

GOVERNMENT OF INDIA  
MINISTRY OF POWER

**RAJYA SABHA**  
**UNSTARRED QUESTION NO.1751**  
ANSWERED ON 15.12.2025

**POLLUTION AT THERMAL POWER PLANTS**

**1751 SMT. RANJEET RANJAN:**

Will the Minister of **POWER** be pleased to state:

- (a) the number and percentage of coal/lignite-based thermal power plant units that are exempted by Government from installing flue- gas desulphurisation (FGD) or equivalent sulphur dioxide (SO<sub>2</sub>) control systems, State-wise details;
- (b) the details of deadlines and emission norms for control of SO<sub>2</sub> and other harmful air-emissions from coal-based thermal plants;
- (c) the reasons for Government's decision to exempt a large number of plants from the mandated norms;
- (d) the details of the criteria for exemption; and
- (e) whether Government has conducted any study to ascertain the impact of the exemption, if so, the details thereof, if not, the reasons therefor?

**A N S W E R**

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

**(a):** The Ministry of Environment, Forest and Climate Change (MoEF&CC) notified emission standards [including Sulphur Dioxide (SO<sub>2</sub>)] for coal / lignite based Thermal Power Plants (TPPs) vide its Notification dated 07.12.2015. Further, MoEF&CC vide Notification dated 31.03.2021 prescribed for categorization of TPPs into three categories i.e. Category A, B and C for compliance of the emission standards. Accordingly, TPPs were classified as follows:

Sl. No.	Category	Location / Area	No. of TPPs	No. of Units	Capacity (MW)
1	Category A	Within 10 km radius of National Capital Region or cities having million plus population	17	66	20,577
2	Category B	Within 10 km radius of Critically Polluted Areas or Non-attainment cities	25	72	24,057
3	Category C	Other than those included in category A & B	149	462	1,66,885.5
<b>Total</b>			<b>191</b>	<b>600</b>	<b>2,11,519.5</b>

*Note: As per 2011 census of India*

As per latest MoEF&CC Notification dated 11.07.2025, SO<sub>2</sub> emission standards shall not be applicable to Category-C Thermal Power Plants subject to ensuring stack height criteria notified vide Notification no. G.S.R. 742 (E) dated 30.08.1990. The timeline for compliance of stack height criteria for Category-C units is 31.12.2029.

The state-wise details of TPP units that are exempted from installing flue- gas desulphurisation (FGD) systems are given at **Annexure-I**.

**(b):** The timelines for compliance with emission standards for parameters other than SO<sub>2</sub> emissions (NO<sub>x</sub>, PM and Hg) are as follows:

Category	Timelines for compliance (Non-retiring units)	Last date for retirement of units for exemption from compliance
A	Upto 31 <sup>st</sup> December, 2022	Upto 31 <sup>st</sup> December, 2022
B	Upto 31 <sup>st</sup> December, 2023	Upto 31 <sup>st</sup> December, 2025
C	Upto 31 <sup>st</sup> December, 2024	Upto 31 <sup>st</sup> December, 2025

The timelines for compliance with emission standards for SO<sub>2</sub> emissions are as follows:

Category	Applicability of SO <sub>2</sub> emission standards	Timelines for compliance	Last date for retirement of units for exemption from compliance
Category A	Mandatory	31.12.2027	31.12.2030
Category B	To be decided on a case to case basis by the Central Government based upon the recommendations of the Expert Appraisal Committee (Thermal Projects).  In case any TPP is considered for exemption from SO <sub>2</sub> emission standards, such TPP shall ensure meeting of stack height criteria as per Notification no. G.S.R. 742 (E) dated 30.08.1990.	31.12.2028	
Category C	Not applicable subject to condition of ensuring stack height criteria as per Notification no. G.S.R. 742 (E) dated 30.08.1990.	31.12.2029	

Further, the emission norms for control of SO<sub>2</sub> and other air-emissions from coal-based thermal plants are given at **Annexure-II**.

