

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI
APPEAL NO. 19 OF 2017**

IN THE MATTER OF:

SOCIAL ACTION FOR FOREST AND ENVIRONMENT (SAFE)

.....APPELLANT

VERSUS

UNION OF INDIA & ORS.

.....RESPONDENTS

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Date: 28/09/2020

1447

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**RESPONSE ON BEHALF OF THE APPELLANT TO THE REPORT OF
JOINT COMMITTEE DATED 29.05.2020**

1. The Appellant has filed the present Appeal No. 19 of 2017 against the Environmental Clearance granted by the Ministry of Environment, Forest and Climate Change ("MoEF&CC") on 30.03.2017 for the setting up of a coal fired, non-minemouth, Supercritical Thermal Power Plant ("STPP") by THDC Ltd. in Khurja, Uttar Pradesh.
2. That in pursuant to the orders dated 04.11.2019 and 19.12.2019 passed by this Hon'ble Tribunal, a Report dated 29.05.2020 has been filed by the Joint Committee. It is stated by the Appellant that the approach of the Joint Committee in collection and preparation of report is very unscientific and contrary to the statutory procedure. Being an expert committee, the Joint Committee was duty bound to ensure that the collection of ambient air quality data should have been undertaken on scientific basis to draw a conclusion. The methods for collection of ambient air quality has to be in accordance with Schedule VII of the Environment (Protection) Rules, 1986 which was not considered by the joint committee. The Joint Committee also failed to refer Technical EIA Guidance Manual for Thermal Power Plants of MoEF&CC in order to determine the ambient air quality levels.

**Data furnished by Joint Committee on AAQ is not in terms of
Schedule VII of the Environment (Protection) Rules, 1986**

3. It is stated that in Table 1 submitted by the Joint Committee in its Report it is observed that the 24 hourly PM_{2.5} concentrations for both the months of May 2019 and Jan/Feb 2020 show significant variation in data for both summer and winter months. It's important to point out here that having 24 hour average for air quality measurements is a valid measurement accepted by CPCB itself and the readings taken in different days show consistently higher values in winter and summer days. This coupled with ambient air quality monitoring data available from nearest stations at Khurja only proves that air pollution levels are consistently hazardous throughout winter months and high during summer months too. Conducting the monitoring only for two days in the end of January 2020- February, 2020 and then citing it as insufficient period to reach any solid conclusions is mockery of the entire process as the Joint Committee was given two months to file the report, the monitoring could have been spread over a longer period of time in accordance with the Environment Protection Rules, 1986 or the inferences could be drawn based on historical data available from nearby location.
4. It is stated that as per the Schedule VII of the Environment (Protection) Rules, 1986 with respect to collection of Ambient Air Quality data it is necessary to have a Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform interval. Accordingly the joint committee should have collected at least 16 measurement in two month i.e. January and February 2020 but they have collected data for only two days i.e on 31st January, 2020 and 4th February, 2020. It is stated that even PM_{2.5} data for these two dates is on a higher side. However, if the Joint Committee had followed the mandatory procedure as provided in the Environment Protection Rules, a realistic picture could have emerged. A larger representative sample would have also taken care of one of the conclusions of the Joint Committee where in para 7.1 the Joint

Committee observes " The higher concentration of PM_{2.5} in winter 2020 (January 31-February 04, 2020) could be due to enhanced local activities and weather conditions (low wind, low ambient temperature and domestic fuel burning, particularly in morning hours) etc."

The use of the word "enhanced" is without scientific basis. The reason being that there is nothing to show that the metrological conditions were abnormal. There is no data to show how the Joint Committee has come to conclusion that there has been an increase in domestic fire wood burning without having a data on substantial change in domestic fuel consumption. Therefore, the conclusions drawn by the Joint Committee by it's Report dated 29.05.2020 do not provide a complete picture specially when the Appellant had specifically filed an IA No. 746/2019 in December,2019 for directions to collect ambient air quality data for winter months of December,2019 and January, 2020 and this Hon'ble Tribunal vide it's Order dated 19.12.2019 had directed for collection of the said data and filing of a Report by the Joint Committee before it. Therefore, the Joint Committee ought to have collected data not of two dates but atleast 16 days (twice a week x 8 weeks) as per Schedule VII of the Environment (Protection) Rules, 1986 which has not been done by the Joint Committee in this case. Copy of the Schedule VII of the Environment (Protection) Rules, 1986 is annexed herewith as **ANNEXURE-1**

Joint Committee has not collected baseline attributes for assessing PM₁₀ and PM_{2.5} in terms of the Guidance of Assessment of Baseline Components and Attributes given in Technical Guidance Manual for Thermal Power Plants prepared by MoEF&CC

5. That it is stated that as per the Terms of Reference granted to the Project the parameters of the AAQ needed to be assessed as follows:-

"xxxvii. One complete season site specific meteorological and AAQ data (except monsoon season) as per MoEF Notification dated 16-11-2009 shall be collected and the dates of monitoring recorded. The parameters to be covered for AAQ shall include SPM, RSPM, (PM₁₀,

PM2.5), SO₂, NO_x, Hg and O₃ (ground level). The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone, villages in the vicinity and sensitive receptors including reserved forests. There should be at-least one monitoring station each in the upwind and in the pre-dominant downwind direction at a location where maximum ground level concentration is likely to occur."

6. That it is stated that the location of the monitoring stations had to be decided so as to take into consideration the pre-dominant downwind direction, population zone, villages in the vicinity. It is submitted that Khurja town is the nearest densely populated zone which has been neither considered by the project proponent while preparing EIA report and nor by the joint committee while selecting the monitoring location for ambient air monitoring.
7. That it is stated that even a perusal of the Report of Joint Committee at Table 1 shows that the monitoring has been done at the Monitoring stations at Gwarauli, Jawal, Nagla Shakhu, Khuriyavali and Bhogpur which are the same as selected by the project proponent while preparing the EIA report. It is important to consider that Hon'ble tribunal by its order dated 19.12.2019 not mandated the joint committee to cross verify the data collected by the project proponent. The Joint Committee has failed to apply the Guidance of Assessment of Baseline Components and Attributes given in Technical Guidance Manual for Thermal Power Plants approved by the MoEF&CC which mentions that for sampling purpose 10-15 locations in the project impact area needs to be taken at a frequency of 24 hourly, twice a week in order to assess the Pollutants in the Air. It is stated that this Guidance protocol provided in the Technical Guidance Manual for Thermal Power Plants prepared by MoEF&CC has not been followed in this case by the Joint Committee while giving it's findings and conclusions which are therefore, based on insufficient monitoring and hence failing to capture the true picture of the Pollution in Khurja area.

Copy of the Guidance protocol provided in the Technical Guidance Manual for Thermal Power Plants prepared by MoEF&CC is annexed herewith as

ANNEXURE-2.

