is causing huge damage to environment in monetary terms as noted in para 33 above, pending assessment and recovery of such damage by the concerned State PCB within four months from today, continued failure of every Local Body on the subject of commencing the work of legacy waste sites remediation from 01.04.2020 till compliance will result in liability to pay compensation at the rate of Rs. 10 lakh per month per Local Body for population of above 10 lakhs, Rs. 5 lakh per month per Local Body for population between 5 lakhs and 10 lakhs and Rs. 1 lakh per month per other Local Body. If the Local Bodies are unable to bear financial burden, the liability will be of the State Governments with liberty to take remedial action against the erring Local Bodies. Apart from compensation, adverse entries must be made in the ACRs of the CEO of the said Local Bodies and other senior functionaries in Department of Urban Development etc. who are responsible for compliance of order of this Tribunal. Final compensation may be assessed and recovered by the State PCBs/PCCs in the light of Para 33 above within six months from today.

c. Further, with regard to thematic areas listed above in para 20, steps be ensured by the Chief Secretaries in terms of directions of this Tribunal especially

---

[22] The Chief Secretaries may ensure allocation of funds for processing of legacy waste and its disposal and in their respective next reports, give the progress relating to management of all the legacy waste dumpsites. Remediation work on all other dumpsites may commence from 01.11.2019 and completed preferably within six months and in no case beyond one year. Substantial progress be made within six months. We are conscious that the SWM Rules provide for a maximum period of upto five years for the purpose, however there is no reason why the same should not happen earlier, in view of serious implications on the environment and public health.

w.r.t. plastic waste, bio-medical waste, construction and demolition waste which are linked with solid waste treatment and disposal. Action may also be ensured by the Chief Secretaries of the States/UTs with respect to remaining thematic areas viz. hazardous waste, e-waste, polluted industrial clusters, reuse of treated water, performance of CETPs/ETPs, groundwater extraction, groundwater recharge, restoration of water bodies, noise pollution and illegal sand mining.

d. The compensation regime already laid down for failure of the Local Bodies and/or Department of Irrigation and Public Health/In-charge Department to take action for treatment of sewage in terms of observations in Para 36 above will result in liability to pay compensation as already noted above which are reproduced for ready reference:

i. Interim measures for phytoremediation/ bioremediation etc. in respect of 100% sewage to reduce the pollution load on recipient water bodies – 31.03.2020. Compensation is payable for failure to do so at the rate of Rs. 5 lakh per month per drain by concerned Local Bodies/States (in terms of orders dated 28.08.2019 in O.A. No. 593/2017 and 06.12.2019 in O.A. No. 673/2018) w.e.f. 01.04.2020.

ii. Commencement of setting up of STPs – 31.03.2020. Compensation is payable for failure to do so at the rate of Rs. 5 lakh per month per STP by concerned Local Bodies/States (in terms of orders dated 28.08.2019 in O.A. No. 593/2017 and 06.12.2019 in O.A. No. 673/2018) w.e.f. 01.04.2020.

iii. Commissioning of STPs – 31.03.2021. Compensation is payable for failure to do so at the rate of Rs. 10 lakh per month per STP by concerned Local Bodies/States (in terms of orders dated 28.08.2019 in O.A. No. 593/2017 and 06.12.2019 in O.A. No. 673/2018) w.e.f. 01.04.2021.

e. Compensation in above terms may be deposited with the CPCB for being spent on restoration of environment which may be ensured by the Chief Secretaries of the States/UTs.

f. An 'Environment Monitoring Cell' may be set up in the office of Chief Secretaries of all the States/UTs within one month from today, if not already done for coordination and compliance of above directions which will be the responsibility of the Chief Secretaries of the States/UTs.

g. Compliance reports in respect of significant environmental issues may be furnished in terms of order dated 07.01.2020 quarterly with a copy to CPCB."

