

APARAJITA SINGH  
ADVOCATE  
SUPREME COURT OF INDIA

IN THE SUPREME COURT OF INDIA

CIVIL ORIGINAL JURISDICTION

WRIT PETITION (C) No. 13029 of 1985

IN THE MATTER OF:

M.C. MEHTA

...PETITIONER

-VERSUS-

UNION OF INDIA & ORS

...RESPONDENTS

AFFIDAVIT ON BEHALF OF THE MINISTRY OF ENVIRONMENT,  
FOREST AND CLIMATE CHANGE (RESPONDENT No. 1) IN  
COMPLIANCE OF THE ORDER DATED 17.11.2017 OF THE HON'BLE  
COURT.

I, Ritesh Kumar Singh, Joint Secretary to Government of India in Ministry of Environment, Forest & Climate Change (hereinafter referred to as MoEF & CC), Indira Paryavaran Bhavan, Prithvi Level III, Jor Bagh Road, New Delhi, do hereby solemnly affirm and state as under:

1. That I am working as Joint Secretary to Government of India in Ministry of Environment, Forest & Climate Change and as such, I am conversant with the facts and circumstances of the case and competent to swear this affidavit on behalf of Ministry of Environment, Forest & Climate Change [Respondent No.1].
2. That the above mentioned matter was listed before this Hon'ble Court on 17.11.2017 and vide the said order the Hon'ble Court noted the decision taken by MoEF & CC banning use of Pet coke and Furnace Oil through its direction dated 15.11.2017 to CPCB to issue orders under section 5 of the



Environment (Protection) Act, 1986 to the State of U.P, Haryana and Rajasthan prohibiting any industry, operation or processes using pet coke and furnace oil as fuel with immediate effect until further orders.

3. That pursuant to the communication dated 15.11.2017, a direction has been issued by the Chairman CPCB under section 5 of the Environment (Protection) Act 1986 to the state of U.P., Haryana and Punjab prohibiting any industry, operation or processes using pet coke and furnace oil with immediate effect until further orders.

4. That the learned *Amicus Curie* submitted before the Hon'ble Court that the prohibition on the use of Pet Coke and Furnace Oil will solve only a part of the problem and a direction should also be issued to the effect that there is a ban on the sale of Pet Coke and Furnace Oil in all these three states for being used as fuel and not for other purposes. On the above issue learned ASG sought time to look into the matter.

5. That Hon'ble Court has listed Report Nos. 71 and 78 regarding Comprehensive Action Plan for Air Pollution Control and Supplementary Report on the Comprehensive Action Plan with Timelines on 4<sup>th</sup> December, 2017 for final orders.

6. That Hon'ble Court took cognizance of another application moved by the learned *Amicus Curie* with following prayer and issued notice to be returnable on 4.12.2017:

a) *Direct that the sufficient gas supply be made available so that all power generation in the NCR region is from the power plants using gas as their principal fuel.*

b) *Direct a ban on import of pet coke and furnace oil and confine the use*



*of domestic pet coke for the sole purpose of feedstock.*

- c) Direct the implementation of the 2015 emission standards for power plants as per schedule i.e. by December 2017*
- d) Direct the review of the status of existing coal based power plants and a time bound switch over to natural gas.*
- e) Direct the Union of India to oversee measure to strengthen the distribution of electricity in the NCR region to ensure that there is no shortfall in availability of electricity on 24/7 basis.*

7. That the issues highlighted by Hon'ble Court in Order dated 17.11.2017 were discussed during the Second meeting of the inter-ministerial High Level Committee (HLC) on Air Pollution under the Chairmanship of Secretary MoEF & CC on 21<sup>st</sup> November 2017. Minutes of the meeting is at **Annexure R-1**.

8. That Ministry of Petroleum and Natural Gas informed the HLC that Minister, PNG had taken a meeting on the issue of imposing a ban on import of Pet Coke with all stakeholders on 21.11.2017. It was decided in the meeting that import of petcoke should be banned in view of the environmental hazards due to its use. DGFT shall take further action in implementing this. The proceedings of this meeting is enclosed at **Annexure R-2**. This matter has however yet not been finalized but is under active consideration of the Government.

9. That as regarding the suggestion made by learned *amicus curie* it was noted by the HLC that pet coke could be safely used by cement industries. However, use of pet coke as fuel needs to be strictly regulated due to higher emissions of SOx. MoPNG also stated that they are in agreement for enforcing a ban on the sale of pet coke and furnace oil for



use by industries which is used as fuel and not as feedstock. After detailed deliberations it was decided that suitable mechanism shall be developed by MoEF&CC in this regard. Sale of pet coke and furnace oil should be regulated as per the decision of the HLC on 21.11.2017 (**Annexure R-1**). To this extent as suggested by learned *amicus curie* subject to approval by this Hon'ble Court, MoEF&CC is prepared to modify the direction issued under Section 5 of EPA regarding ban of pet coke and furnace oil.

10. That as far as Report Nos. 71 and 78 regarding Comprehensive Action Plan for Air Pollution Control and Supplementary Report on the Comprehensive Action Plan with Timelines is concerned, Ministry has already filed detailed response with reference to Report No.71 on 26.4.2017 and subsequently a comparative table as desired by Hon'ble Court was filed on 25.10.2017. Accordingly, in its Order dated 27.10.2017, Hon'ble Court has identified recommendation 2.2.1 and 2.2.2 as only pending issue in the matter. That affidavit in reference to the Order dated 27.10.2017 has already been filed by the Ministry on 23.11.2017. ***As far as Report no. 78 is concerned, it is submitted that these timelines have to be discussed within EPCA with all its members and with other various stakeholders to ensure the reasonableness of these timelines. If all the stakeholders are in broad agreement with the timelines, Ministry would support its implementation on the basis of finalization of Report 71 and direction by this Hon'ble Court.***

11. That regarding the application moved by the learned *Amicus* on various issues of power generation, the matter was discussed during the meeting held on 21.11.2017 (**Annexure R-1**) and accordingly, a note has also been furnished by Ministry of Power (**Annexure R-3**) submitting point wise clarification status on various issues.



12. That regarding sufficient gas supply be made available so that all power generation in the NCR region is from the power plants using gas as their principal fuel, as submitted by MoP, the domestic gas supply to these power plants is less as compared with the allotted quantity. Presently, some Natural Gas is being imported by gas based power plants due to shortage of gas and as per the requirement of the States. However, due to high price of imported Regasified Liquefied Natural Gas (RLNG), cost of generation on RLNG is substantially higher than domestic gas, which makes it difficult for scheduling in merit order dispatch.

That the Ministry has also taken pro-active steps to discuss the matter with GAIL for increasing power generation through gas based plants in the NCR region. GAIL has also presented its views in this matter and its letter dated 30.11.2017 is placed at **Annexure R-4**. GAIL has analysed various options for operationalising gas based power plants and also presented fiscal options that need to be considered to make power generation through gas competitive with the tariffs of the thermal power plants. In view of the above it is submitted that for a harmonious view to be taken, detailed consultation needs to be done with MoP, MoPNG, Ministry of Finance, State Government of Delhi and GAIL. After this detailed consultation only can a final view be taken on this issue. ***In view of this it is submitted that six weeks may kindly be provided for the same.***

13. That regarding the review of the status of existing coal based power plants and a time bound switch over to natural gas, Ministry of Power has informed that the availability of domestic Natural Gas in India is very limited. Present availability of domestic natural gas is only 23 MMSCMD which is sufficient to generate only 5,000 MW of power as against the demand of 1,20,000 MW to 1,60,000 MW for the whole country, i.e., it can



only meet 3-4% of total electricity requirement of the country. Therefore, it is not practically feasible to switch over completely from coal based power plants to Natural gas based power plants. GAIL has written to the MoEF & CC (**Annexure R-4**) outlining a possible path for maximizing use of natural gas. **As stated in para 12, this requires detailed discussion with all stakeholders for which six-week time may kindly be granted.**

14. That regarding ban on import of pet coke and furnace oil and confining the use of domestic pet coke for the sole purpose of feedstock, status is as submitted at para 8 above.

15. That further with respect to the ban on use of pet coke and furnace oil in NCR states imposed by Hon'ble Court on 24.10.2017 and subsequently by Ministry and CPCB on 15.10.2017 (**Annexure R-5 and Annexure R-6, respectively**), Ministry has now received representations citing the significant implementation difficulties that have cropped up due to imposition of this ban in absolute terms without any exceptions all across the three NCR states without any prior notice .

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16. That the Ministry has reviewed the representations and accordingly, sector wise views of the Ministry in reference to the ban on pet coke and furnace oil is as given below:

- (i) **Cement Industry:** This issue was deliberated in details in HLC on 21.11.2017 (**Annexure R-1**) it was noted by the Committee that pet coke could be safely used by cement industry. Further, technical inputs from CPCB were also obtained in this regards. The same was obtained vide letter 24.11.2017 and the same is placed at **Annexure R-7**. CPCB has stated that pet coke is used as feedstock in cement plants because of high calorific value and low ash content. The presence of lime stone in cement kilns takes care



of sulphur emission from petcoke. The views of CPCB has been examined in this Ministry and we are in agreement with the same. It may kindly be recalled that the Hon'ble Court had issued an order banning the use of petcoke in the NCR states on 24.10.2017. Subsequently, the Government also issued an order banning the same on 15.11.2017, until further orders. It is submitted that the matter has been reviewed in detail by the HLC, CPCB and the Ministry and we have come to a conclusion that the use of petcoke in cement industry may be permitted. In view of the existing orders of the Hon'ble Court this conclusion is presented for consideration and appropriate orders of the Hon'ble Court.

- (ii) Lime industry:* This issue was also referred to CPCB which has examined the same and given its report on 24.11.2017 (**Annexure R-7**). CPCB has reported that lime kilns have lime stones as raw material and uses petcoke as feedstock rather than combustion fuel. The report of CPCB has been examined in this Ministry and we are in agreement with the same. In fact, lime is used for pollution control in many industries as part of alkaline scrubber technology as de-sulfurizing agent. It may kindly be recalled that the Hon'ble Court had issued an order banning the use of petcoke in the NCR states on 24.10.2017. Subsequently, the Government also issued an order banning the same on 15.11.2017, until further orders. It is submitted that the matter has been reviewed in detail by the CPCB and the Ministry and we have come to the conclusion that the use of petcoke in lime kilns may be permitted. In view of the existing orders of the Hon'ble Court this conclusion is presented for consideration and appropriate orders of the Hon'ble Court.

- (iii) Thermal Power Plants-* M/o Power w.r.t. thermal power plants has informed that there are 128 coal based power generating units of



total capacity 36,138 MW which use coal as primary fuel in boilers and FO as secondary fuel only for start-up/shut down and stabilization for safety of boiler during low load operation and not on continuous basis. The total consumption is miniscule and less than 0.1% of total fuel consumed in a power plant. Existing plants would be required to retrofit light diesel oil (LDO) firing system to convert them from FO to LDO firing system which would require a time period of one year as it involves complete engineering, manufacturing, supply, erection and commissioning by OEM. They also need to empty the present HFO stock to accommodate LDO in those tanks with appropriate license from the explosive licensing authority. Accordingly, they have requested for relaxation for use of FO for a period of one year to allow these plants to convert their existing FO firing system to LDO firing system. Else, it could result in closure of operations in these three states thereby severely affecting the national grid through which electricity demand of various part of the country is met.

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This issue has also been examined by CPCB vide its letter dated 24.11.2017. It is stated that this request merits consideration only to the extent that furnace oil may be allowed as secondary fuel for startup/shut down and stabilisation of safety of boiler during low load operation and not on continuous basis. It has also suggested that MoP be advised to present road map for switching from furnace oil to LDO at the earliest. The views of CPCB have been examined in the Ministry and we are in agreement with the same. MoEF & CC will work with MoP to ensure that a strict timeline is drawn up and implemented to ensure that there is a timely switchover from furnace oil to LDO. It may kindly be recalled that the Hon'ble Court had issued an order banning the use of furnace oil in the NCR states on 24.10.2017. Subsequently, the Government also issued an order banning the same on 15.11.2017,



until further orders. It is submitted that the matter has been reviewed in detail by the CPCB and the Ministry and we have come to the conclusion that the request of MoP should be considered favourably. In view of the existing orders of the Hon'ble Court this conclusion is presented for consideration and appropriate orders of the Hon'ble Court.