UPPCB's own data shows that pollution levels in the region are much beyond the prescribed standards for both PM_{2.5} and PM₁₀

8. That the Appellant has prepared an excel sheet and graph showing monthly average data from multiple UPPCB monitoring stations from October, 2015 to March, 2020 available at http://www.uppcb.com/ambient_quality.htm, which makes it very clear from UPPCB's own data and conservative conversions ratio for PM_{2.5}/PM₁₀ that pollution levels in the region are much beyond the prescribed standards for both PM_{2.5} and PM₁₀ at all stations around Khurja project site and town. A Graph showing PM₁₀ since 2015 is annexed as **ANNEXURE-3** and that of PM₁₀ since 2015 is annexed as **ANNEXURE-4**. An Ambient Air Quality Monitoring Report for the months of January, 2020 and February, 2020 showing PM₁₀ as high as 330 AQI value on 13.01.2020 at Ahirpara, Khurja location 345 AQI value on 01.01.2020 at Khurja - CGCRI and as the main source of Pollutant is annexed herewith as **ANNEXURE-5**.
9. That it is stated that the following data is presented in Table 1 by the Joint Committee with respect to Khurja town. After analysing the same the following conclusions can be drawn:-

Monitoring location	Direction	Distance	As per the EIA Report (prepared by M/s Mantec Consultant)		As per the Joint Committee report dated 29.05.2020 (Testing was done by M/s SGS, engaged by the expert committee)	
			Oct. - Dec. 2012 (Min/Max PM _{2.5} in ug/m ³)	March-May, 2016 (Min/Max PM _{2.5} in ug/m ³)	07-11 May 2019 (PM _{2.5} in ug/m ³)	31st Jan to 4th Feb., 2020 (PM _{2.5} in ug/m ³)
Gwarauli	East	4.0	32.8 / 40.2	32 / 45	42 & 91	94.0 & 143.6
Jawal	West	2.5	30.2 / 38.0	32 / 47	36 & 50	56.1 & 84.1
NanglaShekl	North	6.5	31.0 / 40.8	33 / 46	73 & 75	94.5 & 129.9
Khuriyawali	South East	4.0	-	--	50 & 171	139.8 & 165.6
Bhogpur	South East	9.0	32.5 / 42.0	34 / 48	-	-

(a) At the Gwarauli, AQ1, the 2012 and 2016 data ranged from 32 – 45 ug/m³. The 2019 and 2020 data are in the range of 42 – 143 ug/m³. Since the 24-hour average PM_{2.5} National Ambient Air Quality Standard is 60 ug/m³, it is clear that this monitor shows a substantial exceeding of the AQI from the NAAQS standard.

(b) At the Jawal, AQ2, the 2012 and 2016 data ranged from 30.2 – 47 ug/m³. The 2019 and 2020 data are in the range of 36 – 84 ug/m³. The likelihood that the corresponding NAAQS is being violated at this monitor cannot be ruled out.

(c) At the Nangla Shekh, AQ3, the 2012 and 2016 data ranged from 31 – 46 ug/m³. The 2019 and 2020 data are in the range of 73 – 129.9 ug/m³. All of the recent data show a strong exceeding of the NAAQS.

(d) At the two sites at Khuriyavali and Bhogpur for which the data were collected, as shown in the table, the 2012 and 2016 data ranged from 32.5 – 48 ug/m³. The 2019 and 2020 data are in the range of 50 – 165.6 ug/m³. The recent data show that the NAAQS is being exceeded.

According to Rule 3 A and 3 B of the Environment Protection Rules, 1986:-

“ (3A) (i) Notwithstanding anything contained in sub-rules (1) and (2), on and from the 1st January, 1994, emission or discharge of environmental pollutants from the [industries, operations or processes other than those industries, operations or processes for which standards have been specified in Schedule I shall] not exceed the relevant parameters and standards specified in Schedule VI:

Provided that the State Boards may specify more stringent standards for the relevant parameters with respect to specific industry or locations after recording reasons thereof in writing;

(3B) The combined effect of emission or discharge of environmental pollutants in an area, from the industries, operations, processes, automobiles and domestic sources, shall not be permitted to exceed the relevant concentration in ambient air as specified against each pollutant [in columns (4) and (5) of the Schedule VII]”

10. The conclusion from the data as given in Table 1 are as follows:

- (i) The NAAQS for PM_{2.5}, 24 hour average (i.e., 60 ug/m³) is undoubtedly already being exceeded in the area, and especially given the data from monitors AQ1, AQ3, and AQ4. Additional data at these monitors will confirm this finding.
- (ii) Adding the considerable additional emissions due to the Khurja power plant at this location will only further increase the levels of PM_{2.5} (and other pollutants) in the area and in downwind areas, driving the area further into non-attainment.
- (iii) The approval of the project based on the EIA, which used the 2012 and 2016 data, is clearly flawed, given the much higher recent data.

11. The Joint Expert Committee (CPCB and IIT Delhi) did not conduct any inquiry as to why ambient PM_{2.5} levels have so dramatically increased at AQ1, AQ2, AQ3, and AQ4. Instead, it simply concludes speculatively that the increases "...could be due to enhanced local activities and weather conditions (low wind, low ambient temperature and domestic fuel burning, particularly in morning hours), etc" which shows a very casual and unscientific approach.

12. In summary, the Committee appears to be at a loss of how to handle the obviously large increase in PM_{2.5} concentrations that it measured. Instead of coming to the obvious conclusion that this new data clearly invalidates the data used to approve the EIA, the Committee hides behind some generic and vague statements.

13. That the project proponent, Respondent No.3-THDC, has also filed a Response dated 15.07.2020 to the Report of the Joint Committee. The Project Proponent-THDC on the data collected for two days by the Joint Committee states:-

"x. It is most respectfully submitted that the consistent findings earlier recorded on the basis of contemporaneous data, whose authenticity cannot be either doubted or questioned by the Appellant on the basis of the current data collected by Joint Committee CPCB only for two days at four

locations as compared to the data collected in the year 2012 and 2016 for a longer period....”

It is stated that Respondent No.3-THDC's response is at an even greater loss of how to deal with the large increases in PM_{2.5} 24-hour average concentrations measured in 2020. Recognizing that these new data are so much greater than the 2012/2016 data used to approve the EIA, and sensing therefore that this invalidates the EIA, Respondent No.3-THDC speculates as to some additional (i.e., not identified by the Committee) reasons for this increase: namely "...infrastructure development that has happened..." without stating what infrastructure could explain these increases.

14. That it is stated that Respondent No.3-THDC repeatedly defends the "authenticity" and the "veracity" of the 2012 and 2016 data. As of today the key question is whether those older data represent the ambient air quality in the area where the power plant will be situated as proposed. In effect, Respondent No.3 -THDC wants the Hon'ble Tribunal to disregard the newer data, arguing that it was only collected for 2 days at each of the four locations. However, Respondent No.3 -THDC does not show why the conclusions would have been different if more days of data were collected – i.e., that the two days of data collection may not be representative due to unusual conditions on those two days at each location. The fact is the data from all four sites considered together clearly show that the 2012 and 2016 data were consistent and much lower than the 2019 and 2020 data, which are also consistent and a lot higher. Unless Respondent No.3 -THDC can show that the new data are not "authentic", they cannot simply be disregarded.

15. By the above data in Table 1 of the Joint Committee, it is proved that the pollutant levels as reported in EIA report is now obsolete. It has also been accepted that the situation and surrounding have changed over past 8 years since first readings in 2012 and 4 years since second reading in 2016 for EIA report, it becomes much more important to base the recommendations on current air quality levels which shows very high values compared to the

standards and is a strong basis to not to allow any new additional pollution source in the Khurja region.

16. That the Appellant states that even if one has to go by the argument that the contribution is only from local sources of pollution, readings taken in 2 different days show PM_{2.5} readings are 1.5 - 2 times higher than CPCB's own daily average of 60 microgram/m³ limit. This coupled with the PM₁₀ and PM_{2.5} historic data in Annexure 1 and Annexure 2 clearly shows that the pollution levels have been consistently above the permissible limits for the last five years.

17. That it's a common observation across the entire Indo Gangetic region, during winter months and even during other times of the year, the graph presented in Annexure 1 and Annexure 2 from the UPPCB data collected at CGCRI and Ahirpara, Khurja stations shows consistent hazardous values of PM₁₀ around the year. As submitted by the CPCB and Respondent No.3-THDC, Khurja town is in the upwind direction for most of the time during the year meaning that the pollution from Khurja town will travel to the project site and would result into similar pollution contractions by virtue of being in close proximity as well as in the same airshed.