44. Vide order dated 14.12.2020 in O.A. No. 606/2018, *Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues*, further direction issued is as follows:-

"1to8…xxx……xxx……xxx

9. ***The compensation in terms of earlier order be recovered and credited to a separate account with the Environment Department of the States/UTs to be used for restoration of environment in the concerned States/UTs. The deposit, instead of being made with the CPCB, may now be made to the said account."***

45. **There are 4000 legacy waste dump sites (including in all NACs) in the country as per CPCB report noted in order dated 18.10.2019 in OA 606/2018.** Emissions therefrom and burning of garbage cause air pollution. The said accumulated/legacy waste needs to be tackled on war footing, as earlier directed by this Tribunal in OA No. 606/2018, in the presence of Chief Secretaries of all the States/UTs. **Progress on the subject is disappointing**. **Unplanned hazardous activities in residential areas are further matter of concern. There are no adequate safeguards against control of fugitive dust**. **Coal fired industrial activities are a great hazard**. **Density of vehicles, unclean fuel and lack of planning to regulate traffic need focused attention. No satisfactory solution is in place to control burning of crop residue. Environmental disasters remain unchecked.**

46. **Dumping and burning of bio-medical waste and plastic waste in violation of law significantly add to air pollution which need to be scientifically handled, as held by this Tribunal vide orders dated**

18.01.2021 in OA No. 710/2017, *Shailesh Singh v. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors.* and 08.01.2021 in EA No. 13/2019 in OA 247/2017, *Central Pollution Control Board v. State of Andaman & Nicobar & Ors.* respectively.

Measurement of Success – graph must show reduction of pollution load but infact pollution level increasing – Serious Monitoring and fixing accountability imperative:

47. Final success of execution of action plans depends on graph of reduced pollution load. This requires monitoring at highest levels in Districts, States and at the national level by coordination of all concerned departments. There is constitutional obligation of good governance and a duty to citizens to enforce their right of breathing fresh air. Absence of adequate remedial action is resulting in deaths and diseases which are like pandemic or like causing of homicide or grievous hurts with no accountability. Main sources of air pollution have been identified and remedial measures also articulated.

Some other recent NGT orders relevant in the context: Shifting coal fired industrial activities to PNG

48. As a result of regional carrying capacity evaluated by an Expert Committee under orders of this Tribunal in OA No. 1016/2019, *Utkarsh Panwar v. Central Pollution Control Board & Ors.*, it was found that **brick kilns in NCR were working beyond the carrying capacity**. This led to direction for control and regulation of such activities and also switching to cleaner fuel. **Similar directions were issued for air pollution in Morbi industrial area in Gujarat[23] and Mandi Gobindgarh Industrial area in Punjab[24] by shifting fuel for industrial activities from coal to PNG.**

[23] Order dated 6.3.2019 OA 20/17(WZ) Babubhai v GPCB
[24] Order dated 06.04.2021 in OA No. 924/2019, Neeraj Goyal v. State of Punjab

49. Once studies are carried out about sources of pollution beyond assimilative capacity of air, it will be possible to control and regulate polluting activities in the interest of public health and to give effect to the Sustainable Development principle.

Dust Control

50. In view of directions already given in OA 283/2020[25], there is need for control of fugitive dust emissions during the road cleaning by appropriately sprinkling of water and greening of the open soiled areas. Utilization of CAMPA funds for afforestation needs to be explored in coordination with the CAMPA authorities, as already directed.

Public Awareness and stringent measure against sources of pollution and revamping monitoring mechanism having sufficient qualified personnel, periodical training and procuring equipments – imperative for public health – constant planning and monitoring at all levels

51. Further attention is required to creating awareness about harmful polluting activities like fire crackers. It is well known that harmful hazy conditions of pollutants being locked in the air during October – November in North India may need sustained planning and action. Prior awareness of the public in this regard is imperative. There is also need for involvement of eminent citizens and experts. An Advisory Committee is required for each of the NAC and other air polluted areas where air quality is poor and above so that such Committees may interact with the resident welfare associations and other stake holders in the light of public grievances/suggestions, plan initiatives and special drives from time to time having regard to the local conditions. They can also coordinate with schools and colleges and research institutions.

[25] Order dated 03.12.2020, S.R. Virk v. Central Pollution Control Board

52. As already mentioned, pollution free environment is part of right to life. Air pollution beyond norms seriously affects health and environment. Inspite of statutory mechanism and orders of the Hon'ble Supreme Court and other Courts/Tribunal, the challenge of pollution from different sources, including vehicular pollution, industrial and construction sector pollution, power sector pollution, agriculture sector pollution remains. Graded Action Response Plan (GRAP) has been issued for National Capital Region (NCR) in pursuance of directions of the Hon'ble Supreme Court stipulating steps to be taken for controlling/regulating several polluting activities depending upon the level of pollution.

