

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH: NEW DELHI

ORIGINAL APPLICATION NO. 1016/2019

IN THE MATTER OF:-

UTKARSH PANWAR

APPLICANT (S)

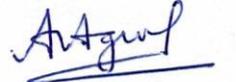
VERSUS

CENTRAL POLLUTION CONTROL BOARD & ORS.

RESPONDENT (S)

INDEX

S.NO.	PARTICULARS	PAGE NO.
1.	SCIENTIFIC REPORT IN THE MATTER O.A NO. 1016 OF 2019 IN COMPLIANCE OF THE HON'BLE NGT ORDER DATED 15.11.2019.	
2.	ANNEXURE- I DIRECTION ISSUED FROM CPCB DATED 27.06.2017 TO ALL SPCBs/PCCs.	
3.	ANNEXURE- II COPY OF HON'BLE NGT ORDER DATED:- 15.11.2019	



(AJAY AGGARWAL)  
SCIENTIST 'E'

CENTRAL POLLUTION CONTROL BOARD  
PARIVESH BHAWAN, EAST ARJUN NAGAR,  
DELHI- 110032

PLACE: - DELHI

DATED: - 13.12.2019

**Scientific Report in compliance of the Hon'ble NGT Order dated 15/11/2019, in the matter of O.A. No. 1016 of 2019, Utkarsh Panwar Vs. Central Pollution Control Board & Ors.**

---

**1. Background:**

The Hon'ble NGT vide its order dated 15/11/2019, issued an interim order to the effect that all brick kilns in NCR may be closed till a scientific study/report is submitted or the situation improves and also directed that CPCB may submit a scientific study/report about the impact of brick kilns including those run on zig zag technology. Such study/report may be completed by 15/12/2019. This order can be reconsidered if the air quality status improves earlier. The Hon'ble NGT found merit in the prayer saying that even brick kilns run on zig-zag technology add to PM<sub>2.5</sub> and their cumulatively impact on air pollution cannot be ignored.

In compliance of above order, it is humbly submitted that brick kilns operate seasonally and kilns in NCR region are presently closed and yet to come into operation. However, in the past, a study of fugitive emission monitoring was carried out by CPCB through the Punjab State Council for Science & Technology (PSCST), to assess the cumulative impacts on air pollution from different type of brick kilns. The study, though dated 2012, covered 50 brick kilns located in five zones of the country i.e. East, West, North, South and Central for proposing revision in the existing brick kiln standards. The findings of this study have been referred in presenting the fugitive dust emissions in different type of brick kilns.

**2. Observations of the study:**

During the study, the following sources of fugitive emissions during manufacturing process in the brick kilns were observed:

- Moulding area of green bricks from a mixture of clay and water.
- Emissions from feeding holes while charging the fuel.
- Crushing of coal, essentially required for some kilns like zig-zag kilns operating on pulverized coal. Coal crushing increased fugitive particulates in atmosphere.
- While loading/unloading the bricks.
- The keri, i.e. dust/ash obtained from the kiln bottom, is loaded at the top of the brick setting for air sealing and thermal insulation.
- The vehicles used for transportation of bricks to and from the kilns.
- High velocity winds create extreme dust conditions in the kilns.