17. There have been various representations from different industries requesting for time for switchover from the fuels that have been banned to permissible fuels. These requests are being examined by the Ministry in consultation with CPCB. We are conscious of the fact that there would be a requirement of some time for a shift to the cleaner fuels. This would be specific to each industry and has to be examined with reference to the processes adopted in that industry. ***This road map for switching over to cleaner fuels by various industries would be prepared in the six weeks and then presented to the Hon'ble Court for its orders.***

18. That State of Rajasthan in its representation has stated that sulphur content in fuel results into higher emissions of SO<sub>2</sub> but much lower emissions of particulate matter (PM). The ambient air quality monitoring data by SPCB in all major towns of State of Rajasthan reveals that SO<sub>2</sub> is well within prescribed limit whereas the concentration of PM is exceeding the limit. In this regard they have also referred to specific case of lime kilns and cement plants. They have submitted that Rajasthan is a huge State in terms of geographical expanse, with total area of 3,42,239 sq km and most of the cement plants and lime kilns are located far away from Delhi and NCR Region. That ban extended to entire state of Rajasthan is unfair simply because 2 of 33 district falls in NCR region. Accordingly, in



the said representation they have asked Ministry to review the decision  
dated 15.11.2017 (**Annexure R-8**).



19. That the Hon'ble Court had issued an order banning the use of pet coke and furnace oil in the NCR States on 24.10.2017. That EPCA in its recommendation and its further communication to NCR States, referring to this Hon'ble Court Order had specified that the ban effects NCR region. Subsequently, the Government also issued an Order banning the pet coke and furnace oil in all the NCR States on 15.11.2017, until further orders. The facts are now placed before the Hon'ble Court for passing appropriate Order as regard to the request made by State of Rajasthan.

20. That regarding the implementation of the 2015 emission standards for power plants as per schedule i.e. by December 2017 it is submitted that MoEF & CC notified "Environment (Protection) Amendment Rules, 2015" for Thermal Power Plants (TPPs) on 07.12.2015 regarding Particulate Matter (PM), SO<sub>x</sub>, NO<sub>x</sub>, Mercury emissions and water consumption. As per the notification, all existing stations are required to comply with the new standards within 2 years i.e. by December, 2017 and the new stations including all stations presently under construction are required to meet the new norms w.e.f. 01.01.2017. Prior to this, the environmental norms limit was only for SPM, as decided from Unit to Unit, based on the time of the commissioning of the Unit and subsequent changes thereof.

21. That Ministry of Power has submitted that coal based generation contributes about 80% of electricity requirements in the country. Ministry of Power has expressed its commitment to comply with new environment norms subject to technical feasibility and time required to install emission control equipment. After the issue of new environment norms for TPPs, Central Electricity Authority (CEA) has been continuously engaging with power utilities to install the pollution control equipment. There have been several rounds of discussions at different levels. Procurement and installation of emission control equipment, like Flue Gas Desulphurization (FGD) for SO<sub>x</sub> control, in a unit takes about 3 years' time followed by shut



down of the unit for making necessary connections. Electricity being an essential commodity and un-interrupted power supply in the country needs to be ensured at all times, therefore, many Units cannot be taken out for retrofitting at the same time and it has to be done in phases, so as to avoid problem in the power supply. That considering the above issues, an earliest practical feasible plan extending up-to December 2022 has been prepared for installation of FGDs and other pollution control equipment at the identified coal based units in consultation with Regional Power Committees and the utilities.

**Implementation Plan for TPPs located near NCR:**

Station	Capacity	Implementation plan for FGD
Rajghat TPS, IPGCL	2x 68 MW	Retired
Badarpur TPS, NTPC	3x95 MW, 2x210 MW	To be retired in 2018
Mahatma Gandhi TPP (CLP Jhajjar)	2x660 MW	Jan'2019
Dadri STPS, NTPC	4x210 MW, 2x490 MW	The limited tender to the short-listed parties is being floated on 30-11-2017 and the work is planned to be awarded in December, 2017, with completion schedule of 18 months.
Indira Gandhi STPP, APCPL	3x500 MW, 1x 210 MW	
Panipat TPP, HPGCL	1x210 MW,	To be retired in 2018
Panipat TPP, HPGCL	2x250 MW	Dec'2020 to Apr'2021

That the table above clearly shows that the Government has accorded highest priority for meeting the emission standards for TPPs in the NCR region and most of the work is likely to be completed in the next eighteen (18) months.



## 22. Views of MEF&CC Regarding Emission Standards of TPP

That although the MoEF&CC has notified "Environment (Protection) Amendment Rules, 2015" for Thermal Power Plants (TPPs) on 07.12.2015 and all existing stations are required to comply with the new standards within 2 years i.e. by December, 2017 and also the new stations including all stations presently under construction are required to meet the new norms w.e.f. 01.01.2017, in view of practical difficulties highlighted by MoP and have regard to the fact that coal based TPP contributes to 80% electricity requirement of the country, there appears to be some substance that some more time is required for meeting the standards by TPP. Electricity being an essential commodity and uninterrupted power supply in the country needs to be ensured at all times, therefore, many Units cannot be taken out for retrofitting at the same time and it has to be done in phases, so as to avoid problem in the power supply.

In view of aforesaid, this matter is placed before the Hon'ble Court seeking appropriate Order having regards to aforesaid facts.

23. That regarding the Union of India to oversee measure to strengthen the distribution of electricity in the NCR region to ensure that there is no shortfall in availability of electricity on 24/7 basis, MoP has submitted that as per Electricity Act 2003, the responsibility of providing 24x7 power to all consumer rests with State Discoms. To meet the demand, Discoms are to undertake power purchase, provide adequate infrastructure and ensure adequate power to consumers. However, to supplement the efforts of the States, Government of India has provided allocation of Power from Central Sector Stations from time to time as per the needs of the States. That as on 31.10.2017, Power demand was 4723 MW in the state of Delhi along with Central Allocation of 4812MW, States own Generation was 1935 MW and tied up power was 1047 MW. Thus making



total power availability to the tune of 7795MW and thus power tied up by Delhi is sufficient to meet its present demand.

24. That the facts stated in this affidavit are true and correct to my knowledge based on record maintained by the office of the deponent.



**DEPONENT**

(रितेश कुमार सिंह)  
RITESH KUMAR SINGH  
संयुक्त सचिव/Joint Secretary  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Min. of Environment, Forest and Climate Change  
भारत सरकार, नई दिल्ली  
Govt. of India, New Delhi

**VERIFICATION**

I, the above named deponent do hereby solemnly affirm and state that the contents of this affidavit are true and correct to the my knowledge based upon the record maintained by the office of deponent and nothing material has been concealed therefrom.

Verified at New Delhi on this day of , December, 2017.



**DEPONENT**

(रितेश कुमार सिंह)  
RITESH KUMAR SINGH  
संयुक्त सचिव/Joint Secretary  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Min. of Environment, Forest and Climate Change  
भारत सरकार, नई दिल्ली  
Govt. of India, New Delhi



**MINUTES OF THE MEETING OF THE HIGH LEVEL COMMITTEE ON AIR POLLUTION  
UNDER THE CHAIRMANSHIP OF SECRETARY, MOEFCC HELD ON 21<sup>ST</sup> NOVEMBER  
2017 IN MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**

Second meeting of the High Level Committee on Air Pollution was held under the Chairmanship of Secretary MoEFCC on 21<sup>st</sup> November 2017 at 1600 hrs in Kaveri Conference Hall of Ministry of Environment, Forest and Climate Change. Secretary welcomed all the participants and gave a background of the meeting. He stated that the committee would continue to meet every 10 days for the next three months to ensure that there is a coordinated effort among all stakeholders and a road map is chalked out to ensure that there is no recurrence of severe + AQI levels in the coming days. List of participants is enclosed at **Annexure-I**.

The meeting then proceeded to take up matters as per the Agenda.

**1) Review of the air pollution situation and the steps to be taken in the coming days.**

Chairman, CPCB made a presentation on the existing situation of air quality in Delhi and also the reason for severe + category in the second week of November (**Annexure-II**). Secretary, MoEFCC desired that all short term steps outlined in GRAP should be implemented to ensure that severe category does not recur in the next three months. It was also decided that in the medium term, there was a need to ensure that very poor category of AQI (AQI>300) is not witnessed during any time of the year. The Committee should prepare a road map to ensure that this target is achieved.

**2) Status of fire at solid waste dumping sites and mitigation measures to be taken regarding them.**

Chairman CPCB briefed the Committee regarding the steps taken in the matter. IT was mentioned that Secretary, DST and Chairman CPCB had visited the solid waste dump site at Bhalswa. Various steps had been initiated to control fire at the dump sites. DST had also prepared an action plan for mitigation measures at dump sites and the same was shared with the Committee. After detailed deliberations, it was decided that all the MCDs would prepare an action plan for mitigation measures



to be taken at the dump sites based on the technical inputs received from DST and CPCB. This plan should be ready in a week's time.

(Action: MCDs, CPCB and DST)

### **3) Review of actions to tackle stubble burning and the future road map.**

Secretary, Power briefed the Committee about the steps already initiated by NTPC for co-firing coal based power plants with pellets made out of stubble. CMD, NTPC informed that they had already floated tenders for pellet which would be used in the thermal power plants. It was also stated that there was an issue in pellet manufacturing plants being set up by private entrepreneurs. The response in the first tender of NTPC had not been very encouraging. Additional Secretary, NITI Aayog also briefed the Committee about the meetings held in NITI Aayog on this issue. The issue of in-situ utilisation of stubble through happy seeders was also mentioned. Ministry of Agriculture was also taking steps to popularise in-situ utilisation by providing subsidy. Additional Secretary, MoEFCC pointed out that unless long term tenders were issued by NTPC, necessary market cannot develop and therefore requested if NTPC could come up with long term tenders. The suggestion was agreed upon by Secretary, Power. Secretary, MoEFCC mentioned that there was a need to develop district level and state level plans exploring all options and that the role of the State Governments was also extremely vital in this issue and that we should work in close coordination with them. After deliberations it was decided that a separate meeting of the Committee would be held on this issue in the first week of December where all stakeholders (including Ministry of Agriculture and State Governments of Punjab and Haryana) would be invited.

(Action: MoEFCC)

### **4) Review of pollution from brick kilns.**

Chairman CPCB informed the Committee that there has been good progress in shutting down non-compliant brick kilns. As of now brick kilns have been shut down till March 15, 2018 as part of GRAP. It is also expected that all brick kilns would convert to zig zag technology in the next six months. A suggestion that brick kilns should be powered through solar power was made by Secretary, Power. It was decided that CPCB



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and DST would examine the feasibility of the same in coordination with MNRE and report back to the Committee.

(Action : CPCB and DST)

**5) Ban on sale of pet coke and furnace oil for use as fuel in the three NCR States.**

The committee noted the suggestion made by the *Ld. Amicus Curiae* before the Hon'ble Supreme Court in the M.C. Mehta case and need to file response of the Government on this issue by the next hearing on 4.12.2017. The Committee further noted that use of pet coke had been banned through a Notification issued by CPCB under section 5 of the EP Act in Delhi and NCR States pursuant to the direction issued by MoEFCC. The issue under consideration was whether the sale should also be banned since enforcement of a ban on sale would be easier compared to enforcement on a ban on use.

JS, MoPNG informed the Committee that they are deliberating on the issue of ban on import of pet coke and that Minister, PNG had taken a meeting on the issue with all stakeholders. He stated that a final view in the matter was likely to be taken shortly. It was noted by the Committee that pet coke could be safely used by cement industries. However, use of pet coke as fuel needs to be regulated due to higher emissions of SOx. JS, MoPNG also stated that MoPNG was in agreement for enforcing a ban on the sale of pet coke and furnace oil for use by industries which were not using the same as feedstock. After detailed deliberations it was decided that an advisory would be issued by MoEFCC/ MoPNG to all the refineries stating that sale of pet coke and furnace oil should be regulated so as to ensure that it is not used as fuel and cause emission.