53. In Arjun Gopal & Ors. v. UOI & Ors.[26], it was observed that the residents of NCR faced severe air quality standards which were worst in the World. It had serious adverse health impact. Life of citizens in NCR had been brought to virtual standstill. The Capital was smoked into an environmental emergency of unseen proportions. It will be appropriate to extract some observations from the judgment:-

> ***"****4. The onset of winter and the festival/ marriage season this year, presented to the residents of NCR severe concerns regarding the air quality standards. According to reports, the air quality standards in early November of this year were the worst in the world.* ***It is reported that the $PM_{2.5}$ levels recorded were "beyond scale" values (see India's Air Quality Among World's Worst Over Diwali Weekend: Report. 4-11-2016, Hindustan Times). The report indicates that 24-hour average of $PM_{2.5}$ levels in South Delhi in 2016 were 38% higher than on the Diwali night of 2015. The day after Diwali, these levels were twice as high as the day after Diwali in 2015, crossing 650 µg/m³, which is 26 times above the WHO's standards or levels considered safe. Shockingly, on the morning of 1-11-2016, Delhi woke up to an average $PM_{2.5}$ level of over 700 µg/m³ — some of the highest levels recorded the world over and 29 times above WHO standards. The report further states that the WHO guideline for 24-hour average $PM_{2.5}$ levels is 25 µg/m³ and with an annual average $PM_{2.5}$ level of 122 µg/m³, Delhi's air is the worst among global megacities with dense populations. We have***

[26] (2017) 1 SCC 412

particularly referred to the PM 2.5 levels because of the extreme effects and near invisibility of this type of particulate matter. $PM_{2.5}$ or particulate matter 2.5 ($PM_{2.5}$), refers to tiny particles or droplets in the air that are two-and-one-half microns or less in width. It may be noted that the widths of the larger particles in the $PM_{2.5}$ size range would be about thirty times smaller than that of a human hair. These particles primarily emanate from vehicle exhausts and other operations that involve the burning of fuels such as wood, heating oil or coal, and of course, use of fire crackers.

5. In India, air quality standards are measured in terms of the Air Quality Index (hereinafter "AQI"). The AQI was launched in India on 17-10-2014 by the Ministry of Environment and Forests. According to the press release of the Press information Bureau of the same date, it consists of a comprehensive set of parameters to monitor and asses the air quality. The AQI considers eight pollutants (PM_{10}, $PM_{2.5}$, NO_2, SO_2, CO, O_3, NH_3, and Pb), and based on the levels of these pollutants six categories of AQI ranging from "Good" to "Severe" have been prescribed. The index also suggests the health effects of the pollution categorywise. The gradation of AQI and its health impact is extracted below:

Tables 1 and 2 have already been reproduced above and are not being repeated.

xxx.....xxx xxx

xxx.....xxx xxx

6. Reports indicate that AQI in Delhi was much above the severe standard, shooting off the AQI 500 mark on many days this November. On the day after Diwali, it was more than 14 times the safe limits (see Delhi's Pollution Levels Peaks at 14-16 Times Safe Limits, 31-10-2016, The Hindu). The adverse health effects of these hazardous levels of pollution are only too evident from the table given above. We do not intend to refer to the multiplicity of reports and data on this front.

7. The hazardous levels of air pollution in the last few weeks have spared very few from its ill effects. The life of the citizens of NCR was brought to a virtual standstill, not to speak about the plight of the thousands of mute flora and fauna in NCR. Schools were declared shut, denizens of the city advised to stay indoors, construction activities stopped, power stations shut and ban imposed on burning of garbage and agricultural waste. The fall in air quality has had a significant impact on people's lifestyle as well. The rising costs to protect against air pollution are substantial. It has come to our notice that people are queuing up to purchase protective masks and air purification systems in the wake of dense smog all over the NCR. In short, the capital was "smogged" into an environmental emergency of unseen proportions.

8. The adverse effects of these extreme levels of air pollution spare no one — the young, the old, the infirm and

even the future generations. A study of the data of the Global Health Depository of the World Health Organisation reveals that India has the world's highest death rate from chronic respiratory diseases and that about 1.5 million people in India die annually due to indoor and outdoor pollution (see Delhi Wakes up to an Air Pollution Problem it cannot Ignore, 15-2-2015, The New York Times). The Kolkata-based Chittaranjan National Cancer Institute (CNCI), in a study commissioned and handed over to the Central Pollution Control Board, found that key indicators of respiratory health, lung function to palpitation, vision to blood pressure, of children in Delhi, between four and 17 years of age, were worse off than their counterparts elsewhere. It also found that more than 40% of the school children suffer from lung damage (see Landmark Study Lies Buried, 2-4-2015, The Indian Express). We note with apprehension that there are nascent studies that suggest that pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases like multiple sclerosis (see Holding Your Breath in India, 29-5-2015, The New York Times).