Khurja is located in upwind direction and also appears in one of the Non-attainment City

18. That it is stated that Khurja and the entire region is part of the non-attainment Cities' list of CPCB. Not just Khurja but the cities in all directions with respect to Khurja are also listed as non attainment cities, i.e., Delhi, Noida, Ghaziabad, Gajraula, Moradabad, Bareilly, Agra, Firozabad and Alwar etc. Relevant page from website of CPCB showing Khurja and other cities of Uttar Pradesh as Non-Attainment cities is annexed herewith as **ANNEXURE-6.**

19. That this Hon'ble Tribunal vide it's order, dated 6th August 2019 in Original Application No. 681/2018 observes and mentions very clearly that,"

"The MoEF&CC has by various notifications put **restriction 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.**"

Copy of the Order dated 6th August 2019 in Original Application No. 681/2018 in matter titled "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" is annexed herewith as **ANNEXURE-7.**

20. That it is stated that this list of non-attainment Cities depicts that the entire region in and around Khurja is severely polluted and there should be restrictions on activities leading to or which might lead to addition to pollution levels.

21. That it is stated that in the "Action plan for the control of air pollution in Khurja city" submitted by Uttar Pradesh Pollution Control Board (UPPCB) to Central Pollution Control Board (CPCB) mentions the pollution levels in Khurja city as:-

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM₁₀ (µg/m³) OF KHURJA CITY

U.P. Pollution Control Board is monitoring ambient air quality of Khurja city manually at 02 locations viz. CGCRI Campus and Ahirpara for PM₁₀, SO₂ and NO₂ parameters. Annual Average data of Ambient Air Quality particularly PM₁₀ (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	CGCRI Campus	Industrial	174.4	173.2	181.2	176.0	204.8	212.75
2.	Ahirpara	Residential	148.2	141.2	153.6	163.9	180.1	196.54
	STANDARD (annual average)		60 µg/m ³					

22. That it is stated that Predominant wind direction does not mean that winds, on any given day or hour might not blow in other directions. Yet, the Joint Committee and Respondent No.3-THDC only refer to "predominant" wind directions as though they are the only direction from which winds may blow. As such, the Thermal Power Plant, if built, will, on occasion also contribute to

“upwind” locations like Khurja just as it will contribute to “downwind” locations. While it may contribute more often to downwind locations, that does not mean that it will never contribute to upwind locations because “predominant” does not mean “always” or “at all times.” 1457

23. That Respondent No.3-THDC goes to great lengths, including by referencing a large document, to make the point that “it is not an absolute rule that winter values of PM will always be higher than those of summer”. It is stated that there is no such “absolute rule” But, it is true that conditions in the winter, like the Joint Committee has noted (low temperatures, low wind) and generally more stable atmospheres tend to cause winter pollution levels to be greater. However, this is not the main issue now. The new, winter data in 2020 show such a significant increase in overall levels of 24-hour average PM_{2.5} levels in the area, that Respondent No.3-THDC cannot simply explain it away by creating diversionary side arguments.

On upper ganga canal water usage

24. It is submitted that the main contention on the water source came from two aspects. Project proponent claim aquifer recharge by canal water seepage in the upper ganga canal as wasted water and not preparing any impact assessment on ground water/surface due to heavy withdrawal of water from the canal. CPCB in its response merely states that the canal will be lined and did not address the issue of the unscientific claim of treating ground water recharge as wasted water nor assessing the impact of lining the canal and restricting the groundwater. In fact there the project proponent or CPCB so far failed to even quantify the water recharge that would happen.

25. That Keeping in view the High air pollution levels in Khurja as well as in the larger air shed around it, the addition of THDC Thermal Power Plant at Khurja will deteriorate air quality situation further and will be detrimental to efforts made towards cleaning the air for safeguarding public health.

Therefore, it is prayed that the Hon'ble Tribunal should be kind enough to quash the EC of the Power Plant.

THROUGH

RITWICK DUTTA

RAHUL CHOUDHARY

**SAURABH SHARMA
ADVOCATES**

COUNSEL FOR THE APPELLANTS

These units must also adopt the following pollution control measures:—

- (i) Dust containment cum suppression system for the equipment;
 - (ii) Construction of wind breaking walls;
 - (iii) Construction of the metalled roads within the premises;
 - (iv) Regular cleaning and wetting of the ground within the premises;
 - (v) Growing of a green belt along the periphery.
 - (k) In case of ceramic industry, form the other sources of pollution, such as basic raw material and processing operations, heat recovery dryers, mechanical finishing operation, all possible preventive measures should be taken to control PM emissions as far as practicable.
2. The total fluoride emissions in respect of Glass and Phosphatic Fertilizers shall not exceed 5 mg/NM³ and 25 mg/NM³ respectively.
3. ¹[In case of copper, lead and zinc smelting, the off-gases may, as far as possible, be utilized for manufacturing sulphuric acid.]
- ²4. In case of cupolas (foundries) having capacity (melting rate) less than 3 tonne/hour, the particulate matter emission shall be within 450 mg/Nm³. In these cases it is essential that stack is constructed over the cupola beyond the charging door and the emissions are directed through the stack, which should be at least six times the diameter of cupola. In respect of Arc Furnaces and Induction Furnaces, provision has to be made for collecting the fumes before discharging the emissions through the stack.]

³[SCHEDULE VII

[See rule 3(3B)]

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO ₂), µg/m ³	Annual* 24 hours**	50 80	20 80	— Improved West and Gaeke — Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO ₂), µg/m ³	Annual* 24 hours**	40 80	30 80	— Modified Jacob & Hochheiser (Na-Arsenite) — Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM ₁₀ µg/m ³	Annual* 24 hours**	60 100	60 100	— Gravimetric — TOEM — Beta attenuation
4.	Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³	Annual* 24 hours**	40 60	40 60	— Gravimetric — TOEM — Beta attenuation

1. Subs. by G.S.R. 801(E), dated 31st December, 1993 (w.e.f. 31-12-1993).
 2. Added by G.S.R. 801(E), dated 31st December, 1993 (w.e.f. 31-12-1993).
 3. Subs. by G.S.R. 826(E), dated 16th November, 2009, for Schedule VII (w.e.f. 16-11-2009). Earlier Schedule VII was inserted by G.S.R. 176(E), dated 2nd April, 1996 (w.e.f. 3-4-1996).

(1)	(2)	(3)	(4)	(5)	(6)
5.	Ozone (O ₃) µg/m ³	8 hours** 1 hour**	100 180	100 180	— UV photometric — Chemiluminescence — Chemical Method
6.	Lead (Pb) µg/m ³	Annual* 24 hours**	0.50 1.0	0.50 1.0	— AAS/ICP method after sampling on EPM 2000 or equivalent filter paper — ED-XRF using Teflon filter
7.	Carbon Monoxide (CO) mg/m ³	8 hours** 1 hour**	02 04	02 04	— Non Dispersive, Infra Red (NDIR) spectroscopy
8.	Ammonia (NH ₃) µg/m ³	Annual* 24 hours**	100 400	100 400	— Chemiluminescence — Indophenol blue method
9.	Benzene (C ₆ H ₆) µg/m ³	Annual*	05	05	— Gas chromatography based continuous analyzer — Adsorption and Desorption followed by GC analysis
10.	Benzo (α) Pyrene (BaP)- particulate phase only, ng/m ³	Annual*	01	01	— Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), µg/m ³	Annual*	06	06	— AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni), µg/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 08 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.

