

**File No: I-22/2/61/2020-(P&E)**

**NITI Aayog  
(Energy Vertical)**

**NITI Bhawan, Sansad Marg  
New Delhi**

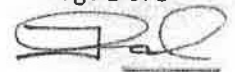
**Dated: 24<sup>th</sup> September'2024**

**Office Memorandum**

**Subject: Minutes of the 2nd Stakeholder consultation meeting held on 21st August'2024 on the Draft Research Study Report on "Analysis of Historical Ambient Air Quality Data Across India for Developing a Decision Support System by National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur.**

**List of Participants is at Annexure-1**

- 1) The Second stakeholder consultation meeting on "Research Study Report on Analysis of Historical Ambient Air Quality Data Across India for Developing a Decision Support System by CSIR-NEERI, Nagpur" was held on 21st August'2024 under the chairmanship of Dr. V.K. Saraswat, Member, NITI Aayog, New Delhi.
- 2) At the outset, Dr. Anshu Bharadwaj, Program Director (Green Transition & Climate), NITI Aayog, welcomed all the participants and provided brief background on the report and apprised the house regarding the first stakeholder meeting held on 21st Sep'2023 on the subject report and the final report is circulated among the participants after incorporating the suggestions of the stakeholder. He also apprised that the report is prepared as per ToR with detailed data analysis as received from the respective Thermal power plants, Coal mining areas and online /offline data of Central Pollution Control Board (CPCB).
- 3) Hon'ble Member, Dr. V. K. Saraswat, NITI Aayog appreciated the efforts taken by CSIR-NEERI, Nagpur in the preparation of the report. He stated that emissions from coal based thermal power plants (TPPs) have adverse impacts on environment and human health. Accordingly, for compliance to Sulphur dioxide (SO<sub>2</sub>) emission norms, most of the central sector thermal power plants have installed Flue Gas Desulphurization (FGD) equipment and many of them are in implementation. However, it still needs further attention towards the decision of FGD installation in left over plants. This research study may play a supportive role making the right decision support system for the essentiality of the commissioning of FGD installation in the thermal power plants.
- 4) Subsequently, Dr. K. V. George, Scientist from CSIR-NEERI presented brief study report analysis and way forward. He highlighted the findings of a study conducted on the feasibility of mandatory Flue-Gas Desulfurization (FGD) installations in Indian coal-fired power plants. The study aimed to assess the necessity and effectiveness of the current FGD regulations, considering the specific context of India's reliance on low-Sulphur coal.



5) Following was concluded by CSIR-NEERI:

- a. Concentration of SO<sub>2</sub> measured by 467 CAAQMS operated by CPCB and 486 operated by TPP spread across India were analysed and it is found that, only 13 sites have highest SO<sub>2</sub> levels beyond the prescribed limit of 80 µg/m<sup>3</sup> that too only in the fourth quartile range (less than 25% of data).
- b. The data do not suggest that SO<sub>2</sub> emissions from Indian coal base power plants is adversely impacting the ambient air quality. It was further apprised that presently in most of the observations the ambient air quality standards for SO<sub>2</sub> is being met, which suggests that there is no need to install any additional equipment like FGD for SO<sub>2</sub> emission control.
- c. Sulphur or Sulphate ions present in ambient air Particulate Matter (PM) is very low. The emitted SO<sub>2</sub> from TPP is so low and not able to contribute significantly to the ground level particulate matter.
- d. In respect of SO<sub>2</sub>, only the ambient air quality standard needs to be met to conserve ecosystem and protect human health. Therefore, there is no advantage of installing FGD in Indian coal based low Sulphur TPP. This will only increase power generation cost.
- e. Major pollutant emitted from Indian TPP is particulate matter, which is exceeding the emission regulation as found from OCEMS analysis. Therefore, PM control should be the focus area. CSIR-NEERI emphasized observations on PM control. It was submitted that despite 9 field ESP for controlling PM, some TPPs are unable to achieve prescribed PM emission norms.

The support provided by NITI Aayog and CPCB in the collection of Data from online/offline source of CPCB and thermal power projects was appreciated by CSIR-NEERI.

Following was recommended by NEERI to take the decision on FGD installation in thermal power plants:

- i.) It is recommended that placement of new orders for installation of FGD may be stopped.
- ii.) All TPPs where FGD is already installed, should be treated as experimental sites for data collection. Data should be gathered for conducting cost benefit analysis and impact on power tariff.
- iii.) The height of stack for Indian coal based TPP should not be reduced to 150 metres to prevent any fly ash emissions in the surrounding area of TPPs, in case of ESP failure.
- iv.) The first priority should be given to control PM emission by optimizing ESP performance, implementing fabric filters, and adopting advanced combustion technologies as a potential long-term solution.