9. It has been brought to our notice that the severe air pollution in the NCR is leading to multiple diseases and other health related issues amongst the people. It is said that the increase in respiratory diseases like asthma, lung cancer, bronchitis, etc. is primarily attributable to the worsening air quality in the NCR. The damage being caused to people's lungs is said to be irreversible. Other health related issues like allergies, temporary deafness are also on the rise. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc.

10. When we refer to these extreme effects, we are not merely referring to the inconvenience caused to people, but to abject deprivation of a range of constitutionally embedded rights that the residents of NCR ought to have enjoyed. Needless to state, the grim situation of air quality adversely affected the right to education, work, health and ultimately, the right to life of the citizens, and this Court is constitutionally bound to address their grave concerns. May we remind ourselves, that this is not the first time that this Court was impelled into ensuring clean air for the citizens of the capital region (see M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 6 SCC 60] , [M.C. Mehta v. Union of India, (1998) 9 SCC 589] , M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 648] and M.C. Mehta v. Union of India [M.C. Mehta v. Union of India, (1998) 8 SCC 206]).”

54. We have already noticed directions of CPCB under section 18 of the Air Act dated 29.12.2015 for setting up of monitoring stations and orders

of the Hon'ble Supreme Court for control of vehicular, industrial, construction, power sector and agricultural pollution, CAP prepared by EPCA for NCR and GRAP notified by MoEF&CC for NCR for measures in response to higher pollution levels, including closing of specified polluting activities and also restrictions in eco sensitive zones and need for comprehensive measures for NACs, which are a class of polluted areas requiring targeted measures on the pattern of NCR and ESZs.

Enforcement of air quality standards in areas other than 124 NACs

55. As already mentioned, the criteria for determining NACs is consecutive non-compliance for five years for any of the 12 parameters. Apart from a city or area being non-compliant of any of the parameters for five consecutive years and qualifying as NACs, there are cities or areas which are non-compliant with the air quality standards but not for consecutive five years. Such cities also need remedial action at par with NACs. Further, where-ever air quality is poor or above, in view of adverse health impact of air pollution, remedial action is required in the interest of public health.

VIII. Consideration of way forward and Directions:

56. As shown from the resume of orders dated 8.10.2018, 15.03.2019, 06.08.2019, 20.11.2019 and 21.8.2020 in the present matter and other orders in related matters and above discussion, specific action points stand identified. There are action plans prepared by six member Air Quality Monitoring Committees (AQMCs) in States/UTs, overseen by the Chief Secretaries and approved by Expert Committee comprising Member Secretary CPCB, Prof Mukesh Khare, IIT Delhi and Prof. Mukesh Sharma, IIT Kanpur. The subject was also discussed with the Chief Secretaries of all the States/UTs during their appearance before the Tribunal in

pursuance of order dated 16.1.2019. On further review, 15 specific directions were issued on 6.8.2019 including setting up of online Continuous Ambient Air Quality Monitoring Stations (CAAQMS), undertaking Source Apportionment (SA) and Carrying Capacity (CC) studies, reviewing of master plans consistent with such studies, closing/shifting industrial units from residential/non-conforming areas consistent with the directions of the Hon'ble Supreme Court, developing public grievance redressal portals and incorporating compensation regime against the violators. The Tribunal also took cognizance of the noise pollution which is also covered under the Air (Prevention and Control of Pollution) Act, 1981 and 2000 Rules under the EP Act. Further issues considered include revamping of CPCB and State PCBs for effective monitoring. Progress was reviewed on 20.11.2019 and further 16 specific directions were issued, including compensation for defaults. Further issue of regulating parking in the light of capacity of the road infrastructure was dealt with vide order dated 26.2.2020, as already mentioned earlier. Finally, on 21.8.2020 comprehensive review was undertaken and 18 specific directions were issued. **The compliance status does not show significant achievements and there continue to be huge gaps in what is required to be done and what has been done.**

57. **That 124 major cities in the country are continuously non-compliant with the prescribed standards of air quality for more than five years is a matter of serious national concern which needs to be addressed urgently at all levels by involvement of highest authorities. Challenge is equally serious for areas where pollution levels are as high as above poor even though outside 125 NACs. Challenge of control of noise pollution also confronts the citizens. Thus, the**

concerned authorities have to perform their responsibility, including public awareness and involvement.