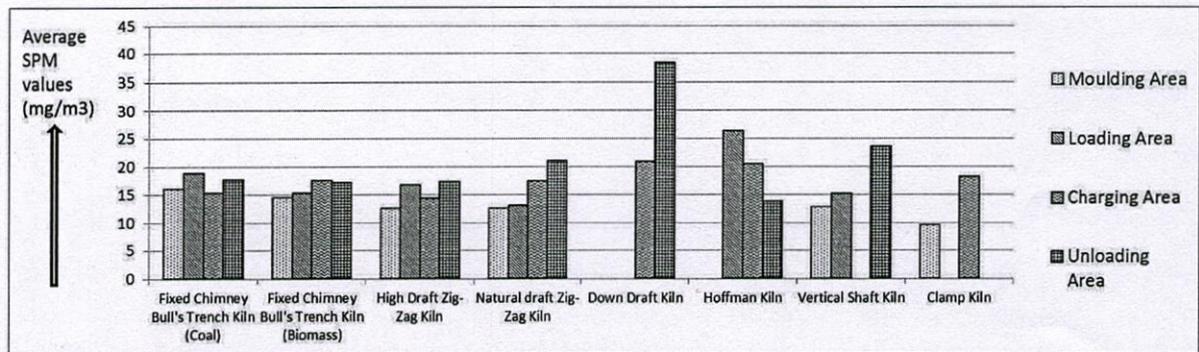
**3. Fugitive Emissions Monitoring:**

For the fugitive emission monitoring, the four locations/stages of work place i.e. moulding area, charging area, loading area and unloading area were selected. The average SPM values as monitored on these four locations of different type of kilns are given in **Table-1 and Figure-1:**

**Table-1: Average SPM values (mg/m<sup>3</sup>) of fugitive emissions in different type of Kilns**

Type of Kilns	Moulding Area	Loading Area	Charging Area	Unloading Area
Fixed Chimney Bull's Trench Kiln (FCBTK) (Coal)	16.08	18.81	15.33	17.69
Fixed Chimney Bull's Trench Kiln (Biomass)	14.55	15.37	17.59	17.16
High Draft Kiln Zig-Zag	12.50	16.73	14.31	17.32
Natural draft Zig-Zag	12.50	13.13	17.50	21.04
Down Draft Kiln (DDK)	-	-	20.83	38.33
Hoffman Kiln	-	26.35	20.42	13.75
Vertical Shaft Brick Kiln (VSBK)	12.81	15.16	-	23.50
Clamp Kiln	9.53	-	18.14	-

**Figure-1: Comparative Graph of SPM values of fugitive emission monitored in different type of kilns**



In view of above data, it is stated that the average fugitive SPM values are almost same in FCBTK and Zig-Zag brick kilns, at all four monitored stages of brick kiln manufacturing process. These dust/ fugitive emissions are localized and add directly to the ground level concentration of the work place. The concentration of dust in a brick kiln depends on location, nature of activity and weather conditions. During high winds the dust concentrations around the kiln will be reasonably high even in the absence of aforesaid activities.

It may be noted that though the stack emissions are less in case of kilns operating on Zig-Zag technology, when compared to the kilns operating on FCBTK technology on the same fuel, the quantum of fugitive dust emissions from all type of kilns are more or less same. In view of this and the fact that dust emissions may also be generated from the movement of vehicles within the premises of the brick kilns, if the moving area is not paved. CPCB has issued the directions under Section 18(1)(b) of the Air(Prevention and Control of Pollution) Act, 1981, dated 27/6/2017 (**Annexure-I**), to all the State Pollution Control Boards and Pollution Control Committees, for prevention and control of air pollution in different type of Brick Kilns. SPCBs and PCCs were directed to ensure that (i) all the moving area around the main Brick Kiln is paved with the bricks to minimize the fugitive dust emissions from the Brick Kiln operations, (ii) fine dust not to accumulate all around the

Brick Kiln and (iii) enforcement of siting criteria guidelines for brick kilns.

In general, SPCBs and PCCs have incorporated the following specific conditions in the Consent to Operate as well as in the Siting Guidelines for the control of fugitive dust emissions:

- Pavement of approach road within the premises of brick kilns,
- A wall of 3 meters height to be constructed on the sides where land is not available for green belt development to prevent fugitive emissions.
- Minimum 33% area of the brick kiln unit to be covered by plantation.
- Multi-layer green belt to be developed along the periphery of brick kilns.

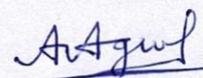
CPCB has been in the process of carrying out another study for assessment of different type of brick kilns w.r.t. source emissions being generated from different type of fuels, in compliance of the order of the Hon'ble NGT in the matter of O.A. No. 1088/2018, Dinesh Chahal & Ors V/s UOI & Ors,. The report is likely to be submitted in the last week of December, 2019. The recommendations based on the outcome of this on-going study may also strengthen the efforts to prevent over all air emissions from the brick kilns.