The Chair advised Secretary (Power) to direct Thermal Power Generators to provide the data on their ESP types and its performance to enabling more comprehensive and accurate analysis of PM emission compliance. He also enquired about the location of the CAAQMS stations from the plant



stack. It was apprised by NEERI/NTPC that the location of CAAQMS is around 300 mtrs. to 400 mtrs. from plant stack.

Chairperson, CEA informed that IIT Delhi had conducted a similar study on comprehensive measurement-based survey of ambient air SO<sub>2</sub> concentrations and the recommendations are also in line with CSIR-NEERI recommendations. CEA also clarified that upgradation of ESP is under progress at many power plants and SPM norms will be complied after completion of ESP upgradation. BHEL also clarified that there is no technical limitation regarding ESP up-gradation for meeting new norms.

**After the detailed deliberations, the following decisions were taken during the meeting:**

- 1) NEERI is advised to finalise the report based on suggestions made during the meeting.
- 2) Based on NEERI analysis and recommendations, Ministry of Power and MoEF&CC are requested to take further necessary action based on these recommendations.
- 3) NITI Aayog will circulate the final report among stakeholders within a month.

The meeting ended with a vote of thanks to the chair.



(Jawahar Lal) 24/09

General Manager, Energy 2024

Tel.: 011-23096813

jawahar.lal68@gov.in

To,

- 1) The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001, Email id: secy-power@nic.in
- 2) The Secretary, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jorbagh Road New Delhi, Email id: secy-moef@nic.in
- 3) The Chairman, Central Electricity Authority, Sewa Bhawan, R.K Puram-1, New Delhi-110066, Email id: chair@nic.in
- 4) The Chairman, Central Pollution Control Board (CPCB), Parivesh Bhawan, East Arjun Nagar, Delhi-110032, Email id: ccb.cpcb@nic.in
- 5) She Gurdeep Singh, Chairman & Managing Director, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi 110003, Email id: cmd@ntpc.co.in
- 6) Sh. Koppu Sadashiv Murthy, Chairman & Managing Director, Bharat Heavy Electricals Limited, BHEL HOUSE, Siri Fort, New Delhi-110049. Email id: cmd@bhel.in

- 7) Dr. Atul Narayan Vaidya, Director, National Environmental Engineering Research Institute  
Nehru Marg, Nagpur 440020 , (Maharashtra), Email: an\_vaidya@neeri.res.in,  
director@neeri.res.in
- 8) Dr. K.V. George, Chief Scientist & Head, Air Pollution Control Division, CSIR-NEERI, Nagpur  
440020, Maharashtra, Email: kv\_george@neeri.res.in

**Copy for kind information:**

1. PS to Member (VKS), NITI Aayog
2. PA to Program Director (Energy, Climate & Green Transition)
3. PS to Program Director (Energy), NITI Aayog

List of Participants in 2nd Stakeholder consultation meeting held on 21st August'2024 on the Draft Research Study Report on "Analysis of Historical Ambient Air Quality Data Across India for Developing a Decision Support System by National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur.

<b>Organisation</b>	<b>Name</b>	<b>Designation</b>
<b>NITI Aayog</b>	Dr. V.K. Saraswat	Hon'ble Member
	Dr. Anshu Bharadwaj	PD (Energy, Climate & Green Transition)
	Shri Rajnath Ram	PD (Power & Energy)
	Shri Jawahar Lal	General Manager(Energy)
	Shri Vishal Kumār Sinha	YP
<b>M/o Power</b>	Shri Pankaj Aggarwal	Secretary(power)
	Shri Piyush Singh	Joint Secretary(Thermal)
<b>M/o Environment, Forest &amp; Climate Change</b>	Shri Ved Prakash Mishra	Director
	Shri Sonu Singh	Addl. Director
<b>Central Electricity Authority</b>	Shri Ghanshyam Prasad Shri B.C. Mallick,	Chairperson PCE-II
<b>CPCB</b>	Shri Nazimuddin	Scientist 'F'
<b>NTPC</b>	Shri Pankaj Kumar Gupta	General Manager
	Shri Vijay Prakash	Executive Director
<b>BHEL</b>	Shri K S Murthy	CMD (BHEL)
	Shri Jai P. Srivastava	Director (E, R&D), BHEL
	Shri Tajinder Gupta	Director (Power), BHEL
	Shri Sunil Kumar Gupta	GM-CTM/IS&E
	Ms. Alka Wadhwa	GM - CP-PSBG-I
	Mr. Sashi Kumar Mr. Kabilash KM	Senior Manager Manager
<b>CSIR-NEERI</b>	Dr. Atul N. Vaidya	Director, CSIR-NEERI
	Dr. K.V. George,	Chief Scientist & Head, NEERI
	Shri. Jay Singh Rajput,	Sr. Project Associate



100

100

100