**(c) to (e):** The SO<sub>2</sub> emission standards prescribed in MoEF&CC Notification dated 07.12.2015 have been reviewed by the Central Government taking into consideration, the scientific studies conducted by independent research institutions regarding effectiveness & rationale behind these standards and its role in overall ambient air pollution of the region.

Further, the category wise applicability of SO<sub>2</sub> emission standards in TPPs have been decided based on detailed scientific studies and analysis of ambient SO<sub>2</sub> concentrations across the country, including areas near TPPs. This approach applies the precautionary principle for controlling and abating air pollution in densely populated and other air pollution sensitive areas, while also emphasizing on resource conservation by avoiding additional consumption of water, auxiliary power, and limestone, and avoiding the increase in carbon footprint/CO<sub>2</sub> emissions resulting from the operation of deployed control measures, as well as mining and transportation of limestone required for these measures.

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**ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 1751 ANSWERED IN THE RAJYA SABHA ON 15.12.2025.****State-wise details of Thermal Power Plant units (as categorized in 2021-22) that are exempted from installation of flue- gas desulphurisation (FGD) systems**

<b>Sl. No.</b>	<b>State</b>	<b>Total No. of units</b>	<b>No. of Category C units</b>	<b>Percentage of exempted units</b>
1	Bihar	24	20	83.33%
2	Jharkhand	13	13	100%
3	Odisha	20	17	85%
4	West Bengal	55	39	70.90%
5	Assam	3	3	100%
6	Haryana	12	4	33.33%
7	Punjab	15	15	100%
8	Rajasthan	37	30	81.08%
9	Uttar Pradesh	77	62	80.51%
10	Andhra Pradesh	31	18	58.06%
11	Karnataka	22	22	100%
12	Tamil Nadu	41	16	39.02%
13	Telangana	19	19	100%
14	Chhattisgarh	63	45	71.42%
15	Gujarat	46	43	93.47%
16	Madhya Pradesh	50	50	100%
17	Maharashtra	72	46	63.88%
	<b>Total</b>	<b>600</b>	<b>462</b>	<b>77%</b>

**Note#** (i). As per latest MoEF&CC Notification dated 11.07.2025, SO<sub>2</sub> emission standards shall not be applicable to Category-C Thermal Power Plants subject to ensuring stack height criteria notified vide Notification no. G.S.R. 742 (E) dated 30.08.1990. The timeline for compliance of stack height criteria for Category-C plants is 31.12.2029.

(ii). Till now, a total of 45 FGDs have been installed in Category-C Thermal Power Plants.

**Annexure-II**

**ANNEXURE REFERRED IN REPLY TO PART (b) OF UNSTARRED QUESTION NO. 1638 ANSWERED IN THE RAJYA SABHA ON 15.12.2025.**

**The details of emission norms for control of SO<sub>2</sub> and other air-emissions from coal-based Thermal Power Plants**

<b>Emission parameter</b>	<b>TPPs (units) installed before 31.12.2003</b>	<b>TPPs (units) installed after 01.01.2004 and up to 31.12.2016</b>	<b>TPPs (units) installed from 01.01.2017*</b>
<b>Particulate Matter (PM)</b>	100 mg/Nm <sup>3</sup>	50 mg/Nm <sup>3</sup>	30 mg/Nm <sup>3</sup>
<b>Sulphur Dioxide (SO<sub>2</sub>)</b>	600 mg/Nm <sup>3</sup> for units less than 500 MW capacity	600 mg/Nm <sup>3</sup> for units less than 500 MW capacity	100 mg/Nm <sup>3</sup>
	200 mg/Nm <sup>3</sup> for units 500 MW and above	200 mg/Nm <sup>3</sup> for units 500 MW and above	
<b>Oxides of Nitrogen (NO<sub>x</sub>)</b>	600 mg/Nm <sup>3</sup>	450 mg/Nm <sup>3</sup>	100 mg/Nm <sup>3</sup>
<b>Mercury</b>	0.03 mg/Nm <sup>3</sup> (for units having capacity of 500 MW and above)	0.03 mg/Nm <sup>3</sup>	0.03 mg/Nm <sup>3</sup>

\*Includes all the TPPs (units) which have been accorded Environmental Clearance and are under construction.

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