Notes.—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 investigations.]

APPENDIX A

FORM I

(See rule 7)

NOTICE OF INTENTION TO HAVE SAMPLE ANALYSED

To

.....

.....

Take notice that is intended to have analysed the sample of*.....
which has been taken today, the..... day of.....
20..... from

T.C.
Y.

1461

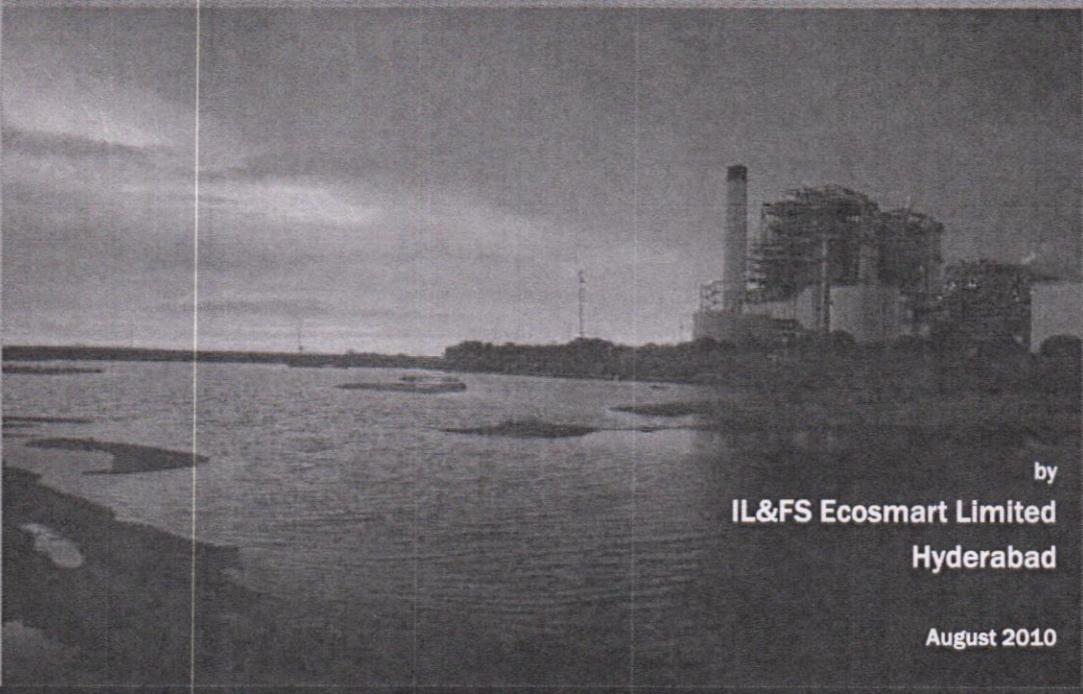
Annexure - 2



IL&FS Environment

TECHNICAL EIA GUIDANCE MANUAL FOR THERMAL POWER PLANTS

Prepared for
The Ministry of Environment and Forests
Government of India



by
IL&FS Ecosmart Limited
Hyderabad

August 2010

1462

ANNEXURE XI
Guidance for Assessment of Baseline Components and Attributes

1463

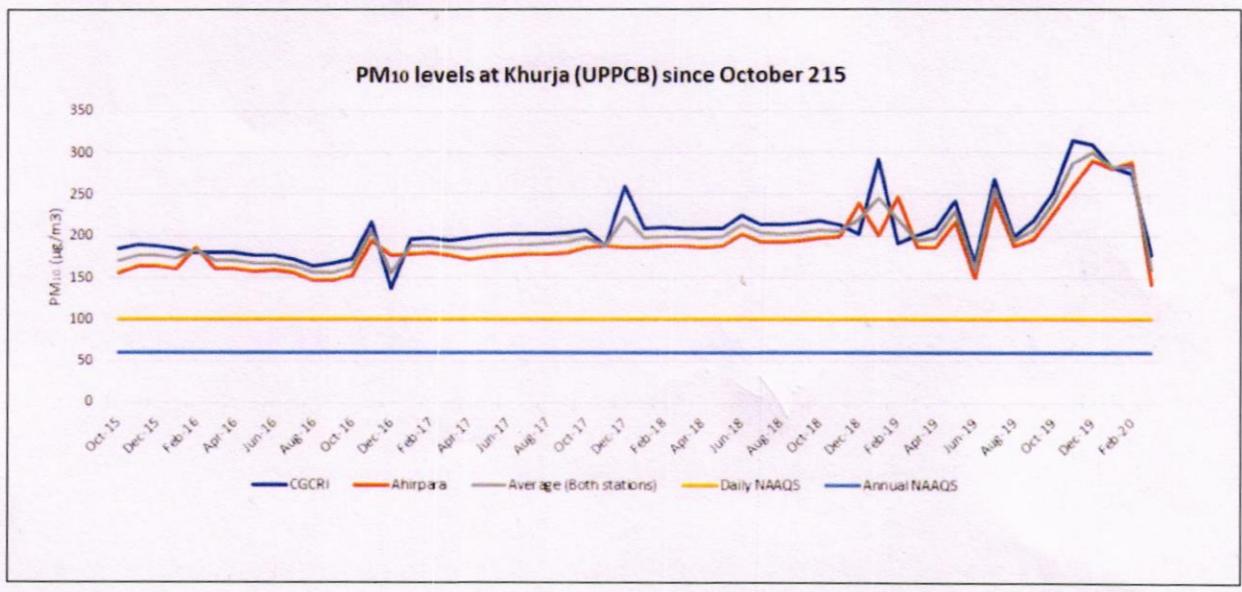
GUIDANCE FOR ASSESSMENT OF BASELINE COMPONENTS AND ATTRIBUTES*

Attributes	Sampling		Measurement Method	Remarks	Applications to Thermal Power Plants
	Network	Frequency			
A. Air					
<ul style="list-style-type: none"> ▪ Meteorological ▪ Wind speed ▪ Wind direction ▪ Dry bulb temperature ▪ Wet bulb temperature ▪ Relative humidity ▪ Rainfall ▪ Solar radiation ▪ Cloud cover 	<p>Minimum 1 site in the project impact area requirements</p> <p>Other additional site(s) are require depending upon the model applied or site sensitivities</p>	<p>Min: 1 hrly observations from continuous records</p>	<p>Mechanical / automatic weather station</p> <p>Rain gauge</p> <p>As per IMD</p> <p>As per IMD</p>	<p>IS 5182 Part 1-20 Sit-specific primary data is essential</p> <p>Secondary data from IMD, New Delhi for the nearest IMD station</p>	<p>Meteorological observations are guided by the site sensitivities and/or model used. For example ISCST model one location is acceptable whereas for AIRMOD vertical temperature profile (two height observations) is also required.</p>
<p>Pollutants</p> <ul style="list-style-type: none"> ▪ SPM ▪ RPM ▪ SO₂ ▪ NO₂ ▪ CO ▪ H₂S* ▪ NH₃* ▪ HC* ▪ Fluoride* ▪ Pb* 	<p>10 to 15 locations in the project impact area</p>	<p>24 hrly twice a week</p> <p>8 hrly twice a week</p> <p>24 hrly twice a week</p>	<ul style="list-style-type: none"> ▪ Gravimetric (High – Volume) ▪ Gravimetric (High – Volume with Cyclone) ▪ EPA Modified West & Gaeke method ▪ Arsenite Modified Jacob & Hochheiser ▪ NDIR technique ▪ Methylene-blue 	<p>Monitoring Network</p> <ul style="list-style-type: none"> ▪ Minimum 2 locations in upwind side, more sites in downwind side / impact zone ▪ All the sensitive receptors 	<p>Parameters & frequency are defined in ToR for EIA studies based on raw material (type of fuel) & process technology, location-nature/activities within of air basin. For example TPP located on a pit-head or power</p>