(Action: MoEFCC, MoPNG)

**6) Status of implementation of 2015 emission standards for power plants.**

JS, Ministry of Power informed that in order to meet SOx standards, Fuel Gas De-sulpharisation (FGD) technology was required needing extra space. Accordingly, power plants which were established before 2003 were not in a position to install the technology. Hence it should be mandated only for the power plants which came up after 2003. Further



all power plant can't be upgraded simultaneously since it requires shutting down power plants for three to six months and this would entail a complete black out. The technology would be implemented in the various power plants in a phased manner. The process has already been initiated and it is expected that it would be completed by the year 2022. Annual targets have also been set and action is being taken to achieve these targets. The thermal power plants in Delhi NCR region are being taken up on priority and are likely to be completed in the next 18 months. He also stated difficulties associated with meeting norms related to NOx emissions

After detailed deliberations, it was decided that Ministry of Power will provide chronological details of the initiatives that have been taken with respect to meeting these standards since 2015. There is need to highlight the compliance with respect to particulate matter and efforts to ensure compliance of SOx in a phase-wise manner using FGD. With respect to NCR, MOP was requested to provide detailed note within three days for submitting a consolidated response in Supreme Court by MoEFCC. It was also decided that a senior representative of MoP should also be present in the briefing for ASG in this matter.

(Action : MoP, MoEFCC)

**7) Shift generation of power to gas plants and fully operationalise Bawana plant.**

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**8) Review of existing coal based power plants and a time bound switch over to natural gas for the NCR region.**

These two issues were considered together by the committee in view of the IA filed by the *Amicus Curiae* before the Hon'ble Supreme Court. JS, Ministry of Power informed that Badarpur power plant had already been closed down. Further, NTPC power plants in Dadri and Jhajhar in NCR meet emission standards and are compliant with all environmental norms.

It was noted that the Bawana gas plant was running at about 25% capacity. *Amicus Curiae* had mentioned in the Court that gas based plants should be used to full capacity to discourage use of thermal power plants in the Delhi NCR region. It was also noted that power from the gas based plant would be more expensive than the thermal plants and therefore would not qualify under the policy of merit order despatch. Secretary, MoP stated that a view could be taken that no



new thermal power plants would be set up in the Delhi NCR region. However, any change in the policy of merit order despatch would have large implication in terms of cost for the discoms and would have to be deliberated in detail. AS, NITI Aayog submitted that gas would be a costly option which would burden the discoms and ultimately the consumers. He also stated that power could be brought into Delhi from plants elsewhere. AS, MoEFCC stated that sudden changes in the regulatory environment were not desirable and decisions should be based on scientific evidences.

After detailed deliberations, it was decided that Ministry of Power would evolve a suitable response in consultation with all stakeholders and provide the same to MoEFCC in the next three days for incorporation in the consolidated response of the Government.

(Action : MoP, MoEFCC)

**9) Setting up of PMU with externally hired professionals in MoEF&CC to look at mitigation measures which need solutions in the medium term.**

Secretary, DBT stated that there were a large number of components that needed to be tackled simultaneously and on a continuous basis for tackling the issue of air pollution in Delhi. He further stated that officers of various Ministries have duties other than this issue which at certain times could result in a lack of focussed attention to important matters. In this background he suggested that a PMU be set up in MoEFCC with professionals hired from the market who would exclusively work on this matter. Vertical/sub-group could be set up to go into each one of the specific issues that have to be tackled. He also volunteered that DBT would share its experience in operationalising such PMUs and the same could be adopted by MoEFCC. After detailed deliberations it was decided that JS, MoEFCC would coordinate with Senior Advisor DBT and come up with a proposal for setting up of PMU in the next one week.

(Action: DBT, MoEFCC)

10) In conclusion, Secretary, MoEFCC stated that tackling the issue of air pollution in Delhi was one of highest priorities of the Government. All possible steps have to be taken to ensure improvement in air quality in Delhi.



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Secretary, MoEFCC also directed that water sprinkling and vacuum sweeping to combat road dust should continue in Delhi until further orders. He also stated that all activities mandated under GRAP should be strictly enforced in the next three months and it should be ensured that we do not enter into the severe category of AQI in this period.

(Action: Govt. of Delhi, CPCB and MoEFCC)

Meeting ended with Vote of Thanks to the Chair.

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**ANNEXURE-I****List of Participants****Meeting of the High Level Committee on Air Pollution under the  
Chairmanship of Secretary, MoEF&CC held on 21<sup>st</sup> November 2017**

1. Shri C.K.Mishra, Secretary, EF&CC - Chairman
2. Dr. K.Vijay Raghavan, Secretary, Ministry of Bio- Technology
3. Shri Arun Kumar Mehta, Additional Secretary, MoEF&CC.
4. Shri S.P.S.Parihar, Chairman, CPCB
5. Shri Ritesh Kumar Singh, Joint Secretary, MoEF&CC
6. Shri Sandeep Poundrik, Joint Secretary, MoPNG.
7. Shri Keshav Chandra, Secretary Environment, Govt. of NCT Delhi.
8. Shri R.P.Gupta, Additional Secretary, NITI Aayog.
9. Shri P.D.Siwal, Ex- Officio, Additional Secretary, Central Electricity Authority.
10. Shri M.K.Parida, Principal Secretary (Home), Govt. of NCT Delhi
11. Dr. A. Senthil Vel, Advisor, MoEF&CC
12. Dr. Shruti Rai Bhardwaj, Joint Director, MoEF&CC
13. Dr. H. Kharkwal, Joint Director, MoEF&CC
14. Shri V.Babu, General Manger, (Env. Engg), NTPC
15. Shri R.K.Baderia, General Manger, (Env. Engg), NTPC
16. P.K. Mohapatra, Executive Director, NTPC
17. Shri P.Tiwari, Executive Director, NTPC
18. Shri G.Venu, General Manger, (PE-M) Project Engineering Management.
19. Shri Gajendra Singh, Director (Marketing), GAIL.
20. Shri A.K.Gupta, Director
21. Shri Prashant Gargava, Additional Director, CPCB
22. Dr .Neeraj Sharma, Head, Departement of Science & Technology
23. Dr.Krishna Kanth Pulicherla, Scientist 'C, Departement of Science & Technology



24. Dr. Priti.Singh, Scientist 'C, MoEF&CC
25. Dr. Dhvani Mehta, Vidhi Centre for Legal Policy.

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MEETING OF COMMITTEE ON NCR AIR QUALITY, 21<sup>th</sup> November, 2017

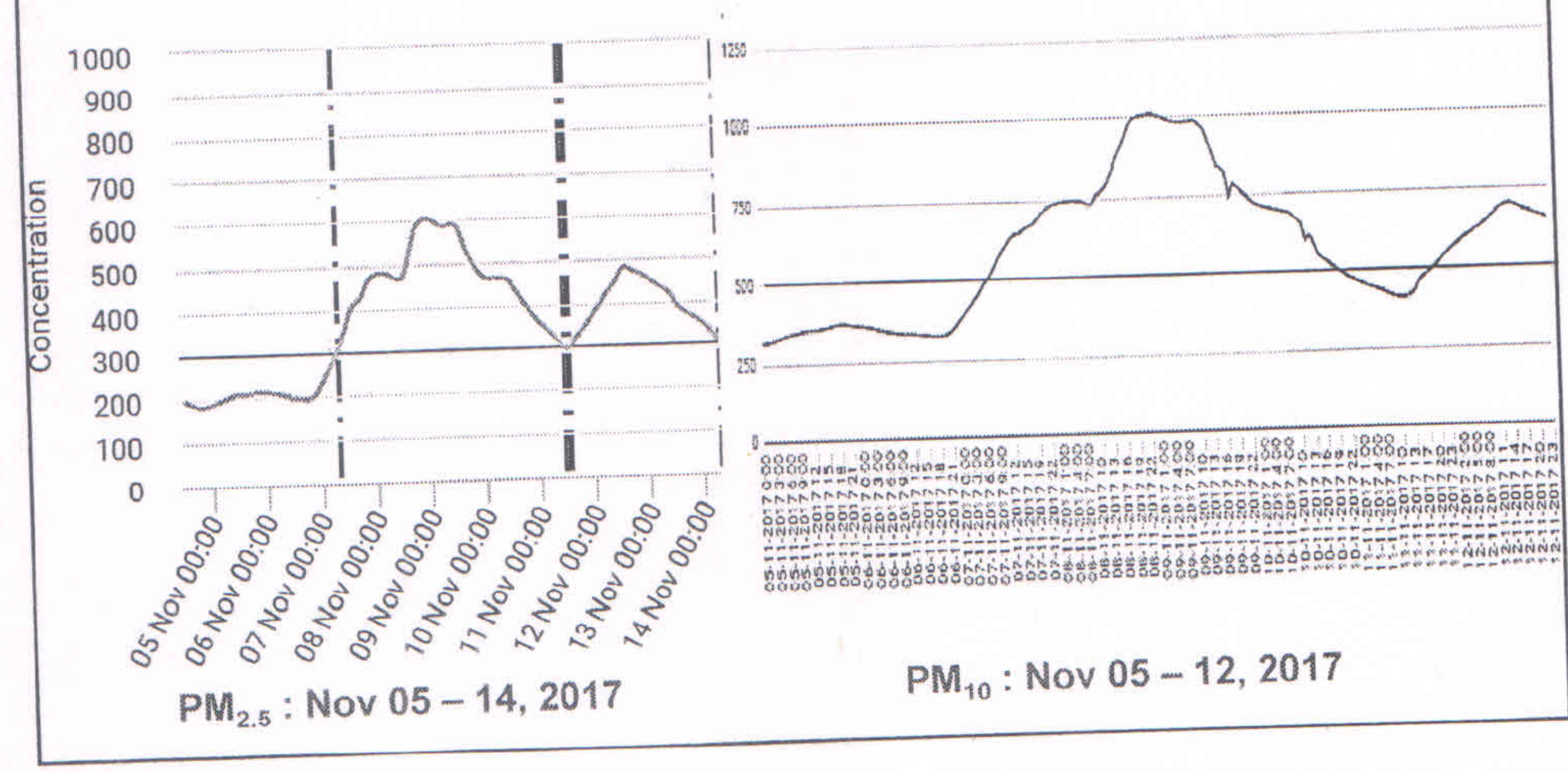
# REVIEW MEETING ON DELHI AIR QUALITY STATUS, ACTIONS & WAY FORWARD



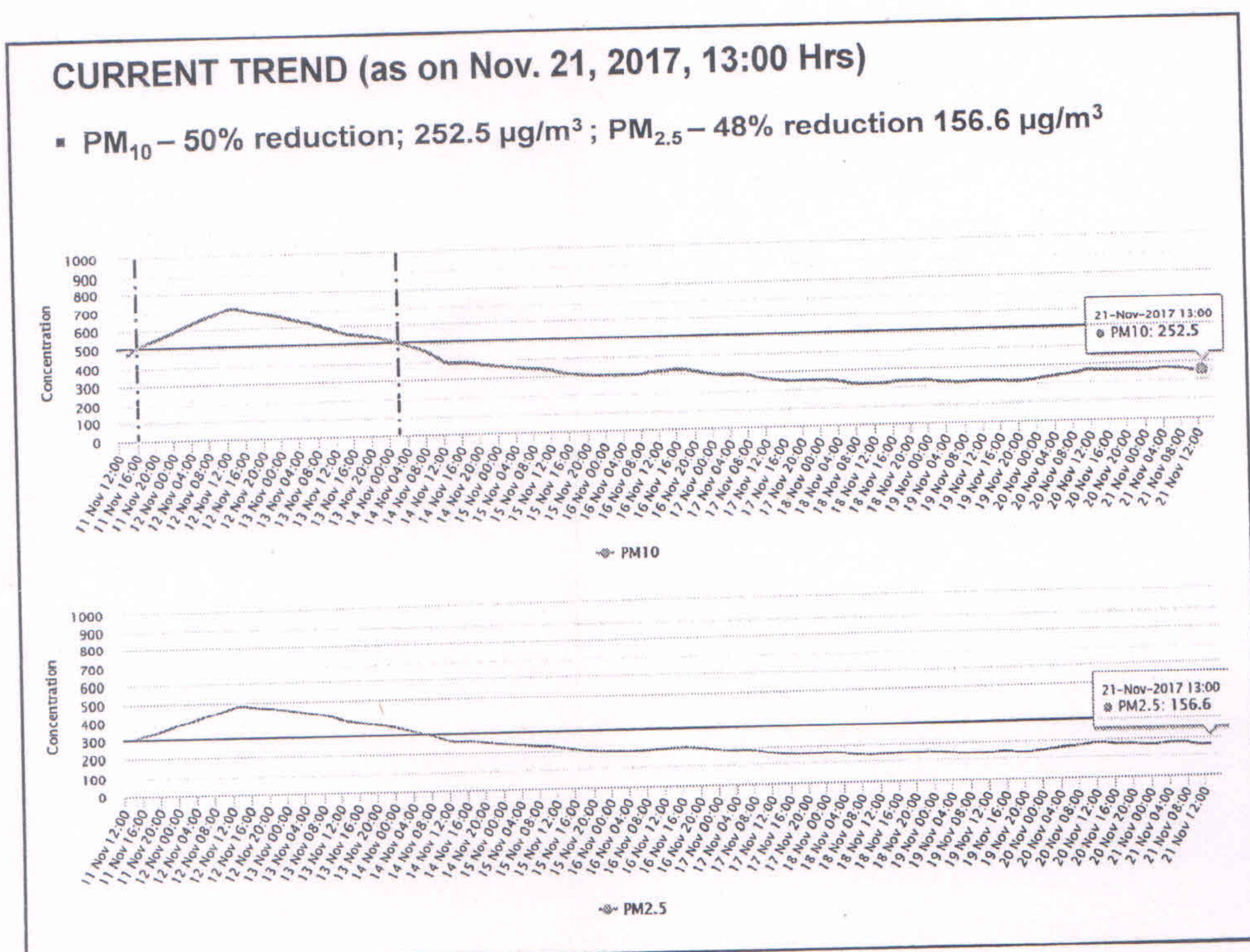
Central Pollution Control Board, Delhi

## TREND OF EPISODIC SEVERE AIR POLLUTION

- 'EMERGENCY' levels for 165 hours (November 07 - 14, 2017)
- Peak values on November 09, 2017 (00:00 hrs – 01:00 hrs)  
 $PM_{10}$  – 890.5  $\mu g/m^3$  (std. 100  $\mu g/m^3$ ) ;  $PM_{2.5}$  – 603.5  $\mu g/m^3$  (std. 60  $\mu g/m^3$ )







