

# DADRI THERMAL POWER STATION

**D**adri thermal power station has a capacity of 1,820 MW with four units of 210 MW, and two units of 490 MW each (see Table 1: Compliance deadlines for units in Dadri thermal power station). It is operated by NTPC Ltd. The plant is situated in Gautam Buddha Nagar district. It is 100 km away from Delhi, critically polluted area. It sources coal through railways from nearby Piparwara coal mines and water from Upper Ganges Canal.

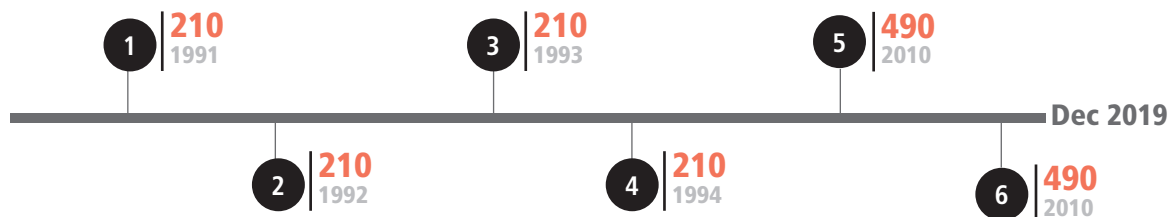
DATA QUALITY: CSE has reviewed that the CEMS data

collected from Central Pollution Control Board underestimates sulphur dioxide and oxides of nitrogen emissions. For e.g.:- CEMS report shows that SO<sub>2</sub> emissions are around 407 mg/N.cu.m but CSE has estimated SO<sub>2</sub> emissions to be over 1000 mg/N.cu.m based on stoichiometric analysis of the coal quality. NO<sub>x</sub> emissions are reported below 250 mg/N.cu.m, but achieving such low NO<sub>x</sub> emissions without any control measures appears impossible.

**Table 1: Compliance deadlines for units in Dadri thermal power station**

Urgent measures are needed to comply by December 2019

● Unit No. ■ Capacity in MW ■ Commissioning Year ■ Compliance deadline



Source: Central Electricity Authority, 2019

## EMISSIONS AND SUGGESTED TECHNOLOGY:

● **Particulate matter:** The plant reports compliance with the norms (see Table 2: Particulate Matter emissions in Dadri thermal power station).

**Table 2: Particulate Matter emissions in Dadri thermal power station**

Plant reports compliance

■ Unit No. ■ CEMS ■ Lab ■ Norm



Source: Centre for Science and Environment, 2019

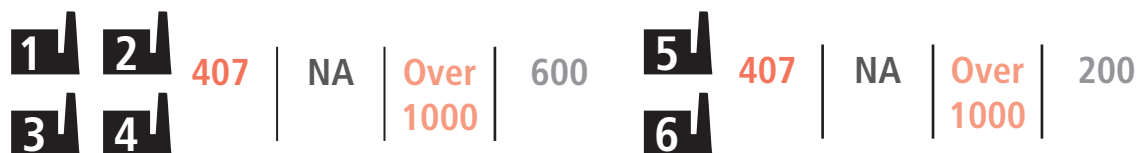
Note: Unit wise data not available

● **Sulphur dioxide:** The plant violates limits of sulphur dioxide emission; reduction to over 50 per cent is required (see Table 3: Sulphur Dioxide emissions in Dadri thermal power station). CEMS is also underestimating the emissions. The plant is in cognizance of the under reportage by CEMS. They are installing DSI systems to control emissions.

**Table 3: Sulphur Dioxide emissions in Dadri thermal power station**

All the units require up-gradation

■ Unit No. ■ CEMS ■ Lab ■ CSE estimates ■ Norm



Note: Unit wise data not available

Source: Centre for Science and Environment, 2019

● **Oxides of nitrogen:** The CEMS data appears underreported. Without control measures like low-NO<sub>x</sub> burners and over-fire air systems controlling emissions below 300 mg/N.cu.m is unlikely (see Table 4: Oxides of nitrogen emissions in Dadri thermal power station). The plant is in cognizance of the under reportage by CEMS system. They have awarded contracts to modify combustion systems to control emissions.

**Table 4: Oxides of nitrogen emissions in Dadri thermal power station**

All the units require up-gradation

■ Unit No. ■ CEMS ■ Lab ■ Norm



Note: Unit wise data not available

Source: Centre for Science and Environment, 2019

#### CURRENT STATUS:

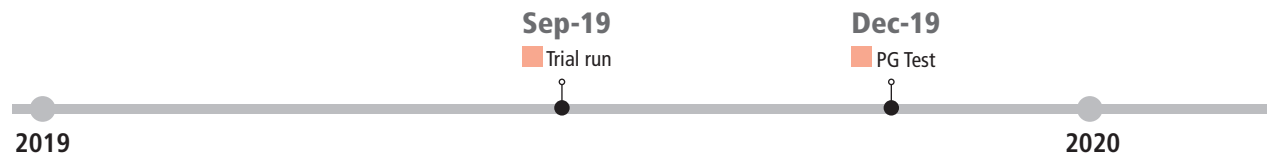
- Tender awarded to install DSI for U 1-4 on October 2018, work in progress
- FGD tender awarded in Feb 2018 (Unit 5 and 6). Work in progress.
- Awarded combustion modification to GE on Jun 18 (Unit 5 and 6).

#### ACTION PLAN

- CSE has prepared unit-wise action plan for all three pollutants. The action plan is based on deadlines given under Section 5 notices sent by the Central Pollution Control Board in December, 2017, which were also submitted to the Supreme Court. In turn, the deadlines were based on the Phase-in Plan prepared by the CEA and the Regional Power Committees.
- The Action plan has been based on discussions with industry experts and manufacturers on time taken for various stages. We have converted the major project processes/stages into key milestones that can be used by PCB officials to track progress.
- A fair share of activities has been presumed to have already been undertaken. Below stage of work completion is required to meet the norms.

**Units 1-6 (4X210 MW; 2X490 MW):**

■ Sulphur dioxide control



Source: Centre for Science and Environment, 2019

Disclaimer—The analysis/timelines mentioned in this document for preparing action plan has been made based on the inputs provided by various technology suppliers.