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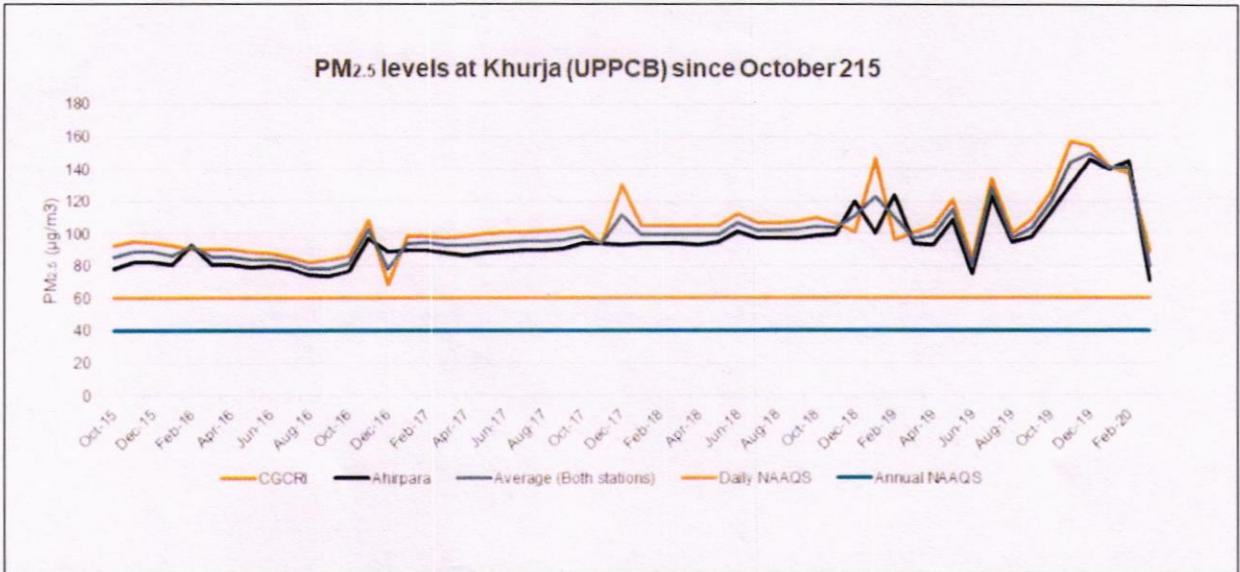
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ANNEXURE - 3



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ANNEXURE-4



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Annexure - 5

UTTAR PRADESH POLLUTION CONTROL BOARD
T.C.-12V, Vibhuti Khand, Gomti Nagar, Lucknow- 226010
AIR LABORATORY

Ambient Air Quality Monitoring Report

Date	Concentration in $\mu\text{g}/\text{m}^3$			AQI Value	Prominent Pollutant
	SO ₂	NO ₂	PM ₁₀		

Location: Khurja- Ahirpara

03.01.20	21	19	296	246	PM ₁₀
06.01.20	22	20	349	299	PM ₁₀
10.01.20	21	19	297	247	PM ₁₀
13.01.20	22	20	374	330	PM ₁₀
17.01.20	20	18	175	150	PM ₁₀
20.01.20	21	19	300	250	PM ₁₀
24.01.20	21	19	221	181	PM ₁₀
27.01.20	21	19	305	255	PM ₁₀
31.01.20	20	18	232	188	PM ₁₀

Location: Khurja- CGCRI

01.01.20	22	20	389	349	PM ₁₀
05.01.20	Fog	Fog	Fog	-	-
08.01.20	21	19	332	282	PM ₁₀
12.01.20	Fog	Fog	Fog	-	-
15.01.20	20	18	271	221	PM ₁₀
19.01.20	20	18	228	185	PM ₁₀
22.01.20	Fog	Fog	Fog	-	-
26.01.20	Fog	Fog	Fog	-	-
29.01.20	20	18	224	183	PM ₁₀

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Annexure - 6

City Action Plans Updated On : 27 Nov 2019cpcb.nic.in/approved-city-action-plans/

State	S.No.	City
Andhra Pradesh	1.	<u>Guntur</u>
	2.	<u>Kurnool</u>
	3.	<u>Nellore</u>
	4.	<u>Vijayawada</u>
	5.	<u>Vishakhapatnam</u>
Assam	6.	<u>Guwahati</u>
	7.	<u>Nagaon</u>
	8.	<u>Nalbari</u>
	9.	<u>Sibsagar</u>
	10.	<u>Silchar</u>
Chandigarh	11.	<u>Chandigarh</u>
Chhattisgarh	12.	<u>Bhilai</u>
	13.	<u>Korba</u>
	14.	<u>Raipur</u>
Delhi	15.	<u>Delhi</u>
Gujarat	16.	<u>Surat</u>



	17.	<u>Ahmedabad</u>
Himachal Pradesh	18.	<u>Baddi</u>
	19.	<u>Damtal</u>
	20.	<u>Kala Amb</u>
	21.	<u>Nalagarh</u>
	22.	<u>Paonta Sahib</u>
	23.	<u>Parwanoo</u>
	24.	<u>Sunder Nagar</u>
Jammu & Kashmir	25.	<u>Jammu</u>
	26.	<u>Srinagar</u>
Jharkhand	27.	<u>Dhanbad</u>
Karnataka	28.	<u>Bangalore</u>
	29.	<u>Devanagere</u>
	30.	<u>Gulburga</u>
	31.	<u>Hubli-Dharwad</u>
Madhya Pradesh	32.	<u>Bhopal</u>
	33.	<u>Dewas</u>
	34.	<u>Indore</u>
	35.	<u>Sagar</u>

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	36.	<u>Ujjain</u>
	37.	<u>Gwalior</u>
Maharashtra	38.	<u>Akola</u>
	39.	<u>Amravati</u>
	40.	<u>Aurangabad</u>
	41.	<u>Badlapur</u>
	42.	<u>Chandrapur</u>
	43.	<u>Jalgaon</u>
	44.	<u>Jalna</u>
	45.	<u>Kolhapur</u>
	46.	<u>Latur</u>
	47.	<u>Mumbai</u>
	48.	<u>Nagpur</u>
	49.	<u>Nashik</u>
	50.	<u>Navi Mumbai</u>
51.	<u>Pune</u>	
52.	<u>Sangli</u>	
53.	<u>Solapur</u>	
54.	<u>Ulhasnagar</u>	

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Meghalaya	55.	<u>Byrnihat</u>
Nagaland	56.	<u>Dimapur</u>
	57.	<u>Kohima</u>
Orissa	58.	<u>Angul</u>
	59.	<u>Balasore</u>
	60.	<u>Bhubneshwar</u>
	61.	<u>Cuttack</u>
	62.	<u>Rourkela</u>
	63.	<u>Talcher</u>
Punjab	64.	<u>Dera Bassi</u>
	65.	<u>Gobindgarh</u>
	66.	<u>Jalandhar</u>
	67.	<u>Khanna</u>
	68.	<u>Ludhiana</u>
	69.	<u>Naya Nangal</u>
	70.	<u>Pathankot/Dera Baba</u>
	71.	<u>Patiala</u>
	72.	<u>Amritsar</u>