## REASONS FOR AIR POLLUTION CRISIS

### Restricted Dispersion of Pollutants

- Extremely low surface winds (as low as 5km/hour; average 6.8 km/hour)
- Low mixing depths (as low as 290m)

### Stubble Burning

- NW winds since 6<sup>th</sup> November, 2017 – bringing Delhi downwind of Haryana & Punjab stubble burning sites
- Day before peak on 9<sup>th</sup> November, 2017 – 2109 active sites in Punjab; NW winds; Sangrur (703), Mansa (128), Patiala (105) in the upwind; 25% contribution (SAFAR)

### Beyond Boundaries

- Dust laden westerly winds from Gulf countries; 40% contribution Nov 08, 2017; anti-cyclonic circulation over northern plains pushed & trapped pollutants on surface



#### IMMEDIATE ACTIONS TAKEN

- 'SEVERE' category actions as per Graded Response Action Plan
- Daily tracking/ reviewing situation and advise to EPCA by Task Force, headed by CPCB
- Field visit of CPCB teams at 09 toll entry points; compliance reported; traffic jam due to unplanned implementation
- Issued advisory on 8<sup>th</sup> November to EPCA for implementation of following measures:
  - Closure of coal based industries in NCR
  - Closure of construction activities – Delhi, Faridabad, Gurugram, Ghaziabad, Noida and Greater Noida
  - Free public bus transport till 10.11.17
  - Zero tolerance on unauthorized industrial activities
  - Readiness for odd-even scheme for private vehicles

#### PROACTIVE INITIATIVES

##### Field deployment of CPCB teams in Delhi

- Chairman, CPCB's visit to Bhalaswa Landfill site – 15.11.17; SCN to North MCD
- 40 teams deployed since 1<sup>st</sup> September – Ground feedback on pollution activities and status of GRAP implementation
- On the spot reporting to DPCC via WhatsApp; Weekly Reports to DPCC, Offices of LG & Chief Secretary, Delhi, EPCA
- Prominent polluting activities observed – Open dumping of wastes, Traffic congestion, Open burning, Construction activities, Road dust
- Hotspot interventions (Anand Vihar, Punjabi Bagh, DTU, R K Puram, Shadipur, Mandir Marg)
- Chairman, CPCB wrote to Chairman EPCA on 11<sup>th</sup> October



## INTERACTION

### Meetings/Directios

- Secretary wrote to Chief Secretaries for strict enforcement, 08.11.17
- PMO – 09.11.17, 13.11.17, 15.11.17; follow up actions on PMO meeting
- Secretary held a meeting of the Committee on 10.11.17
- Meeting at Niti Ayog, 14.11.17
- Meeting with Secretary, DST on Bhalaswa landfill emissions & brick kiln technology – 17.11.17

### Regular Interaction with concerned agencies

- Monthly review meetings
- WhatsApp Group
- Four NCR towns for more focused actions

### Media

Television channels, Akashwani & FM Radio – AQ status, actions taken, advisories to people.

## DIRECTIONS ISSUED BY CPCB

### Under Section 18 (1) (b) of The Air Act, 1981

- DPCC (19.09.17) – Action on field feedback on air polluting activities
- NCR SPCBs (13.09.17) – Vigorous implementation of GRAP, Constitution of Special Field Teams

### Under Section 5 of E (P) Act, 1986

- Municipal Commissioners (01.11.17) – Actions to control air pollution
- NHAI (01.11.17) – Effective dust control measures
- Commissioner, Traffic Police (01.11.17) – Traffic management at busy intersections
- North DMC (15.11.17) – SCN for Bhalaswa landfill
- Chief Secretaries, UP, Rajasthan, Haryana (15.11.17) – Ban on Petcoke & furnace oil



**FORECAST**

- W-NW winds; through Haryana & Punjab till 25<sup>th</sup> November
- Dip in maximum mixing height; increase in wind speed
- Favorable atmospheric circulation
- Expected ‘Very Poor’ AQI with prominent pollutant as PM<sub>2.5</sub>

**AQI PAST TREND**

Months	Good	Satisfactory	Moderate	Poor	Very Poor	Severe
	(0–50)	(51–100)	(101–200)	(201–300)	(301–400)	(>401)
Nov 2016	*	*	*	03	17	10
Dec 2016	*	*	*	01	24	06
Jan 2017	*	*	02	09	20	*

**CONCERNED AGENCIES TO REMAIN ON ALERT**

**ACTIONS TO PREVENT RECURRENCE IN FUTURE**

- Technology based interventions on stubble burning, suggested by NITI Ayog – Speedy implementation (prior to next winter)
- Strict enforcement of GRAP – Agencies responsible to be accountable
- Enforcement of revised norms in Power Plants in NCR on priority
- Augmentation of public transport
- Use of technology for Traffic Management
- Aggressive campaign for ensuring public participation



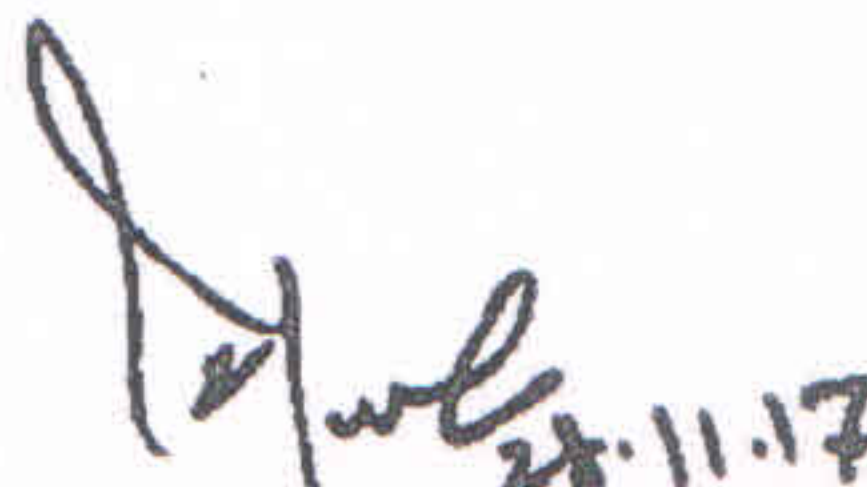
No. R-42011/7/2014-OR.II (Vol.I)  
Government of India  
Ministry of Petroleum & Natural Gas  
.....

Shastri Bhawan, New Delhi  
Dated the 28<sup>th</sup> November, 2017

**OFFICE MEMORANDUM**  
.....

**Subject :** Minutes of the meeting held under the Chairmanship of Minister, Petroleum & Natural Gas and Skill Development & Entrepreneurship on pollution impact of Petcoke and implications of utilisation of Petcoke in the Industry on 21.11.2017 in Ministry of Petroleum & Natural Gas, Shastri Bhawan, New Delhi.

The under-signed is directed to refer to the meeting on the subject mentioned above taken by Minister, Petroleum & Natural Gas and Skill Development & Entrepreneurship on 21.11.2017 and to enclose herewith a copy of the minutes of the said meeting for information and taking necessary action.

  
(Pawan Kumar)  
28.11.17

Under Secretary to the Govt. of India  
Tel: 011-23074369

1. The Secretary  
Ministry of Micro, Small & Medium Enterprises,  
Udyog Bhawan, New Delhi.
2. The Secretary  
Ministry of Coal,  
Shastri Bhawan, New Delhi
3. The Secretary  
Ministry of Environment, Forests & Climate Change,  
Indira Paryavaran Bhawan, New Delhi
4. The Secretary  
Department of Heavy Industry,  
Udyog Bhawan, New Delhi
5. The Secretary  
Department of Commerce,  
Udyog Bhawan, New Delhi



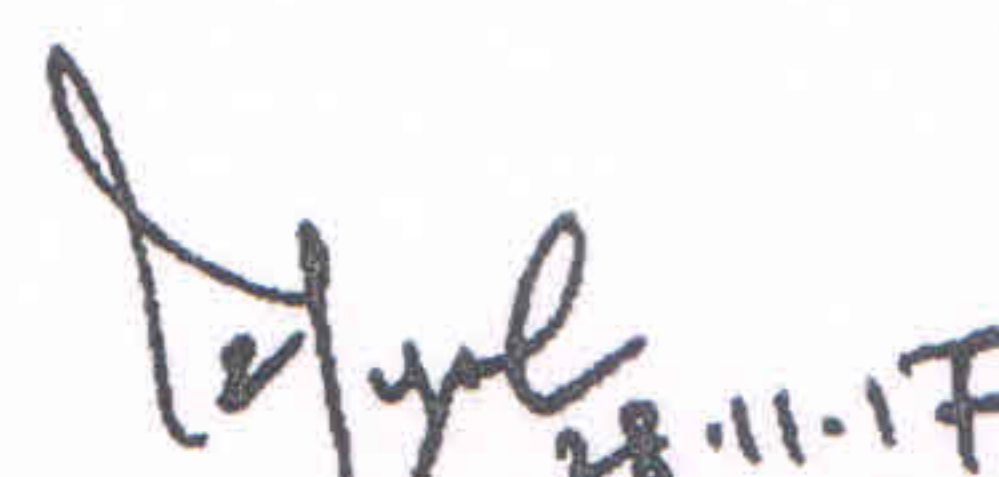
27

6. The Secretary  
Department of Industrial Policy & Promotion,  
Udyog Bhawan, New Delhi
7. The Director General  
Directorate General of Foreign Trade,  
Udyog Bhawan, New Delhi
8. The Chairman,  
CPCB,  
New Delhi
9. The Chairman,  
IOCL,  
New Delhi
10. DG, PPAC  
Scope Complex, New Delhi

Copy to : Shri Ajit Kumar, Deputy Secretary, Prime Minister's Office, w.r.t.  
PMO ID No. Nil dated 14.11.2017

Copy for information to:

1. PS to Minister, PNG and Skill Development & Entrepreneurship
2. PS to Secretary, MoP&NG
3. PS to JS(R), MoPNG

  
(Pawan Kumar)

Under Secretary to the Govt. of India



MINUTES OF THE MEETING HELD UNDER THE CHAIRMANSHIP OF MINISTER, PETROLEUM & NATURAL GAS AND SKILL DEVELOPMENT & ENTREPRENEURSHIP AT 11:00 AM ON 21.11.2017 ON POLLUTION IMPACT OF PETCOKE AND IMPLICATIONS OF UTILISATION OF PETCOKE IN THE INDUSTRY

A meeting was held under the Chairmanship of Minister, Petroleum & Natural Gas and Skill Development & Entrepreneurship on pollution impact of Petcoke and implications of utilisation of Petcoke in the Industry at 11.00 am on 21.11.2017 in Conference Hall of the Ministry of Petroleum & Natural Gas, Shastri Bhawan, New Delhi.