58. **In the light of above detailed discussion, holistic and coordinated efforts at all levels in the government is dire need of the hour. Accountability in terms of adverse entries in the ACRs and recovery of compensation for non-compliance are imperative for fixing accountability. This requires authorities at higher level to function as trustees for discharge of constitutional and statutory obligation to the citizens. There is no other magic wand to protect people against acknowledged sorry state of affairs. As shown from the observations of Hon'ble Supreme Court quoted in para 53 above, India has world's highest death rate from chronic respiratory diseases. About 1.5 million people in India die annually due to air pollution. The Hon'ble Supreme Court also observed that 40% school children suffer from lung damage. Air pollution can lower children's IQ, hurt their test scores and increase the risks of autism, epilepsy, diabetes and even adult-onset diseases. Severe air pollution is leading to diseases and irreversible damage to health. There are other health related issues like allergies, temporary deafness. Various experts have pointed towards multiple adverse effects of air pollution on human health like premature deaths, rise in mortality rates, palpitation, loss of vision, arthritis, heart ailments, cancer, etc. This is resulting in deprivation of constitutionally embedded rights. Grim situation is affecting right to education, work, health and ultimately, the right to life of the citizens. There are further reports[27] that air pollution is**

[27](i) Air pollution killed 1.7 million Indians in 2019: Lancet report: (https://www.downtoearth.org.in/news/air/amp/air-pollution-killed-1-7-million-indians-in-2019-lancet-report-

resulting in fatalities and economic losses. Remedial action is thus utmost for protecting health of the citizens.

Need for a High-level National Task Force for Monitoring

59. The matter has been monitored by the Tribunal for about two and a half years. Primarily **the Tribunal is an adjudicatory body and beyond giving directions necessary for protection of environment under section 15 of the NGT Act, execution has to be by administrative authorities.** Under public trust doctrine, the State authorities are under obligation to take effective measures to control pollution. Tribunal monitoring cannot be for indefinite period. Road map has crystalised to an extent. The Tribunal has formulated direction and conducted review five times with the assistance of data available with it. The ownership of monitoring must be now taken over by the statutory and administrative authorities for enforcement of rule of law for which a national level task force needs to be constituted. **Thus, we find it necessary to give effect to the principle of Sustainable Development, in the interest of protection of environment and public health, to direct constitution of an eight-member National Task Force (NTF) to be headed and coordinated by the Secretary MoEF&CC with nominees of Ministries from Housing and Urban Development, Road Transport, Petroleum, Power, Agriculture, Health and CPCB with a view to monitor remedial**

74737#aoh=16178975512221&referrer=https%3A%2F%2Fwww.google.com&amp_tf=From%20%251%24s)
(ii) AIR POLLUTION RELATED DISEASE, DEATHS COST INDIA RS 260,000 CRORES IN ECONOMIC LOSS: REPORT (https://www.firstpost.com/tech/science/air-pollution-related-disease-deaths-cost-india-rs-260000-crores-in-economic-loss-report-9159281.html)
(iii) 1.7 million deaths in India were attributable to air pollution in 2019, says study: (https://www.thehindu.com/news/national/17-million-deaths-in-india-were-attributable-to-air-pollution-in-2019-says-study/article33394600.ece)
(iv) Air pollution in India caused 1.67 million deaths in 2019: (https://www.news-medical.net/news/20201223/Air-pollution-in-India-caused-167-million-deaths-in-2019.aspx)
(v) Air pollution caused 54,000 deaths, $8.1 billion loss in Delhi in 2020 : (https://www.businesstoday.in/current/economy-politics/air-pollution-claimed-54000-lives-in-delhi-last-year-one-death-per-500-people-claims-greenpeace-study/story/431766.html)