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Rajasthan	73.	<u>Alwar</u>
	74.	<u>Jaipur</u>
	75.	<u>Jodhpur</u>
	76.	<u>Kota</u>
	77.	<u>Udaipur</u>
Tamilnadu	78.	<u>Tuticorin</u>
Telangana	79.	<u>Hyderabad</u>
	80.	<u>Nalgonda</u>
	81.	<u>Patencheru</u>
Uttar Pradesh	82.	<u>Agra</u>
	83.	<u>Allahabad</u>
	84.	<u>Anpara</u>
	85.	<u>Bareilly</u>
	86.	<u>Firozabad</u>
	87.	<u>Gajraula</u>
	88.	<u>Ghaziabad</u>
	89.	<u>Jhansi</u>
	90.	<u>Kanpur</u>
	91.	<u>Khurja</u>

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	92.	<u>Lucknow</u>
	93.	<u>Moradabad</u>
	94.	<u>Noida</u>
	95.	<u>Raebareli</u>
	96.	<u>Varanasi</u>
Uttarakhand	97.	<u>Kashipur</u>
	98.	<u>Rishikesh</u>
West Bengal	99.	<u>Kolkata</u>
Bihar	100.	<u>Patna</u>
	101.	<u>Gaya</u>
	102.	<u>Muzaffarpur</u>

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Annexure -7

Item No. 04

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 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"

(Report filed in O.A. No. 681/2018)

Date of hearing: 06.08.2019

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. Rajkumar, Advocate for CPCB
Ms. Nandini Sen, Advocate for State of West
Bengal
Mr. Shuvodeep Roy, Mr. Sataroop Das, Advocates
for State of Tripura
Ms. K. Enatoli Sema, Advocate for State of
Nagaland & PCB
Mr. Dhananjay Baija, Advocate for Telangana
State
G. Indira, Advocate for Andaman & Nicobar
Admn.
Mr. Jogy Scaria, Advocate for KSPCB
Mr. Shuvodeep Roy, Mr. Vinayak Gupta,
Advocates for State of Assam
Mr. T.V.S. Raghavendra Sreyas, Advocate for
APPCB
Mr. Rahul Khurana, Advocate for HSPCB

ORDER

1. The question for consideration is the 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

EPA Act) in cities classified as 'Non-Attainment Cities' (NACs)¹ based on monitoring of the ambient air quality. Further question is compliance of Noise Pollution (Regulation and Control) Rules, 2000 (Noise Rules) framed under the provisions of the EPA Act.

I. Non-attainment Cities not meeting the standards of Air Quality

2. Vide order dated 08.10.2018, this Tribunal noticed the newspaper report² to the effect that 102 cities were identified as NACs for not meeting the prescribed standards of air quality. The Air Act stipulates stopping of any activity violating norms of air quality and taking steps for prosecution or other regulatory measures³ which have been read to include recovery of compensation on 'Polluter Pays' principle⁴. National Ambient Air Quality Standards are laid down under Section 16(2)(h) of the Air Act.⁵ The Central Pollution Control Board (CPCB) compiled its report with reference to the said standards and published a list of 102 NACs⁶. 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. It may be noted that as a result of such exercise, earlier in the year 2017 number of NACs was 95⁷.

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".

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 Section 22 read with Section 31A of the Air Act and

⁴ 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)5SCC647 Para 12 to 18 - holding that 'Polluter Pay' principle is accepted principle and part of environmental law of the country, even without specific statute.

⁵ Notification dated 12.11.2009 issued by the CPCB

⁶ https://cpcb.nic.in/uploads/Non-Attainment_Cities.pdf

⁷ <http://cpcbenviis.nic.in/airpollution/finding.htm>. Based on ambient air quality data obtained (2008-2010) under National Air Quality Monitoring Programme (NAMP)

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 pollution⁸, industrial and construction sector pollution⁹, power sector pollution¹⁰ and agricultural sector pollution¹¹ and orders of this Tribunal dealing with the said issues¹². 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 DPCC on 05.04.2017¹³ and Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017¹⁴ 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

⁸ M.C. Mehta v. Union of India (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) 3 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 235, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2 SCC 431, Mohd. Haroon Ansari v. District Collector (1998) 6 SCC 60, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 4 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4 SCC 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) 2 SCC 539

¹¹ Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhwa v. Union of India and Ors (1996) 2 SCC 594

¹² 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 (THC) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

¹³ 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.

¹⁴ S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

generator sets, open burning, open eateries, road dust, construction dust, etc.¹⁵

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.
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, mechanised 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 restriction 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.
7. The Tribunal after consideration of the issue on 08.10.2018, directed as follows:

¹⁵<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..>

- 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."*

8. Thereafter, compliance of the above directions was reviewed on 15.03.2019 in the light of report submitted by the CPCB on 15.02.2019. The Tribunal observed:

"5. In pursuance to the above, the CPCB has filed compliance report vide e-mail dated 15.02.2019. An updated status report has been furnished during the hearing by the learned counsel for the CPCB which is as follows:-

*"Action Plan received: 83 cities
 Action plan not received: 19 cities
 Action Plan approved by CCB: 46
 Action Plan not approved by CCB: 11
 Action Plan under Review: 26+3 (three revised plan of
 Telangana received)
 Monitoring Network worked out in consultation with SPCBs".*

6. *The question is the action to be taken for non-compliance by the States in not preparing action plans or incomplete plans and further directions for execution of plans.*
7. *Non-compliance of order of this Tribunal is a criminal offence under Section 26 of the National Green Tribunal Act, 2010 and in case of Government, Head of the Department is deemed to be guilty for such an offence. Punishment provided is sentence upto three years or fine upto Rs. 10 crores or both with additional fine for the every day's failure. Under Section 25 of the NGT Act, 2010, order of the Tribunal is decree of Civil Court to be executed as per Civil Procedure Code. Section 51 Civil Procedure Code provides civil imprisonment as a mode for enforcing the decree. Alternatively, such further order can be passed as may be necessary to secure compliance.*
8. *Vide order dated 16.01.2019 in O.A. No. 606/2018, the Tribunal directed Chief Secretaries of all the States to appear in person and furnish compliance of various orders of this Tribunal, including the above order dated 08.10.2018 with regard to non-attainment cities. The Chief Secretaries of five States have already appeared and most of the States have are still non-compliant. They have been directed to take necessary steps with improved institutional mechanism and approach.*
9. *In view of non-compliance of orders of this Tribunal, on an important issue adversely affecting public health and lives of citizens, inspite of serious consequences statutorily provided by the Parliament, we direct Chief Secretaries of the States in respect of which action plans have not been filed i.e. Assam, Jharkhand, Maharashtra, Punjab, Uttarakhand and Nagaland to forthwith furnish such action plans. If such action plans are not furnished till 30.04.2019, the States will be liable to pay environment compensation of Rs. 1 crore each. The States, where action plans are found to be deficient and deficiencies are not removed till 30.04.2019, will be liable to pay Rs. 25 lacs each. The timeline for execution of the action plans is six months from the date of finalization of action plan. Budgetary provision must be made for execution of such plans.*
10. *If action plans are not executed within the specified timeline mentioned above, the defaulting States will be required to pay Environmental Compensation and may also be required to furnish performance guarantee for execution of plans in extended timeline as per recommendations received from CPCB. The CPCB may make its recommendation in the matter before the next date.*
11. *The CPCB is directed to update the number of cities. If on parameters applied, there are other cities, not included in list of 102, such cities may be also included.*
12. *We also direct CPCB to prepare noise pollution map and identify hotspots and categorize the cities with specified hotspots and propose a remedial action plan. Such report may be furnished within three months by e-mail at nqt.filing@gmail.com. We are informed that in 7 cities noise*

monitoring mechanism has already been established by the CPCB which is functioning on continuous basis and is connected to the server of CPCB. The CPCB may consider setting up such mechanism in all the cities which are found to be having noise level above approved the threshold."