2. The list of participants is at Annexure.

3. A presentation was made by JS(R), MoPNG regarding the Petcoke consumption, import and impact on pollution. The following main points were brought out in the presentation :-

- i) Supreme Court has banned the use of Furnace Oil and PetCoke in Uttar Pradesh, Haryana and Rajasthan w.e.f., 1.11.2017. The Use of Furnace Oil and Petcoke in Delhi is already banned since 1996.
- ii) The import of Petcoke in India is continuously growing for the last few years. The import of Petcoke in the year 2012-13 was 3.3 million tonne which has increased to 14.4 million tonne in the year 2016-17, which is more than 300 per cent increase. Major part of Petcoke is coming from USA, which has put stringent norms on use of Petcoke in the country.
- iii) As far as impact of usage of Petcoke in pollution is concerned, Petcoke has sulphur levels of 70,000 to 80,000 PPM as compared to 5,000 to 10,000 PPM of coal and 50 PPM of petrol and diesel (BS-IV fuel quality). Hence, usage of Petcoke as fuel leads to high sulphur emissions.
- iv) It has been informed that when Petcoke is used in cement plants in manufacturing cement, the sulphur is absorbed in the process and the pollution impact is minimal. On the other hand when Petcoke is used as fuel, the pollution impact is more due to high sulphur levels.

4. The Minister for Petroleum & Natural Gas and Skill Development & Entrepreneurship stated that it is clear that use of Petcoke as fuel in the country has



adverse impact on environment leading to serious health issues and Government has to take a call on import of Petcoke as well as regulating the use of domestic Petcoke. He also said that recent severe pollution levels in Delhi has indicated that we should move to cleaner fuels immediately and use of polluting fuel should be minimised.

5. Chairman, CPCB, said that Petcoke usage has high SOx and NOx emissions. Studies have indicated that Petcoke contributes to 41 per cent of secondary particulate matter of Delhi NCR region. Hence, use of Petcoke, as a fuel in industry has a very severe impact on pollution levels

6. Representative of Ministry of Environment, Forests & Climate Change (MoEF&CC) agreed that use of Petcoke as fuel in the industry has adverse impact on environment and consequently on health of people. He mentioned that MoEF&CC has notified draft standards for 34 industries utilising Petcoke. He also mentioned that while use of Petcoke in organised sector and big industries can be monitored through emission standards, enforcement in unorganised sector is a challenging task. He informed that as per Order of Supreme Court, MoEF&CC has already imposed a ban on usage of Petcoke in Delhi and States of Uttar Pradesh, Haryana and Rajasthan. He stated that MoEF&CC supports the proposal to ban import of Petcoke in the country and regulates the use of domestic Petcoke to industries like cement industry and petcoke gasification plants with minimal pollution impact.

7. JS(R), MoPNG stated that as per information given by MRPL, Karnataka State Pollution Control Board has given instructions to MRPL to supply Petcoke only to cement industry which is considered to be a non-polluting industry as far as usage of Petcoke is concerned. It was suggested that a similar approach can be taken and MoEF&CC should issue directions in this regard for domestically produced Petcoke.

8. Secretary, MSME and JS, Department of Heavy Industry stated that they have not received any representations on this issue and in case of regulation of Petcoke usage, industries may shift to other alternative fuels.

9. DG, DGFT stated that it is possible to ban import of Petcoke only if use of the same is banned in the country in view of adverse impact on health of people. It may not be WTO compliant if the import is banned but the use in the country is permitted. He also stated that imposition of higher duties on import within the bound rate may also be possible to discourage import of Petcoke. These issues can be examined once a formal proposal is received.



10. Minister for Petroleum & Natural Gas and Skill Development & Entrepreneurship stated that Public Sector Oil Refineries are making plans to use domestically produced Petcoke for gasification. Till domestic production of Petcoke is taking place, its usage cannot be stopped as its storage or disposal will create a bigger environmental problem. However, import of Petcoke may be stopped and industry may shift to alternative fuels. As far as domestically produced Petcoke is concerned, it should be ensured that it is utilised only in industries where sulphur is absorbed in the manufacturing process (for example Cement industry, gasification plants) and not released in atmosphere.

11. After detailed deliberations, the following decisions were taken:-

- i) Import of Petcoke in the country should be banned. MoEF&CC has supported this proposal. MoPNG will write to DGFT in this regard and DGFT will take appropriate action to implement this.
- ii) As far as domestically produced Petcoke is concerned, its utilisation should be restricted to industries where sulphur is absorbed in the manufacturing process and not released in atmosphere. MoEF&CC will evolve a suitable mechanism to implement this restriction. MoPNG will issue advisory to Refineries to adhere to these restrictions and sell petcoke to prescribed industrial units.
- iii) As far as alternative fuels are concerned, Industry presently using Petcoke may shift to cleaner fuels.

12. The meeting ended with a vote of thanks to the Chair.

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Annexure

List of Participants in the Meeting held under the Chairmanship of Minister, PNG at 11:00 AM on 21.11.2017 on pollution impact of Petcoke and Implications of utilization of Petcoke in the Industry.

Ministry of Petroleum & Natural Gas

1. Shri Dharmendra Pradhan, Minister - in the Chair
2. Shri Sandeep Poundrik, Joint Secretary (Refinery)
3. Shri Ajit Kumar, Deputy Secretary (Refinery)

Ministry of Ministry of Micro Small & Medium Enterprises

1. Shri Arun Panda, Secretary

Ministry of Coal

1. Dr. Anindya Sinha, Adviser (Projects)

Ministry of Environment, Forest and Climate Change

1. Shri A.K. Mehta, Additional Secretary

Department of Heavy Industry

1. Shri Vishvajit Sahay, Joint Secretary

Directorate General of Foreign Trade (DGFT)

1. Shri Alok Chaturvedi, Director General

Central Pollution Control Board

1. Shri SPS Parihar, Chairman

Center for High Technology (CHT)

1. Shri Brijesh Kumar, Executive Director

Petroleum Planning and Analysis Cell (PPAC)

1. Smt. A. Das, Director General
2. Smt. B.M. Sujatha, Additional Director
3. Shri Rohit Dawar, Additional Director

Indian Oil Corporation Ltd. (IOCL)

1. Shri B.S Canth, Director- Marketing
2. Shri S.K. Sharma, Executive Director (Gas)
3. Shri P. Ghosh, Chief General Manager (T)
4. Shri R.S. Sisodhi, Chief General Manager



**Note on issues raised in the order dated 17.11.2017 of the Hon'ble Supreme Court in Writ Petition No. 13029/1985 for hearing on 4.12.2017:**

- a) Direct that sufficient gas supply be made available so that all power generation in the NCR region is from power plants using gas as their principal fuel.***

Most of the power demand of Delhi is being met from power plants located outside NCT of Delhi which does not contribute to pollution load of Delhi. It has already been decided to close the only coal based power plant in NCT of Delhi, Badarpur Power Plant, w.e.f. June, 2018. After this, almost all the power requirement of Delhi would be met from power plants located outside NCT of Delhi. At present also, Badarpur Power Plant is not operating under GRAP and almost all the power requirement of Delhi is being met from power plants located outside NCT of Delhi.

Besides, the availability of domestic Natural Gas in India is very limited. Present availability of domestic natural gas is only 23MMSCMD which is sufficient to generate only 5,000 MW of power as against the demand of 1,20,000 MW to 1,60,000 MW for the whole country, i.e., it can only meet 3-4% of total electricity requirement of the country.

At the current price of imported Liquefied Natural Gas (LNG), the cost of generation would be around Rs 6.00/kWh to Rs7.0/kWh which is very expensive as compared to other sources of generation, which is in the range of Rs.3/kWh-Rs.4/kWh

- b) Direct a ban on import of pet coke and furnace oil and confine the use of domestic pet coke for the sole purpose of feedstock.***

It is submitted that there is no grid-connected power plant in the country using pet coke as fuel for power generation. Present installed Generation capacity available in the country is sufficient to meet the power demand arising out of stopping of generation by other units based on pet coke and furnace oil(as primary fuel).

However, it is submitted that there are about 128 coal based power generating units of total capacity of around 36,138 MW in the states of U.P., Delhi, Rajasthan and Haryana which use coal as a primary fuel in boilers and furnace oil as secondary fuel only for start-up/shut down and stabilization for safety of boiler during low load operation and not on continuous basis. The total consumption of furnace oil is miniscule. i.e. less than one thousandth part (0.1%) of total fuel consumed in a power plant. Such units cannot restart their operations, if it is put under shut down for any planned/forced outage or emergency tripping.

Existing plants would be required to retrofit light diesel oil (LDO) firing system to convert them from Furnace oil to LDO Firing System which would require a time period of one year as it involves complete tendering, engineering, manufacturing, supply, erection and commissioning



by original Equipment manufacturers (OEM). Also, they need to empty the present HFO stock to accommodate LDO in those tanks with appropriate license from the explosive licensing authority.

If the ban on use of Furnace oil is not relaxed, even for minuscule amount, it would adversely affect the operations of these plants located in these States and would even result in closure of operations, thereby severely affecting the national grid through which electricity demand of various part of the country is met.

In this extreme situation, NTPC preferred applications, I.A Nos. 123017 and 123018 in WP No. 13029/1985, for impleading itself and modification of order dated 24.10.2017 before the Hon'ble Supreme Court. These applications were listed before the Hon'ble Court on 22.11.2017, wherein the Court orally observed that in light of the direction dated 15.11.2017 issued by CPCB, no modification is possible and only CPCB can provide appropriate exemption. As a result, these applications were withdrawn.

#### PRAYER

In view of the above and considering the fact that supply of electricity is an essential service and required to be supplied 24x7, exemption for use of furnace oil as secondary fuel for a period of one year may be granted to allow these plants to convert their existing furnace oil firing system into LDO firing system for compliance of the order of Hon'ble Supreme Court and the directions of CPCB.

#### ***c) Direct the implementation of the 2015 emission standards for power plants as per schedule i.e. by December 2017.***

India is having coal based installed capacity of around 193 GW and is spread across all regions in the country. Another around 66 GW coal based capacity is under construction. Coal based generation contributes about 80% of electricity requirements in the country.

MoEF&CC notified "Environment (Protection) Amendment Rules, 2015" for Thermal Power Plants (TPPs) on 07.12.2015 regarding Particulate Matter (PM), SO<sub>x</sub>, NO<sub>x</sub>, Mercury emissions and water consumption. As per the notification, all existing stations are required to comply with the new standards within 2 years (i.e. by December, 2017) and the new stations including all stations presently under construction are required to meet the new norms w.e.f. 01.01.2017.

Prior to this, the environmental norms limit was only for SPM, as decided from Unit to Unit, based on the time of the commissioning of the Unit and subsequent changes thereof.

Ministry of Power has expressed its commitment to comply with new environment norms subject to technical feasibility and time required to install emission control equipment. After the issue of new environment norms for TPPs, Central Electricity Authority (CEA) has been continuously engaging with power utilities to install the pollution control equipment. There have



been several rounds of discussions at different levels with power utilities in the country and with Ministry of Environment, Forest and Climate Change, including at the level of Secretary and Hon'ble Minister. Procurement and installation of emission control equipments, like Flue Gas Desulphurization (FGD) for SO<sub>x</sub> control, in a unit takes about 3 years' time followed by shut down of the unit for making necessary connections. Electricity being an essential commodity and uninterrupted power supply in the country needs to be ensured at all times, therefore, many Units cannot be taken out for retrofitting at the same time and it has to be done in phases, so as to avoid problem in the power supply.

#### **SO<sub>x</sub> Norms:**

Before issuance of new norms by MoEF in 07.12.2015, there were no environment norms for SO<sub>x</sub> emissions. After several rounds of discussion and consultation with various stakeholders and experts, it was decided that for complying with new norms for SO<sub>x</sub>, Installation of Flue Gas Desulphurization (FGD) is required in the power plants. Considering the above issues, an earliest practical feasible plan extending up-to December 2022 has been prepared for installation of FGDs and other pollution control equipments at the identified coal based units in consultation with Regional Power Committees and the utilities.

16 units totaling 6380 MW have already installed FGD system for SO<sub>x</sub> control. Further, 5524 MW comprising of 48 units have CFBC boilers, which does not require installation of FGD for SO<sub>x</sub> reduction. Accordingly, as on date, 63 units of 11654 MW capacity are compliant with new SO<sub>x</sub> emission norms. Besides, NTPC has floated tender(s) for 42 Units totaling to around 25,000 MW and the technical bids are scheduled to be opened on 30-11-2017. For units which have completed 5 to 15 years of operation (18 Units of approx. 9,000 MW capacity), NITs are proposed to be floated in the next phase by NTPC.

