

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.791
ANSWERED ON 10.02.2025

FLUE GAS DESULFURIZATION SYSTEMS (FGD)

791 SMT. RANJEET RANJAN:

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

- (a) the current status of the installation of Flue Gas Desulfurization (FGD) systems in thermal power plants across the country, including the number of plants with completed installations;
- (b) the timeline set for the completion of FGD installations to ensure compliance with emission control standards mandated by environmental regulations;
- (c) the challenges faced in the installation process, such as financial constraints, technical issues, or delays, and the measures being taken to address these;
- (d) the steps being taken to enforce adherence to FGD installation; and
- (e) the deadlines to meet the country's emission reduction commitments?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) : Total 537 Units [2,04,160 Mega Watt (MW)] have been identified for installation of Flue Gas Desulphurization (FGDs) in Thermal Power Plants (TPPs). Out of these, FGD installation has been completed in 49 Units (25,590 MW), contracts awarded / under implementation in 211 Units (91,880 MW), 180 Units (58,997 MW) are under various stages of tendering process and 97 Units (27,693 MW) are under pre-tendering process.

(b) to (d): Ministry of Environment Forest & Climate Change (MoEF&CC) vide its revised notification dated 30.12.2024 has prescribed the following timelines for TPPs to comply with the SO₂ emission norms:

| Sl. No. | Category | Location/Area | Timelines for Compliance (Non-retiring units) | Last date for retirement of units for exemption from compliance |
|---------|------------|---|---|---|
| 1 | Category A | With 10 km radius of National Capital Region or cities having million plus population | Up to 31st December, 2027 | Up to 31st December, 2030 |

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| | | | |
|---|------------|---|---------------------------|
| 2 | Category B | With 10 km radius of Critically Polluted Areas or Non-attainment cities | Up to 31st December, 2028 |
| 3 | Category C | Other than those included in category A and B | Up to 31st December, 2029 |

In case of non-compliance beyond the specified timelines, MoEF&CC has prescribed the following Environment Compensation on the non-retiring TPPs:

| Non-Compliant operation beyond the Timeline | Environmental Compensation (Rs. Per unit electricity generated) |
|--|--|
| 0-180 days | 0.20 |
| 181-365 days | 0.30 |
| 366 days and beyond | 0.40 |

Major issues/challenges being faced by TPPs during the implementation of FGD system in thermal power plants are as below:

- (i) FGD technology being new to our country, there are at present limited vendors with limited capacity to supply and install FGD components. Vendor's capacity for FGD installation is about 16-20 GW per annum (33 to 39 units) in the country and installation time is about 36 to 40 months which has led to mismatch in demand and supply of FGD equipment, leading to escalating costs and delays.
- (ii) India had manufacturing capability of 70% FGD components which has now increased to 80% with the passage of time. However, it still depends on the imports from other countries for technology, critical equipment and skilled manpower.
- (iii) The installation of FGD systems is more like a Renovation and Modernization (R&M) project which has distinguished difficulties in terms of conceptualization and design challenges. Standardization could not be done as different sites have different requirements like space constraints, lay-out and orientation etc.

To address the above issues, vendors have been encouraged to enhance their capacity and to maximize the indigenous production of all FGD parts in order to reduce import dependence.

(e): Regarding, Green House Gas (GHGs) emission, India's Nationally Determined Contribution (NDC) have been submitted to United Nations Framework Convention on Climate Change (UNFCCC). The target to reduce the emissions intensity of Gross Domestic Product (GDP) has been set at 45 percent by 2030 from the 2005 level and 'Net Zero' is targeted to be achieved by 2070.