9. Apart from the above orders, it may be noted that vide order dated 16.01.2019 in O.A No. 606/2018¹⁶ the Tribunal directed the Chief Secretaries of all the States/UTs to appear in person with their reports on significant environmental issues affecting the health of people, including the issue of NACs¹⁷ dealt with in the present proceedings. On 23.04.2019, in O.A NO. 606/2018¹⁸, the Tribunal directed CPCB to explore preparation of Annual Environment Plan for the country giving status of compliance of environmental norms and gaps, if any. In the process, to undertake assessment of damage to the environment in monetary terms so that by applying the 'Polluter Pays' principle, the cost of damage is recovered from identified polluters. Further orders passed by the Tribunal which have direct bearing on air quality include action for management of bio-medical waste¹⁹, plastic waste management²⁰, prohibiting polluting activity in polluted industrial areas²¹ and remediation of legacy waste dumpsites in the country²².
10. We proceed to consider the status of compliance of our directions with regard to NACs. In the light of the report submitted by the CPCB on 15.07.2019. For convenience, we propose to consider the matter with reference to following questions:

¹⁶ Compliance of Municipal Solid Waste Management Rules, 2016

¹⁷ Para 40 of Order dated 16.01.2019

¹⁸ Compliance of Municipal Solid Waste Management Rules, 2016 (State of Tamil Nadu)

¹⁹ O.A No. 710/2017

²⁰ Execution Application No. 13/2019

²¹ O.A No. 1038/2018

²² O.A No. 519/2019 and O.A No. 386/2019

- 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 08.10.2018²³?
- 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.

a. Nationwide Ambient Air Quality Monitoring Programme

11. According to the learned counsel for the CPCB, on instructions from the officers present, about 1,500 more real time Online Continuous Ambient Air Quality Monitoring Stations (OCAAQMS) are required to be installed to compile air quality data in the country. At present number of such stations is inadequate and consequently the correct

²³ (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.

picture/status with regard to number of NACs is not been reported and that the number could be more than what has been reported. Strict compliance be reported in terms of our orders dated 08.10.2018 and 15.03.2019. The report of the CPCB on the subject states minimum number of required stations both manual and CAAQMS in terms of number of people as per 2011 census:

Population (Census 2011)	Minimum No. of manual station under NAMP	Minimum no of proposed CAAQMS	Total
1,00,000- < 5,00,000	1-Background 2-Residential/ Commercial	1-Residential	4
5,00,000- <10,00,000	1-Background 2-Residential/ Commercial	1-Residential 1-Traffic dominant area 1- Commercial	6
10,00,000- <50,00,000	1-Background 2-Residential/ Commercial	2-Residential 1-Traffic dominant area 1- Commercial 1-Industrial area	8
>50,00,000	1-Background in upwind direction 1-Background in down wind direction 2-Residential/ Commercial	4-Residential 3-Traffic dominant area 3- Commercial 2-Industrial area	16

12. It will thus be appropriate that the optimal figure is duly worked out by the CPCB and whatever number of manual and real time online continuous AAQMS are found necessary to be installed, may be installed within six months and linked to the central server of CPCB. The action with regard to this is necessary from CPCB, SPCBs and PCCs. For this purpose, environmental compensation fund available with CPCB, SPCBs and PCCs may be utilized. It has been stated by the learned Counsel of CPCB that thousands of crores of funds are lying with SPCBs and PCCs under the 'Consent' head in addition to Environmental Compensation and these funds needs to be utilized for

environmental restitution. Accordingly, each State PCB and PCC may give details of such funds to this Tribunal and the CPCB within two months. The State PCBs and PCCs must also submit action plan for utilization of these funds to CPCB within next two months. The CPCB within two months thereafter scrutinize and approve the same in terms of our orders dated 08.10.2018 and 15.03.2019.

b. Interactive Public Grievance Redressal Portal

13. The CPCB has developed such a portal "Sameer". On the same pattern, all the States/UTs need to develop their respective interactive portals within two months from today, if not already done clearly defining the accountable personnel for grievance redressal and time span for grievance redressal.

c. Directions for Additional NACs identified

14. As per report of the CPCB, 20 more cities have been identified as NACs as follows:

Sl. No.	State	Sl. No.	City
1.	Andhra Pradesh	1.	Anantapur
		2.	Chitoor
		3.	Eluru
		4.	Kadapa
		5.	Ongole
		6.	Rajahmundry
		7.	Srikakulam
		8.	Vizianagaram
2.	Gujarat	9.	Vadodara
3.	Maharashtra	10.	Thane
4.	Odisha	11.	Kalinga Nagar
5.	Tamilnadu	12.	Trichy
6.	Telangana	13.	Sangareddy
7.	Uttarakhand	14.	Dehradun
8.	West Bengal	15.	Asansol
		16.	Barrackpore
		17.	Durgapur
		18.	Haldia
		19.	Howrah
		20.	Raniganj

We feel that this number may increase further given the fact that there is a huge gap in terms of air quality monitoring regime in our country. Meanwhile, the action plans may need to be prepared by the respective States for the said 20 NACs also, by the concerned states within next three months and after its approval by CPCB within two months the States referred to above must initiate time bound action on remediation within next three months.

d. Action Plans for NACs

15. The report shows that action plans for 92 cities have been approved by the CPCB. Out of the 102 action plans that were submitted by 30.04.2019 the CPCB has not approved 10 NACs' action plans namely Guwahati, Nagaon, Nalbari, Sibsagar, Silchar (Assam), Dhanbad (Jharkhand), Bangalore (Karnataka), Mumbai, Nasik and Solapur (Maharashtra). CPCB has issued directions to the concerned States for implementation/revision of the said plans. The same ought to be finalized within two months. The States which have failed to comply in terms of our order dated 15.03.2019 are liable to pay CPCB, the environmental compensation as per the extent of default.

e. Components of Action Plans in conformity with order of this Tribunal

16. The action plans provide for short term, medium term and long-term strategies as well as source apportionment, carrying capacity studies, public awareness, complaint redressal mechanism and budgetary support. The implementation strategies mentioned in the report include source apportionment and carrying capacity assessment with a view to fix liability to enforce the regulatory regime. Since source

apportionment and carrying capacity assessment has not been done, a model/SOP for source apportionment and carrying capacity needs to be worked out within two months by the CPCB and replicated for all such cities. We may note that some models on carrying capacity have been noted in our order dated 29.07.2019 in O.A. No. 635/2017, *Ramesh Chand vs. State of Himachal Pradesh & Ors.*, Order dated 05.10.2018 in O.A. No. 218/2017, *Society for Preservation of Kasauli and its Environs (SPOKE) Vs. M/s Kasauli Glaxie Resorts and in Yogindra Mohan Sengupta Vs. UOI, MoEF&CC & Ors.*, Original Application No. 121/2014 in context of Shimla Planning Area. By these orders, in the areas of Shimla, Kasauli, Manali and Mcleodganj, construction and certain other activities have been prohibited and regulated. In addition to these, a report of CPCB dated 22.04.2019 filed in O.A No. 568/2016²⁴ on carrying capacity assessment may also need to be looked into. However, the said report is only with reference to PM₁₀ and PM_{2.5}, whereas other pollutants affecting the ambient air quality may also need to be factored in. Further, CPCB report on CEPI Scores for 100 Industrial Areas/Clusters monitored during 2018 is the manifestation of deteriorating environment in term of Water EPI, Air EPI and Land EPI²⁵. Accordingly, CEPI score has been evaluated. The CEPI score is itself a sort of manifestation of carrying capacity of 100 Industrial Areas/Clusters which warrants immediate action in terms of remediation and regulation to ameliorate the condition. The action plans must be read to include all components in terms of order of this Tribunal dated 08.10.2018.