#### **4. Conclusion and Recommendations:**

On the basis of the study conducted by CPCB, through PSCST, and the observations made during visit to brick kilns, it may be noted that the overall fugitive dust emissions from all type of brick kilns are similar.

The brick kilns should be operated only after meeting the above conditions of the Consent to Operate/ guidelines issued by regulatory bodies, so as to avoid fugitive dust emissions, irrespective of the technology adopted for firing.

SPCBs/PCCs are required to ensure and monitor the compliance of conditions as prescribed in Consents to Operate granted to individual brick kilns in order to control fugitive dust emissions.



Ajay Aggarwal, Scientist 'E'  
CPCB, Delhi

Date: December 13, 2019



केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

Fax/ Speed Post

IPC-V(SS1)/Brick Kiln/2017

June 27, 2017

4877-4911

To:

All State Pollution Control Boards/ PCCs  
(As Per List)

**Sub: Directions under Section 18 (1) (b) of the Air (Prevention and Control of Pollution) Act, 1981 for prevention and control of air pollution in different type of Brick Kilns operated. Regarding**

WHEREAS, amongst others, under Section 17 of the Air (Prevention and Control of Pollution) Act, 1981, one of the functions of the Pollution Control Boards/Committees is to plan a comprehensive programme for the prevention, control or abatement of air pollution in the concerned State/UT and to secure the execution thereof;

WHEREAS, high pollution levels have been generated from the various type of Brick Kilns and exceeding levels of PM 2.5 several times the National Ambient Air Quality Standards notified under the Air (Prevention and Control of Pollution) Act, 1981;

WHEREAS, Chairman Central Pollution Control Board randomly inspected different types of Brick Kilns on 15<sup>th</sup> June, 2017. During the inspection Chairman Central Pollution Control Board observed that the Brick Kiln workers working in a highly air polluted pathetic condition due to air born fine dust prevail all the time in the brick kiln working area, because of movement of the truckters and trucks (Conveyance Systems) on the unpaved area having 4-6 inches fine dust layer all around the Brick Kiln;

WHEREAS, no provision were found to control fine dust fugitive emissions, due to this highly air pollution and pathetic condition prevailing all the time;

WHEREAS, the problem of pollution is further aggravated due to meteorological conditions caused by the onset of winter leading to minimal dispersion of pollutants and high ground level concentration;

WHEREAS, it also observed that there are significant number of Brick Kilns operated without valid consent and even most of Brick Kiln never applied to obtain consent to operate from the respective State Boards;

WHEREAS, CPCB receiving large number of complaints from various part of country mainly related to the siting of the Brick Kilns as well as pollution caused by them;

WHEREAS, no significant progress observed for compliance of conversion of Natural Draft Brick Kiln to Induced Draft Brick Kiln (zig-zag brick setting with rectangular shape of kiln);

*[Handwritten signature]*

Page 1 of 2

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032

Parivesh Bhawan, East Arjun Nagar, Delhi-110032

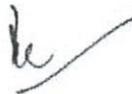
दूरभाष/Tel : 43102030, 22305792, वेबसाईट/Website : www.cpcb.nic.in

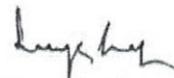
WHEREAS, concerned State Pollution Control Boards are required to enforce and ensure compliance of emission standards/ guidelines by the brick kilns and take action against the brick kilns failed to comply under the Air (Prevention and Control of Pollution) Act, 1981;

NOW THEREFORE, in view of the above and in order to improve the air quality in the region where brick kilns are established, the Chairman, CPCB in exercise of the powers vested under the Air (Prevention and Control of Pollution) Act, 1981 issues the following directions to SPCBs for compliance:

1. All the Brick Kilns operating without permission and valid consent from SPCBs, 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 emissions from the Brick Kiln operations. This condition should be incorporate in the Consent condition while granting the consent by the respective State Boards.
5. Ensure that fine dust not to accumulate all around the Brick Kiln.

The State Pollution Control Boards shall acknowledge the receipt of these directions within a week and submit detailed Action Taken Reports within two weeks thereafter.