The installation of pollution control equipment in TPPs near NCR has been given priority in this plan.

#### **Implementation Plan for TPPs located near NCR:**

Station	Capacity	Implementation plan for FGD
Rajghat TPS, IPGCL	2x 68 MW	Retired
Badarpur TPS, NTPC	3x95 MW, 2x210 MW	To be retired in 2018
Mahatma Gandhi TPP (CLP Jhajjar)	2x660 MW	Jan'2019
Dadri STPS, NTPC	4x210 MW, 2x490 MW	The limited tender to the short-listed parties is being floated on 30-11-2017 and the work is planned to be awarded in December, 2017, with
Indira Gandhi STPP, APCPL	3x500 MW, 1x 210 MW	



		completion schedule of 18 months.
Panipat TPP, HPGCL	1x210 MW,	To be retired in 2018
Panipat TPP, HPGCL	2x250 MW	Dec'2020 to Apr'2021

Regarding NTPC Plants, FGD has already been installed in 4 Units – 1 Unit (1X500 MW) at Vindhyachal and 3 Units (3 x 250 MW) at Bongaigaon NTPC has floated tender(s) for 42 Units totaling to around 25,000 MW and the technical bids are scheduled to be opened on 30-11-2017. For units which have completed 5 to 15 years of operation (18 Units of approx. 9,000 MW capacity), NITs are proposed to be floated in the next phase. For a new Project at Telangana (3 x 800 MW), installation of FGD is a part of the main project. In the upcoming project at Patratu, it is a part of the scope of work of the Main Plant.

#### **Suspended Particulate Matter (SPM) emissions:**

At present, only 66 GW capacity would require up-gradation of Electrostatic Precipitators (ESPs) to comply with new norms and balance capacity in the country meets the revised norms for Suspended Particulate Matter. Since upgradation of ESPs requires shutdown of Units, the installation of additional fields of ESP has been planned along with shutdown for FGD installation. Most of the thermal power plants in NCR are compliant to the revised Particulate Matter norm notified by MoEF&CC.

#### **NOx emissions:**

Regarding revised norms for NOx, there is no proven technology available to control the NOx levels to meet the new norm of 100 mg/Nm<sup>3</sup> which is suitable for domestic coal which has ash content as high as 45%. Globally available technologies for NOx control like Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR) have not been tested for high ash content coal. NTPC has invited world-wide technology providers to experiment in different Units for their technology and to advise what is going to be practically achievable NOx level.

In the meanwhile, it has been proposed to install Over Fired Air (OFA) system and low NOx burners (LNB) in power plants to achieve the NOx emission below 600 mg/Nm<sup>3</sup>.

#### ***d) Direct the review of the status of existing coal based power plants and a time bound switch over to natural gas.***

The availability of domestic Natural Gas in India is very limited. Present availability of domestic natural gas is only 23MMSCMD which is sufficient to generate only 5,000 MW of power as against the demand of 1,20,000 MW to 1,60,000 MW for the whole country, i.e., it can only meet 3-4% of total electricity requirement of the country. Therefore, it is not practically feasible to switch over from coal based power plants to Natural gas based power plants.



- e) *Direct the Union to oversee measures to strengthen the distribution of electricity in the NCR region to ensure that there is no shortfall in availability of electricity on 24/7 basis.*

As per Electricity Act 2003, the responsibility of providing 24x7 power to all consumers rests with State Discoms. To meet the demand, Discoms are to undertake power purchase, provide adequate infrastructure and ensure adequate power to consumers.

However, to supplement the efforts of the States, Government of India has provided allocation of Power from Central Sector Stations from time to time as per the needs of the States.

As on 31.10.2017, Power demand in the state of Delhi along with Central Allocation, States own Generation and tied up power are given in following Table:

State	Demand-MW(as on 31.10.2017)	Central Allocation MW	Own Generation MW	Tied-up Power MW	Total power available MW
Delhi	4723	4812.65	1935.40	1047.88	7795.93

It can be seen that power tied up by Delhi is sufficient to meet its present demand. As per Power Supply Position (Current Year) the shortage/shortfall of energy and Peak is 0.1% and 0.4% respectively. Details of Energy requirement v/s Energy supply and Peak Demand v/s Peak Met is given tables below.

**Table 1. Energy Supplied and Shortfall**

State	April 2017 to October, 2017			
	Energy Requirement	Energy Supplied	Energy Not Supplied	
	(MU)	(MU)	(MU)	(%)
Delhi	22088	22073	15	0.1

**Table 2. Peak Demand Met and Shortage**

	April 2017 to October, 2017
--	-----------------------------



State	Peak Demand	Peak Met	Demand not Met	
	(MW)	(MW)	(MW)	(%)
Delhi	6553	6526	27	0.4

Discoms are also empowered to buy power for Short- Term basis and bilateral sources. Government of India has launched a web portal for e-Bidding i.e. "DEEP (Discovery of Efficient Electricity Price) Portal" on 12th April, 2016 to bring uniformity and transparency in power procurement by the DISCOMs and to promote competition in electricity sector. This e-bidding portal is helping short term power procurement and medium term power procurement by State Discoms. This is expected to result in overall reduction of cost of procurement of power.

Further, Government of India has taken up a joint initiative with all States/UTs for preparation of State specific documents for providing 24x7 power supply to all households/homes, industrial & commercial consumers and adequate supply of power to agricultural consumers as per State policy. This initiative aims at ensuring uninterrupted supply of quality power to existing consumers and providing access to electricity to all unconnected consumers by 2019 in a phased manner.

The States of Delhi, UP and Haryana have already signed their respective documents and the roll-out plans related to generation, transmission and distribution as mentioned in these Documents are under various stages of implementation.

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गेल (इंडिया) लिमिटेड

(भारत सरकार का उपक्रम - महारत्न कंपनी)

GAIL (India) Limited

(A Government of India Undertaking - A Maharatna Company)

ANNEXURE R-4

38  
गेल भवन,  
16 भीकाएजी कामा प्लेस  
नई दिल्ली-110066, इंडिया  
GAIL BHAWAN,  
16 BHIKAJI CAMA PLACE  
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GAIL/2017/MoEF&CC/NCR/01

Dated: 30<sup>th</sup> Nov. 2017

Sh. Ritesh Kumar Singh, IAS  
Joint. Secretary,  
Ministry Of Environment, Forest and Climate Change  
Jorbagh Road,  
New Delhi - 110003

**Sub: Operationalization of gas based power generation from Delhi based plants for abatement of ambient air pollution in NCT.**

Dear Sir,

The issue of poor ambient air quality and the possible long term effects of such poor air quality on the lives of citizens, especially children and the elderly has assumed national importance and led to wide spread concern amongst the general public.

A number of measures are being implemented or are under consideration by the Central and State Governments in order to effectively manage the issue of ambient air quality. Recently the Hon. Supreme Court has also taken cognizance of the issue and issued orders to restrict the consumption of polluting fuels viz. Petcoke and Furnace Oil by industries in NCR and surrounding States in order to ameliorate the situation.

In addition to the steps to manage industrial and vehicular emissions, it is also important to consider the effects of coal based power generation on ambient air quality in NCR and develop measures to sustainably find alternatives to such coal based generation. Total coal based capacity in NCR air shed is ~ 3840 MW and current coal based generation is approx. 1880 MW from NTPC Dadri & Jhajjar Thermal Power Station. NTPC Badarpur (Capacity 700 MW) is currently under shut-down in accordance with the directions of Graded Response Action Plan (GRAP). As per estimates, 1800 MW of coal based generation is responsible for an emission load equivalent to approximately 36 lakh cars (In case the entire coal based capacity in NCR Air shed (3840 MW) is operational, the emission load will be equivalent to ~ 76 lakh cars).

It is pertinent to note that 2100 MW of gas based power generation capacity including the highly efficient PPCL Bawana Power Station (1500 MW) remains highly under-utilized/partially stranded although natural gas based power generation emits around 60% lower Co<sub>2</sub> and 90% lower PM, Sox, NO<sub>x</sub> per kWh of electricity as compared to coal based generation.

Various options to operationalize gas based power plants in NCR have been evaluated and a detailed brief on the issue is annexed herewith.

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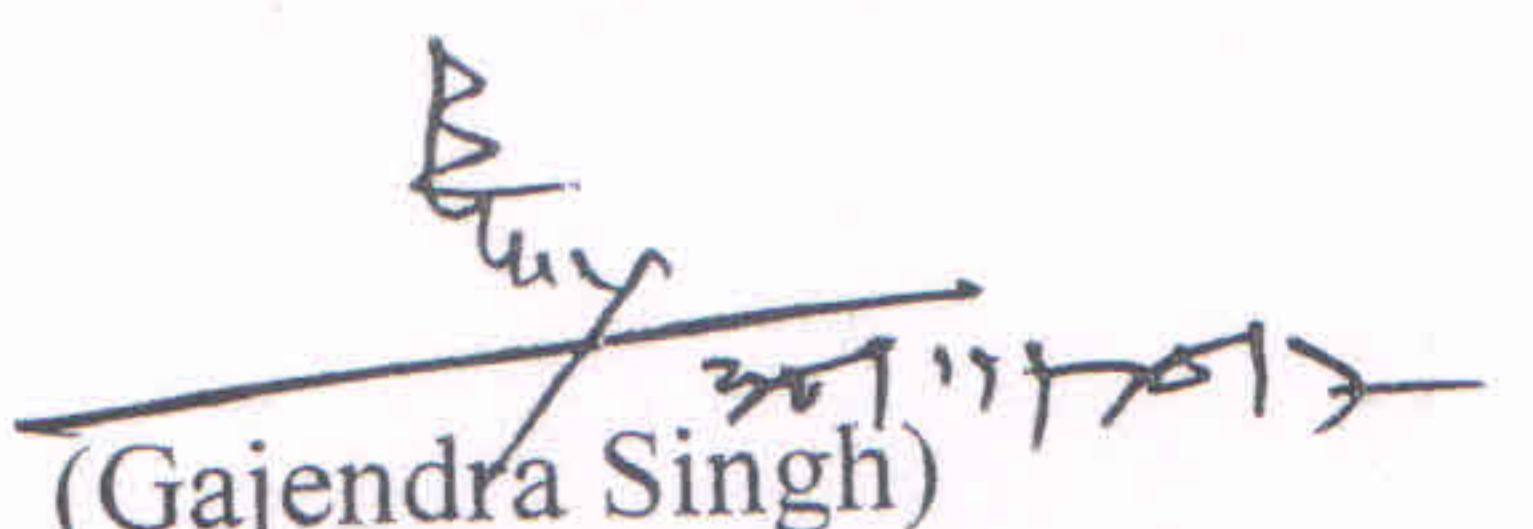


Considering the fact that gas based power plants in NCR do not face any infrastructural constraints, significant environmental gains can be realized in NCR without any delay by substituting coal based power generation with natural gas based power. Further, GAIL is also willing to do its bit to find a solution to the issue by contributing concessions in pipeline transportation tariff and marketing margin on supply of natural gas, subject to requisite regulatory approvals.

Further, on the lines of incentives given to Renewable based power generation; natural gas based generation can be incentivized by extending "Must-Run" status to gas based plants (Must Run status are not subject to merit order based dispatch by DISCOMs) and introducing Gas Power Purchase Obligations of around 1-4% to promote off-take of gas based power by DISCOM's.

Thanking you,

Yours sincerely,

  
(Gajendra Singh)  
Director (Marketing)



## Annexure

Brief on operationalization of NCR gas based plants**A. Advantages of Gas based power generation vis-à-vis coal :**

1. Natural Gas emits 60% lower CO<sub>2</sub> and 90% less PM, SO<sub>x</sub> and NO<sub>x</sub> per kWh of electricity as compared to Coal based power.