²⁴ Ajay Khara Vs. M/S Container Corporations of India Limited & Ors. Report by the CPCB is in relation to Carrying Capacity for Air Quality for Delhi- NCR

²⁵ The same is subject matter of order of this Tribunal dated 10.07.2019 in O.A. No. 1038/2018

17. The timeline prescribed by CPCB in its report dated 15.07.2019 for reviewing action plans for further micro planning needs to be reduced from six months, preferably to four months in view of severity of problem and adverse impact of air pollutants on public health.

f. Compensation Regime

18. The compensation regime based on 'Polluter Pays' principle is necessary in view of inadequate action under criminal law. There are no figures available about the number of persons convicted and sentenced under the Air Act even though there are various estimates about number of deaths and diseases caused by air pollution.²⁶ The Tribunal is not in a position to verify the said figures, nor expresses any opinion about the correctness thereof. It is made clear that this order is not being based on the said figures but on the data compiled by the CPCB. The fact that number of NACs is rising steeply even though the monitoring regime does not cover all the regions in the country, is evidence of exponential rise in pollution. It also reflects inadequate monitoring and enforcement mechanism. The trend needs to be reversed by paradigm shift in monitoring and enforcement mechanism. The rule of law requires that a person committing an offence or violation is made accountable to law by punishment and by being required to pay monetary compensation on 'Polluter Pays' principle. CPCB must forthwith come out with a compensation regime

²⁶ **Report by the Indian Council of Medical Research** has stated- In 2017, air pollution accounted for 12.4 lakh deaths in India, which included 6.7 lakh deaths due to outdoor particulate matter air pollution and 4.8 lakh deaths due to household air pollution. [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(18\)30261-4/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30261-4/fulltext) **As per the Lancet Journal-** In 2017, 1.24 million deaths occurred in India, which were 12.5% of the total deaths, all attributable to air pollution, including 0.67 million from ambient particulate matter pollution and 0.48 million from household air pollution. Of these deaths attributable to air pollution, 51.4% were in people younger than 70 years. India contributed 18.1% of the global population but had 26.2% of the global air pollution DALYs in 2017. https://www.business-standard.com/article/current-affairs/air-pollution-kills-1-2-mn-indians-in-a-year-third-biggest-cause-of-death-119040300300_1.html **The study titled "State of Global Air 2019" reported that Air pollution kills 1.2 mn Indians in a year, third biggest cause of death.**

as long time has already gone by. The Air Act has been in operation for the last 38 years. With the expertise and data already available, the compensation regime can be finalized preferably within one month. While 'Sustainable Development' and 'Precautionary' principle may *inter-alia* require planning for reducing pollution, violation of norms cannot continue without remedial action. Law has to be enforced without waiting for any further time by suitable regulatory action by way of prosecution and by recovery of compensation. Since it appears that prosecutions are not even remotely proportionate to the extent of violation and may have their own limitations and constraints for the authorities, there is no justification for not taking prompt action by way of compensation recovery to enforce rule of law.

g. Further observations

19. As per the CPCB report dated 15.07.2019, there is a proposal for national level target of 20-30% reduction of PM_{2.5} and PM₁₀ concentration by 2024 under the National Clean Air Programme (NCAP) keeping 2017 as the base year. The timelines to reduce the air pollution by 20%-30% by 2024 needs to be reduced and the target of reduction needs to be increased, having regard to adverse effect on public health and in view of constitutional mandate of fundamental right to breathe clean air. Violation of such fundamental right cannot be allowed to be continued for such a longer time. The NCAP needs to be modified accordingly and a modified plan notified and implemented by the State instrumentalities in letter and spirit.
20. We note that the air pollution caused by DG Sets needs to be part of the action plans which may, if necessary, require retrofitting of

emission-control devices on generators already in use. CPCB may consider this aspect. The NCAP itself provides following action points:

- “1. Introduction of gaseous fuels and enforcement of new and stringent SO₂- NO_x /PM_{2.5} standards for industries using solid fuels.
2. Stricter enforcement of standards in large industries through continuous monitoring.
3. Full enforcement of zig-zag brick technology in brick kilns.
4. Elimination of DG set usage by provision of 24x7 electricity.
5. Control by innovative end of pipe control technologies.
6. Evolve standards and norms for in-use DG sets below 800 KW category.
7. For DG Sets already operational, ensure usage of either of the two options: (a) use of retrofitted emission control equipment having a minimum specified PM capturing efficiency of at least 70%, type approved by one of the 5 CPCB recognized labs; or (b) shifting to gas-based generators by employing new gas-based generators or retrofitting the existing DG sets for partial gas usage
8. Utilize the Gujarat case study for a compelling case for other states to adopt third-party audits for polluting industries for enhancing implementation(States).”

Thus, DG Sets should also be covered by the action plans for all the States/UTs.

21. The action plans also need to incorporate provisions for action against black carbon generators.
22. One of the causes of air pollution is growth of unplanned industrial activities in residential areas. At some places, such activities though prohibited, have been regularized without regard to environmental norms. The same can no longer be allowed to continue and provision has to be made for closing/shifting as per law laid down in *M.C. Mehta vs. Union of India*, (2004) 6SCC 588. The master plans need to be reviewed and wherever such activities are against existing or new norms, the same need to be closed/shifted.

II. Compliance of Noise Pollution Rules

23. The Tribunal considered the issue of noise pollution vide order dated 15.03.2019 in the present matter as this subject is also covered by the provisions of the Air Act. It was held that following steps are necessary to deal with the violations:

"13."

- i. *Training of regulatory machinery and identifying and notifying accountable officers and preparing action plan and monitoring mechanism.*
- ii. *Awareness, particularly among students through Education Department and involvement of Resident Welfare Associations (RWAs), social and religious institutions and volunteers.*
- iii. *Prosecution of violators, seizer of equipment and recovery of compensation from violators.*
- iv. *Requiring installation of noise,*
- v. *measurement meters by those using equipment capable of producing noise higher than the prescribed limit."*

24. Accordingly, the directions were issued to the State Pollution Control Boards (SPCBs) and the Police Department of all the States/UTs to obtain noise monitoring devices, to train the staff regarding use of such devices and to develop a robust protocol for taking action including fixing of noise meters with data loggers on the equipments used for creating noise. Additionally, CPCB was directed to lay down scale of compensation for violation of noise pollution norms and also the conditions to be imposed while releasing any offending equipment which is seized in the course of implementing the noise regulations.

25. Accordingly, the CPCB has in its report dated 15.07.2019, furnished its report on this subject also. It is stated that the manufacturers find

the installation of the limiter meters on noise generating equipments to be economically less viable. This cannot be a ground for not requiring such limiters to enforce the norms of noise pollution on the pattern followed in the States of West Bengal and Tripura. This Tribunal has already issued a direction in the context of Delhi to that effect that noise limiters in sound systems be installed and/or retrofitted, vide order dated 01.08.2019 in O.A. No. 519/2016, *Hardeep Singh & Ors. vs SDMC & Ors.* The said directions will apply to all the States/UTs. Appropriate notifications may be issued by the CPCB/SPCBs/PCCs within three months about the limiters being installed. The compensation regime for noise pollution needs to be worked out within one month by CPCB.

Directions:

26. In view of above discussion, we issue following directions:

- 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.
- 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.

Let further compliance reports be filed before the next date.

List for further consideration on 15.11.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

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August 06, 2019
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T.C.
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