  
(S.P. Singh Parihar)  
Chairman, CPCB

Copy to:

28/04/2017

**1. Advisor-CP**

Ministry of Environment, Forest and Climate Change,  
Indira Paryavaran Bhawan, Jorbagh Road, Aliganj  
New Delhi-110003

**2. All the concerned Regional Directorates of CPCB**

**3. I/c IT Division, CPCB**

  
(A. B. Akolkar)  
Member Secretary

1. The Chairman  
Andhra Pradesh Pollution Control Board  
Paryavaran Bhawan, A-III  
Institutional Estate, Sanathnagar  
Hyderabad - 500018.
2. The Chairman  
Arunachal Pradesh Pollution Control Board  
Govt of Arunachal Pradesh, Department of  
Environment & Forests,  
Paryavaran Bhawan, Yupia Road, Papu Nalah,  
Naharlagun-791110
3. The Chairman  
Assam Pollution Control Board  
Bamunimaiden,  
Guwahati - 781 021
4. The Chairman  
Bihar Pollution Control Board  
Beltron Bhawan, IInd floor  
Jawahar Lal Nehru Marg  
Shastri Nagar, Patna - 800 023
5. The Chairman  
Chhattisgarh Environment Conservation Board  
Commercial Complex,  
Chhattisgarh Housing Board Colony,  
Kabir Nagar,  
Raipur, Chhattisgarh - 492001
6. The Chairman  
Goa Pollution Control Board  
Dempo Tower, 1st Floor,  
EDC Patto Plaza,  
Panaji, Goa - 403 001.
7. The Chairman  
Gujarat Pollution Control Board  
Paryavaran Bhawan, Sector 10-A,  
Gandhi Nagar - 382010
8. The Chairman  
Haryana Pollution Control Board  
C-11, Sector-6  
Panchkula  
Haryana-134 109 Chandigarh
9. The Chairman  
Himachal Pradesh Pollution Control Board  
Him Parivesh, Phase-III,  
New Simla - 171 009.
10. The Chairman  
J&K State Pollution Control Board, Parivesh  
Bhawan,  
Forest Complex, Gladni, Narwal, transport  
Nagar,  
Jammu (J&K)
11. The Chairman  
Jharkhand State Pollution Control Board  
T.A. Building, HEC, P.O. Dhurwa,  
Ranchi-834 004
12. The Chairman  
Karnataka State Pollution Control Board,  
Parisara Bhavana, 1<sup>st</sup> to 5<sup>th</sup> Floor  
49, Church Street,  
Bengaluru - 560 001, Karnataka.
13. The Chairman  
Kerala Pollution Control Board  
Plamoodu Junction, Pattom Palace, P.O.  
Thiruvananthapuram - 695 004
14. The Chairman  
Maharashtra Pollution Control Board  
Kalptaru Point, 2<sup>nd</sup> - 4<sup>th</sup> floor,  
Opp. Cine Planet, Sion Circle, Sion (E),  
Mumbai - 400 022.
15. The Chairman  
Madhya Pradesh Pollution Control Board  
Paryavaran Parisar, Sector E-5,  
Arera Colony, Bhopal - 462 016
16. The Chairman  
Manipur Pollution Control Board  
Near Imphal West D.C. Office Complex,  
Lamphelpat, Imphal - 795 004.
17. The Chairman  
Meghalaya Pollution Control Board  
Arden, Lumpynggad,  
Shillong - 793 014
18. The Chairman  
Mizoram Pollution Control Board  
Silver House, Tuikhuahlang,  
Aizwal - 796001.
19. The Chairman  
Nagaland Pollution Control Board Signal Point,  
Dimapur, Nagaland - 797112.