**B. Coal based power plants in NCR region (Total capacity 3840 MW & current generation of 1880 MW ):**

Plant & Cap.	Current Gen. (MW)	Variable Cost (Rs/kWh)	Fixed Cost (Rs/kWh)	Total Cost (Rs/kWh)
Badarpur (700 MW)	0	3.7	1.0	4.7
Dadri (1820 MW)	1100	3.31	1.16	4.47
Jhajjar (1320 MW)	780	3.0	1.62	4.62

**C. Use of Gas based power generation in Delhi (Total capacity 2100 MW & current generation of 720 MW - Bawana : 380 MW, PPCL Delhi : 265 MW, IPGCL : 75 MW):**

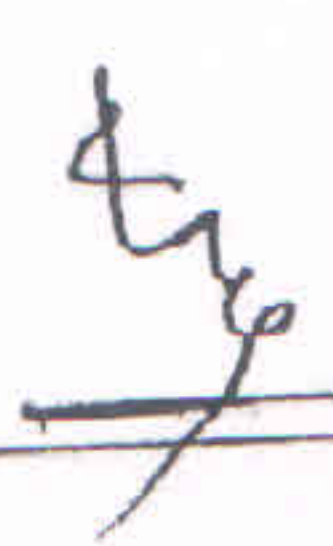
Options	Power Generation	Variable Power Cost (Rs/kWh)	Total cost (considering FC of ~ Rs 1.1/kWh)
<b>Case I</b> Maximize Gas based generation to displace coal (additional RLNG consumption of 7.17 MMSCMD)	PPCL Bawana 1500 MW PPCL Delhi 330 MW IPGCL 270 MW  Total gas generation of 2100 MW	4.35 4.14 5.42	5.45 5.24 6.52
<b>Case II</b> Operate PPCL Bawana at full capacity by diverting domestic gas from PPCL Delhi & IPGCL (additional RLNG consumption of 3.9 MMSCMD)	PPCL Bawana 1500 MW  Total gas generation of 1500 MW	4.07	5.17
<b>Case III</b> Operate PPCL Bawana at 50% capacity with incremental RLNG maintaining current generation at IPGCL & PPCL Delhi (additional RLNG consumption of 1.88 MMSCMD)	PPCL Bawana 750 MW PPCL Delhi 265 MW IPGCL 75 MW  Total gas generation of 1090 MW	3.93 3.59 3.52	5.03 4.69 4.62



## Annexure

### D. Way Forward :

1. The price differential between gas based generation (Case II) and Coal based generation (NTPC Dadri) is approximately Rs 0.70/ kWh.
2. Further, in order to ensure that end consumers of power remain protected from additional impact due to the higher cost of gas based power, following measures can be considered :
  - a. GAIL can provide 50% discount on transportation tariff and 75% discount on Marketing Margin on incremental RLNG off-taken and this will lead to a reduction of power tariff by Rs 0.22/kWh (TC of Rs 4.95/kWh as against a TC of Rs 5.17/kWh in Case II)
  - b. In addition to GAIL's concessions, Generation Companies can also consider reducing their fixed cost recovery on such incremental generation by 50%, which will reduce power tariff by a further Rs 0.31/kWh (TC of Rs 4.64/kWh as against a TC of Rs 5.17/kWh in Case II)
  - c. Delhi has a 0% VAT regime for power generation; however RLNG used for power generation is subject to 18% GST on re-gasification and 12% GST on pipeline transportation for which no Input tax credit is receivable as natural gas is excluded from GST. Inclusion of natural gas in 5% GST regime will lead to rationalization of taxes and increase RLNG consumption in gas based power sector.
    - i. In case gas is included in 5% GST regime in addition to concessions by GAIL & GENCO, power tariff will reduce by a further Rs 0.04/kWh (TC of Rs 4.60/kWh as against a TC of Rs 5.17/kWh in Case II)
  - d. The above measures have nearly bridged the gap between cost of gas & coal based power and GoI can consider allocating appropriate budgetary support to the GENCO/DISCOM through National Clean Energy Fund/PSDF/Taxation revenues from cess on coal for the balance price differential.
  - e. To reduce the requirement of budgetary support, concessions from Regasification terminal operators can also be envisaged on the lines of PSDF Scheme of Ministry of Power.
  - f. Further, significant benefits will also accrue on account of reduction in emissions compared to coal based power plants which are currently not considered for estimation of true cost of coal based power. Reduction in emissions will have a positive impact on ambient air quality in NCR, health and well-being of citizens in the area and help meet national COP 21 commitments.





F. No. Q-18011/159/2017-CPA  
Government of India  
Ministry of Environment, Forest & Climate Change  
CP Division

Indira Paryavaran Bhawan  
Jor Bagh Road  
New Delhi-110003

Dated 15<sup>th</sup> November 2017

**Subject: Ban on use of Pet Coke and Furnaces Oil in Delhi and NCR States-reg**

Air pollution has become paramount issue of concern in recent time more specifically in Delhi and NCR region necessitating significant measures for addressing the issue in comprehensive manner. The Graded Response Action Plan notified by the Ministry of Environment, Forest and Climate Change, specifying measures for control of air pollution in Delhi and NCR is already under implementation. However, it has been observed that in spite of all the ongoing measures, Emergency and Severe levels of air pollution has become recurring phenomenon in Delhi and NCR specially during winter. Accordingly, the need for implementation of long term measures for prevention, control and mitigation of air pollution so as to avoid the recurrence of these emergency situation of air pollution is felt on an immediate basis.

2. Pet Coke and Furnace Oil are reported to be contributor of secondary particulate matter in the ambient air of Delhi and NCR. Therefore, there is a need for abatement of air pollution from use of these fuels. It is also noted that the use of Pet Coke and Furnace Oil is not permitted in Delhi.

3. In view of above, the Central Government in the Ministry of Environment, Forest and climate Change has decided that use of Pet coke and Furnace Oil in Delhi and NCR states will be henceforth banned with immediate effect until further orders.


*mil*



4. Central Pollution Control Board(CPCB) is requested to issue direction under Section 5 of Environment (Protection) Act, 1986 to all the States in NCR viz. Uttar Pradesh, Haryana and Rajasthan prohibiting any industry, operation or processes using Pet Coke and Furnace Oil as fuel with immediate effect until further orders.

5. CPCB is also requested to communicate compliance status with reference to this direction to this Ministry.

This issues with approval of the Competent Authority.

  
(Ritesh Kumar Singh)  
Joint Secretary to Govt. of India  
Tele: 011-24695129  
Fax: 011-24695271

To:

**The Chairman**, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032

CC to:

**The Member Secretary**, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032





**SPEED POST**

B- 33014/40/2017- AQM

November 15, 2017

The Chief Secretary  
(as per list)

**Sub.: Direction under Section 5 of The Environmental (Protection) Act, 1986 regarding prohibition on use of Petcoke & Furnace oil in NCR states- reg.**

WHEREAS, rising air pollution in Delhi is a matter of serious concern, especially with regards to high levels of particulate matter exceeding National Ambient Air Quality Standards, 2009;

WHEREAS, in spite of targeted action implemented as per Graded Response Action Plan, Delhi air quality deteriorated significantly and reached 'Severe +' or Emergency conditions on November 07, 2017 and recurring since then;

WHEREAS, petcoke & furnace oil are some of the contributors to secondary particulate matter in the ambient air in Delhi and NCR and secondary particulate is a consistent source, contributing 25% – 30% (PM<sub>10</sub> – PM<sub>2.5</sub>) during winters and 10% – 15% (PM<sub>10</sub> – PM<sub>2.5</sub>) during summers;

WHEREAS, use of petcoke and furnace oil is not permitted in Delhi;

WHEREAS, Hon'ble Supreme Court vide its order dated October 24, 2017 in WP (c ) 13029/ 1985 in the matter of M.C. Mehta Vs. Union of India directed, "Since the state governments of U.P., Haryana and Rajasthan have no objection and they have not taken any positive action, keeping the pollution level in NCR and particularly in Delhi, we have no option but to place a ban on use of furnace oil and petcoke in the states of U.P., Haryana and Rajasthan. The ban will come into effect from November 01, 2017. We expect the state governments to issue appropriate notification immediately. Even if they do not issue such notification then in compliance with the order of this court, the ban will take effect from 1<sup>st</sup> November, 2017 in any case";

WHEREAS, the central government in the Ministry of Environment, Forest and Climate Change has decided that use of petcoke and furnace oil in Delhi and NCR states will be henceforth banned with immediate effect until further orders;

Now therefore, in exercise of powers delegated to The Chairman, CPCB under Section 5 of The Environmental (Protection) Act, 1986 and in view of above referred Hon'ble Supreme Court's order, it is directed that prohibition on use of petcoke and furnace oil by any industry, operation or processes within your state be ensured, with immediate effect until further orders.

Receipt of this direction may please be acknowledged immediately and action taken report be sent to CPCB within 7 days of receipt of these directions.

(S.P. Singh Parihar)  
Chairman



45

List:

The Chief Secretary  
Government of Uttar Pradesh  
Lal Bahadur Shastri Bhawan  
UP Secretariat  
• Lucknow-226 001

The Chief Secretary  
Government of Rajasthan  
Tilak Marg Secretariat  
Jaipur, Rajasthan- 302 005

The Chief Secretary  
Government of Haryana  
4th Floor, Haryana Civil Secretariat  
Sector-I, Chandigarh – 160 001

Copy to:

• The Chairman  
Environment Pollution Control Authority  
Core 6A, 12<sup>th</sup> floor, India Habitat Centre  
Lodhi road, New Delhi- 110003

: For kind information, please

✓ • Shri Ritesh Kumar Singh  
Joint Secretary  
C P division  
Ministry of Environment, Forests & Climate Change  
Indira Paryana Bhawan  
Jor Bagh, New Delhi – 110 003

: For kind information, please

• Head, IT division

: For uploading on website, please

(A. Sudhakar)  
Member Secretary



एस.पी.एस. परिहार, भा.प्र.से.  
अध्यक्ष

S.P.S. PARIHAR, I.A.S.  
Chairman

B-33014/7/IPC-II/2017/

To

The Secretary  
Ministry of Environment, Forests & Climate Change  
2<sup>nd</sup> Floor, Prithvi wing, Indira Paryavaran Bhawan  
JorBagh Road, Aliganj,  
New Delhi 110 003

Sub: Use Petcoke as fuel in industries –reg

Sir,

Hon'ble Supreme Court of India, vide its Order dated 24.12.2017 has banned use of Petcoke in industries in the state of Haryana, Uttar Pradesh and Rajasthan. On the advice of MoEF & CC, CPCB has also issued directions u/s 5 of Environment (Protection) Act, 1986 to the Chief Secretaries of UP, Rajasthan and Haryana States prohibiting the use of petcoke and furnace oil by an industry, operation or process, with immediate effect until further orders.

Representations are received from Government of Rajasthan and Cement Manufacturer Association (CMA) requesting that facts may be brought into kind notice of Hon'ble Supreme Court that Cement Plants can use Petcoke safely without any adverse impact on environment (copies enclosed). The representation has been examined in CPCB. The comments on the matter are as below:

1. Petcoke is used as feed stock in cement plants because of high calorific value and low ash content. The presence of lime stone in cement kiln takes care of sulphur emissions from petcoke.
2. Karnataka Pollution Control Board has issued OM dated 11.08.2017, prohibiting use of petcoke, except in cement kilns and captive power plants of cement plants based on FBC technology subject to compliance with emission limits as applicable.
3. Gujarat Pollution Control Board, vide notification dated 26.10.2017 under Air (Prevention and Control of Pollution) Act, 1981 has notified petcoke as one of the approved fuels subject to certain conditions such as:
  - Sulphur content in petcoke shall not be more than 7% in any case/circumstance.
  - Petcoke shall be permitted in the following projects and shall not be permitted in eco-sensitive Zone:
    - i. Cement manufacturing Kilns.
    - ii. Thermal power plant/Captive plant capacity above 25 MW (with a condition to mix lime granules in required quantity with Petcoke).



'परिवेश भवन', सी.बी.डी.-कम-ऑफिस कॉम्प्लैक्स, पूर्वी अर्जुन नगर, दिल्ली-110032  
'PARIVESH BHAWAN', C.B.D.-CUM-OFFICE COMPLEX, EAST ARJUN NAGAR, DELHI-110 032  
PHONE : 22307233, TEL. / FAX : +91-11-22304948, e-mail : ccb.cpcb@nic.in



- 2 -

- iii. Glass manufacturing- up to 25% of total fuel consumption.
  - iv. Refractories manufacturing
4. Rajasthan Pollution Control Board, vide Office Order dated 15.06.2017 considered Petcoke as approved fuel subject to meeting SO<sub>2</sub> emission limit of 400 mg/Nm<sup>3</sup> and having valid consent to operate specifically issued for use of Petcoke.
5. Chhattisgarh Environment Conservation Board, vide Office Order dated 17.07.2017 has approved Petcoke as fuel in cement kiln for manufacturing of clinker.