steps to improve the status of air quality in NACs consistent with the action plans already prepared and approved by the Expert Committee and directions of this Tribunal, referred to above, including the last order dated 21.08.2020 and also to monitor compliance of noise control norms. The NTF may hold its first meeting within one month and thereafter evolve mechanism for monitoring by quarterly meetings with Chief Secretaries of concerned States/UTs. The NTF may coordinate and work in tandem with the Committees already constituted under NCAP at National and State levels. Needless to say that the Chief Secretaries must continue to monitor progress in execution of action plans at State level with the assistance of monitoring cells in their offices and the AQMCs so as to effectively provide positive feedback to the NTF. The State level monitoring must include action at the ground as per directions to be implemented by the District Magistrates or other concerned departments. The monitoring may include all associated issues, including road dust control by appropriate sprinkling of water (utilizing treated water, instead of potable water), planting herbs and shrubs, and all sources of pollution, including fire crackers.

Directions

60. Our directions are summed up as follows:

i. **We direct constitution of an eight-member National Task Force (NTF) to be headed and coordinated by the Secretary MoEF&CC with nominees (not below the rank of Joint Secretaries) of Ministries from Housing and Urban Development, Road Transport, Petroleum, Power, Agriculture, Health and Chairman, CPCB with a view to**

monitor remedial steps to improve the status of air quality in NACs consistent with the action plans already prepared and approved by the Expert Committee and directions of this Tribunal, referred to above, including the last order dated 21.08.2020 and also to monitor compliance of noise control norms. **NTF may also monitor enforcement of laid down air quality standards beyond NACs in other identified air polluted areas** where air quality is poor and above**.**

ii. **The NTF may hold its first meeting within one month and thereafter evolve mechanism for monitoring by quarterly meetings with Chief Secretaries of concerned States/UTs. The NTF may coordinate and work in tandem with the Committees already constituted under NCAP at National and State levels.**

iii. Monitoring by NTF may be with reference to the action plans of 124 NACs. The components include installation of monitoring stations, completion of CC and SA studies, shifting, prohibiting and regulating activities beyond carrying capacity (such as shifting to cleaner fuel and declaring regulated/no vehicle zones so as to ensure that the air quality does not go beyond 'poor' for protection of health of the citizens), effectiveness of PGRPs, timelines for execution of the action plans and recovery of compensation for delay, addressing gap in control of noise pollution, afforestation drives utilizing CAMPA funds, effective implementation of ERS, revamping of PCBs/PCCs and other monitoring mechanism, remediation of legacy waste sites and effectives steps for management of other waste, including biomedical, plastic and e-waste, dust control, public awareness

and community involvement programmes and setting up of data grids on all levels. NTF may also evolve and oversee parameters for interse ranking of success of remedial action for 124 NACs and other air polluted areas where air quality is poor and above. Further, accountability for failures and incentives for success also needs to be monitored. NTF is free to take up any other incidental issues.

iv. Consistent with Digital India initiatives, MoEF&CC/ CPCB may consider setting up and periodically updating National Environment Data Grid (NEDG) linked to the State Environment Data Grids (SEDGs) and District Environment Data Grids (DEDGs) and further linked to available portals like online air quality, Sameer and other monitoring stations to facilitate analysis, research and planning on the subject. It may be further interlinked to National Air Quality Monitoring Programme (NAMP). Based on above data, the MoEF&CC may lay down guidelines for classifying cities/districts in terms of air quality in different categories such as 'red', 'orange' and 'green'. On that basis, a National Air Quality Atlas may be compiled and published on the websites of MoEF&CC, CPCB and State PCBs/PCCs annually.

v. The Chief Secretaries of all States/UTs may continue to monitor progress in execution of action plans at State level with the assistance of monitoring cells in their offices and the AQMCs. The State level monitoring must include action at the ground as per directions to be implemented by the District Magistrates or other concerned departments. The monitoring may include all associated issues, including

road dust control by appropriate sprinkling of water (utilizing treated water, instead of potable water), planting herbs and shrubs, and all sources of pollution, including fire crackers. The issue of noise pollution also needs to be addressed, as earlier directed.

The application is disposed of.

A copy of this order be forwarded to the Secretaries, MoEF&CC, Ministries of Urban Development Department, Road Transport and Highways, Petroleum, Power, Agriculture, Health, CPCB, the Chief Secretaries, PCBs/PCCs and District Magistrates of all the States/UTs by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

B. Amit Sthalekar, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

Saibal Dasgupta, EM

April 8, 2021
Original Application No. 681/2018
A