20. The Chairman  
Odisha State Pollution Control Board,  
(Department of Forest & Environment)  
Paribesh Bhawan, A-118, Nilakantha Nagar,  
Unit-VIII, Bhubaneswar - 751 012.
21. The Chairman  
Punjab Pollution Control Board  
Vatavaran Bhawan, Nabha Road  
Patiala - 147 001
22. The Chairman  
Rajasthan Pollution Control Board  
A-4, Jalane Dungri Institutional Area  
Jaipur - 302 004
23. The Chairman  
State Pollution Control Board  
Forest, Environment Wildlife Management  
Department  
Government of Sikkim  
Forest Secretariat,  
Deorali, Gangtok - 737102  
East Sikkim
24. The Chairman  
Tamil Nadu Pollution Control Board  
No. 76, Anna Salai  
Guindy, Chennai - 600 032
25. The Chairman  
Tripura Pollution Control Board,  
Parivesh Bhawan, Pandit Nehru Complex,  
Gorkhabasti P.O. Kunjaban,  
Agartala (W) - 799 006, Tripura.
26. The Chairman  
Uttar Pradesh Pollution Control Board  
Building, No. TC-12V, Vibhuti Khand,  
Gomti Nagar, Lucknow,  
Uttar Pradesh 226010
27. The Chairman  
Uttarakhand Environment Protection &  
Pollution Control Board  
29/290, Nemi Road, Dalanwala, Dehradun -  
248001.
28. The Chairman  
West Bengal Pollution Control Board  
No. 10A, Block - LA, Sector III,  
Bidhan Nagar, Kolkata - 700 091.
29. The Chairman  
Chandigarh Pollution Control Committee  
Additional Town Hall Building  
(2nd Floor) Sector-17C  
Chandigarh - 160 017
30. The Chairman  
Delhi Pollution Control Committee  
4th & 5th Floor, ISBT Building, Kashmere Gate,  
Delhi - 110006.
31. The Chairman  
Daman, Diu & Dadra & Nagar Haveli Pollution  
Control Committee Office of the Dy.  
Conservator of Forests Fort Area, Moti Daman,  
Daman - 396 220
32. The Chairman  
Lakshadweep Pollution Control Committee,  
Lakshadweep Administration, Dept. Of Sc.,  
Technology & Environment  
Kavarati-682 555
33. The Chairman  
Andaman & Nicobar Pollution Control  
Committee  
Van Sadan, Haddo P.O.  
Port Blair - 744 102
34. The Chairman  
Puducherry Pollution Control Committee  
IIIrd floor, Housing Board Complex, Anna  
Nagar, Puducherry - 600 005

Item Nos. 10

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: 15.11.2019

**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  
HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER**

For Applicant(s): Mr. Rohan Thawani, Advocate

For Respondent(s): Mr. Pradeep Misra, Advocate for UPPCB

**ORDER**

1. This application seeks direction to close down all the brick kilns in the NCR till end of February, 2020 or till level of pollution reaches normal levels. According to the applicant, 10% of the air pollution in NCR is on account of operation of brick kilns. The air pollution level in NCR has reached unprecedented levels. While there are other factors which may be separately dealt with, 7000 brick kilns in NCR are

prohibited by Environment Pollution (Prevention and Control) Authority (EPCA) vide order dated 01.11.2019 but those with zig zag technology are allowed to operate.

2. *Prima facie*, we find merit in the prayer. Even brick kilns run by zig zag alleged technology add to PM 2.5. Their cumulatively impact on air pollution cannot be ignored. The 'precautionary principle' of environment requires precaution to be taken. Having regard to the air quality data in NCR in the last 15 days and that expected in the next 3 weeks and having regard to the potential for air pollution, we issue interim order to the effect that all brick kilns in NCR may be closed till a scientific study/report is submitted or the situation improves.
3. In the meanwhile, CPCB may submit a scientific study/report about the impact of brick kilns including those run on zig zag technology. Such study/report may be completed by 15.12.2019. This order can be reconsidered if the air quality status improves earlier.
4. A copy of this order be sent to the Chief Secretaries of NCR, U.P., Haryana, Punjab and Rajasthan which fall within the NCR and the CPCB. CPCB may furnish a status report before the next date by e-mail at [judicial-not@gov.in](mailto:judicial-not@gov.in)

List for further consideration on 18.12.2019.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

Saibal Dasgupta, EM

November 15, 2019  
Original Application No. 1016/2019  
A