Considering the above facts the following is recommended for consideration:

- i) Lime stone is main raw material in cement industries which has an advantage of absorption of sulphur in the Petcoke. Hence, use of petcoke in cement kilns may be considered.
- ii) In addition, Lime Kilns having limestone as raw material may also be permitted use of pet coke.

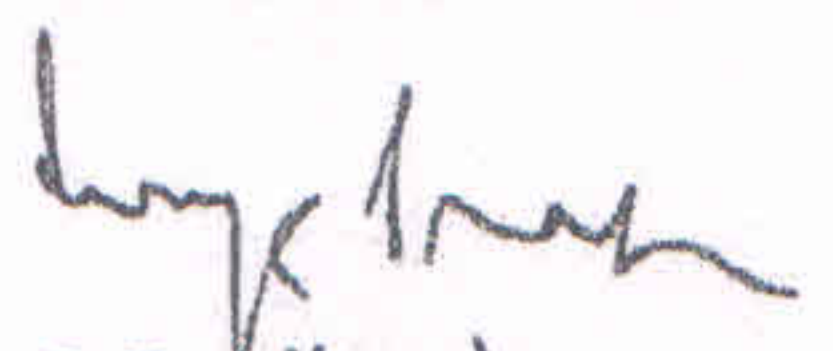
Kind attention is also invited to the DO Letter dated 24.11.2017 from Joint Secretary, Ministry of Power addressed to Secretary, Ministry of Environment, Forest & Climate Change seeking exemption for use of furnace oil in power plants of NTPC for use as secondary fuel for start up/shut down and stabilization for safety of boiler during low load operation and not on continuous basis. It is also stated that total consumption of furnace oil is less than one thousandth part (0.1%) of total fuel consumed in a power plant. Further in order to switch over from furnace oil to light diesel oil firing system, a time period of one year would be necessary as it involves complete engineering, manufacturing, supply, erection and commissioning by original equipment manufacturers. In the event that proposed exemption is not given, operations of power plants located in these states would be adversely affected thereby severely affecting the national power grid.

The request of Ministry of Power merits consideration only to the extent that use of furnace oil be allowed as secondary fuel for start up/shut down and stabilization for safety of boiler during low load operation and not on continuous basis. Simultaneously, Ministry of Power may also be advised to present a road map for switching over from using furnace oil to LDO firing system at the earliest.

As the ban on use of petcoke and furnace oil has been imposed in pursuance of orders of Hon'ble Supreme Court, it is submitted that any proposal for relaxation will also have to be placed before the Hon'ble Supreme Court for orders.

Kind regards,

Yours faithfully,

  
(SPS Parihar)  
Chairman

24/12/17





VASUNDHARA RAJE

CHIEF MINISTER RAJASTHAN

D.O. No. Pr.OSD/CM/Raj./Env./17/103663  
Jaipur, Dated: 21<sup>st</sup> November 2017

Dear Dr Hans Vardaji

I write this to bring to your notice that Hon'ble Supreme Court vide their order dated 24/10/2017 in the matter of Civil Writ Petition No. 13029/1985, M.C Mehta V/s Union of India and Others had passed an order vide which a ban was imposed on the use of Furnace Oil and Pet Coke in the States of U.P., Haryana & Rajasthan. Based on a clarification issued by Environment Pollution (Prevention and Control) Authority for the National Capital Region (EPCA), the State of Rajasthan complied with the aforesaid order and issued directions to all the industries in NCR not to use Pet Coke and Furnace Oil with effect from 01/11/2017.

The above order of Hon'ble Supreme Court came to be issued against the State of Rajasthan on the premise that Rajasthan had no objection if the ban is placed on the use of Pet Coke and Furnace Oil in the State. Whereas the fact is that the State of Rajasthan has at no point of time agreed to the prohibition on use of Pet Coke and Furnace Oil in the State of Rajasthan. In fact, Rajasthan State Pollution Control Board vide its letter dated 21/2/2017 addressed to Member Secretary, CPCB clearly recommended to continue with the use of Pet Coke & Furnace Oil. Further vide letter dated 24.04.2017 addressed to MOEF & CC, it was re-iterated that Rajasthan would like to continue the use of Pet Coke and Furnace Oil in the State. Objection could not be taken before the Hon'ble Supreme Court on behalf of Rajasthan during the hearing on 24.10.2017 because the State of Rajasthan was not a party to the case and, therefore, not represented at this hearing of the case.

However, even when the Hon'ble Supreme Court was considering the question as to whether the ban is to be restricted to the NCR districts or extended to the entire State, the Ministry of Environment, Forest & Climate Change (MoEF & CC) Govt. of India, on 15.11.2017, issued directions to Central Pollution Control Board (CPCB) directing it to impose ban on Pet Coke and Furnace Oil in the entire States of U.P, Haryana & Rajasthan with immediate effect. Pursuant to the aforesaid directions of MoEF & CC, CPCB issued directions on 15.11.2017 itself under section 5 of the Environment (Protection) Act, 1986 to aforesaid three States for complete prohibition on

O/o J.S.(RKS)  
Dy. No. E-135079  
Date 27/11/17

23/11  
JS (RKS)

EF & CC  
Dy. No. 135079  
24-11-17  
Urgent pl. Get a  
response from  
CPCB.

my JDLSPB

O/o J.S.(RKS)  
Dy. No. 135079  
Date 24/11/17



use of Pet Coke & Furnace Oil on any industry operation or processes in the entire States of U.P., Haryana & Rajasthan. Based on these directions of MoEF & CC and CPCB, Hon'ble Supreme Court vide its order dated 17.11.2017 has now extended the ban imposed on Pet Coke and Furnace Oil to the entire State of Rajasthan.

In this context, I would like to bring to your notice that pet coke has higher sulphur, content varying from 4% to 7% but low ash content of around 1%. High sulphur content in the fuel results into higher emissions of sulphur-di-oxide gas ( $\text{SO}_2$ ) but on the other hand it results into much lower emissions of particulate matter (PM). It may be pointed out that the ambient air monitoring quality data for all major towns collected by Rajasthan State Pollution Control Board reveals that the concentration of  $\text{SO}_2$  is well within the prescribed standards, whereas the concentration of particulate matter in terms of  $\text{PM}_{10}$  is exceeding the prescribed limits. Since pet coke has low ash content, it has, vis-à-vis other fuels, favorable impact on the  $\text{PM}_{10}$  concentration; while  $\text{SO}_2$  concentrations are already within the prescribed standards even with the use of pet coke. Therefore, banning pet coke may not make any improvement in the existing air quality. On the contrary, ban on pet coke will result in the use of normal coal having high ash content varying from 30% to 35% which will further deteriorate the existing ambient air quality in terms of particulate matter concentration.

Here, I would like to point out that in the State of Rajasthan, large number of lime kilns are established which use pet coke as part of feed stock. These kilns account for about 90% of total production of lime in the country. Similarly, there are about 30 large scale cement plants in the state which account for 40 % of total production of cement in the country and use Pet Coke both as raw material and as fuel. Pet coke is also being used by a large number of textile and other industries as fuel for their boilers.

State Government is committed to implementation of the norms prescribed for air emissions, particularly in the industries where Pet Coke is being used. These units are meeting the prescribed norms for sulphur dioxide ( $\text{SO}_2$ ) gas emissions. Teams from CPCB have visited many of such units and not found any cases of non-compliance.

Environmental Pollution (Prevention & Control) Authority (EPCA) has also in its reports submitted to Hon'ble Supreme Court recommended the use of Pet Coke in cement plants. Due to ban on the use of Pet Coke, operation of all cement plants and lime kilns in Rajasthan will be affected, resulting into huge disruption in industries in the entire country, specially in sectors of steel, paper, glass, construction and effluent treatment plants



where lime and/or cement are primary raw materials. It is further informed that there is no alternative fuel available to these units except the coal which is imported and is very costly. Due to this, market competitiveness of industries located in the State of Rajasthan (as compared to other states where the ban is not applicable will be seriously eroded.

In the State of Rajasthan, a Petroleum Refinery is also being set up where Pet Coke will be an important byproduct which will be used for power generation for the refinery. Due to the ban imposed on Pet Coke, the viability of the aforesaid project may also be affected.

Rajasthan is a huge State in terms of geographical expanse, with a total area of 3,42,239 sq. km. Most of our cement plants and lime kilns are located far away from Delhi and NCR Region.

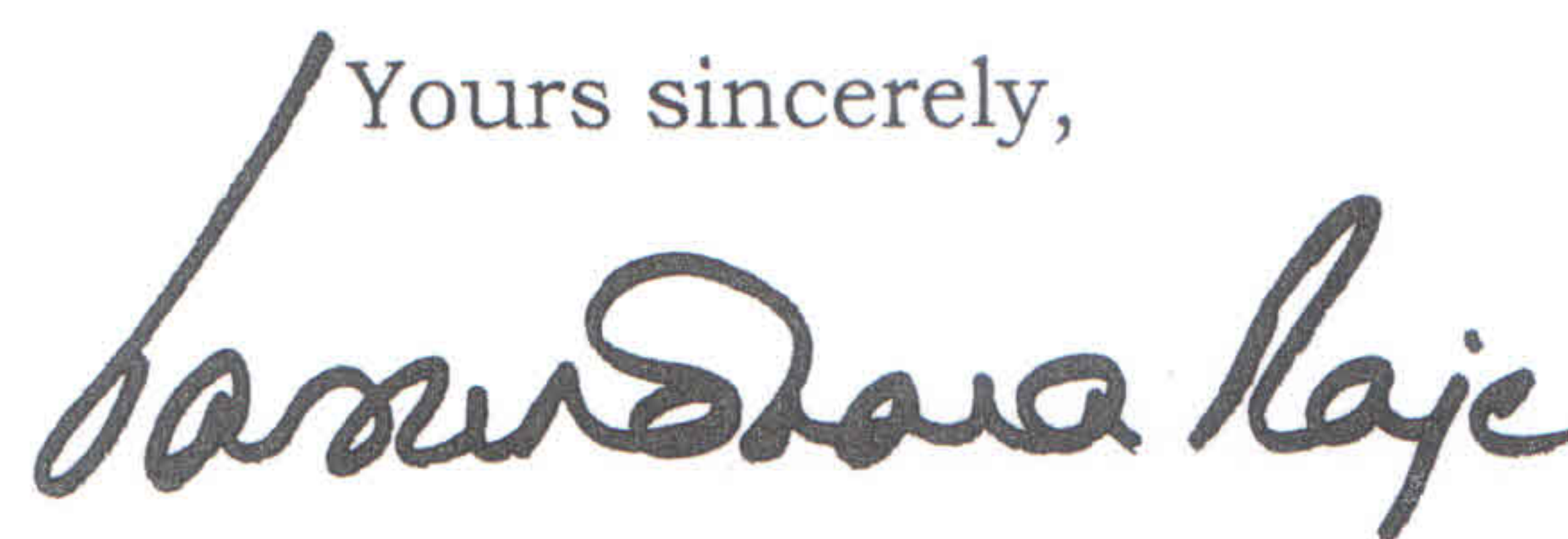
It seems very unfair on the part of MoEF & CC and CPCB to have extended the ban on the use of pet coke to the entire state of Rajasthan simply because two out of its 33 districts fall in NCR Region. It is pertinent to mention here that many industries/industrial areas in Rajasthan are much farther from Delhi and NCR than are the industrial areas of some other states which are not NCR states.

I would therefore, urge upon you that MoEF & CC and CPCB review and reconsider their decision/directions dated 15.11.2017 in view of the facts stated herein above. An immediate relief may please be provided to the industries, particularly the cement plants and lime kilns, in the state of Rajasthan. This may be done presently for non-NCR districts of the state and subsequently, following improvement in ambient air quality of Delhi, for its NCR districts.

Government of Rajasthan is also moving a review application in the Hon'ble Supreme Court, but it may come to naught if the Ministry does not review its decision, present complete facts before the Hon'ble Supreme Court at the next hearing of the case and support the case of Rajasthan.

With warm regards,

Yours sincerely,



(Vasundhara Raje)

**Dr. Harsh Vardhan**

Hon'ble Union Minister  
of Environment, Forest & Climate Change  
Paryavaran Bhawan, Jorbagh Road  
New Delhi - 110 003