

LALITPUR THERMAL POWER STATION

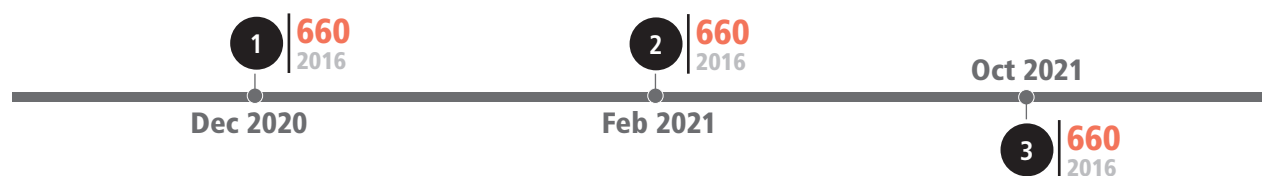
Lalitpur thermal power station has a capacity of 1,980 MW with three units of 660 MW each (see Table 1: Compliance deadlines for units in Lalitpur thermal power station). It is operated by Bajaj Hindustan Ltd. It is located in Lalitpur district. It sources coal through railways from CCL coal mines and water from Burgaon dam. A case was filed recently against the plant for drawing water from the dam. NGT had ordered an inspection committee to recommend solutions.

Data Quality - The data collected from Central Pollution Control Board indicate severe underestimation of sulphur dioxide and oxides of nitrogen emissions. For e.g.:- CEMS data report sulphur dioxide in the range of 290 mg/N.cu.m however CSE based on coal quality data stoichiometrically estimates emissions over 1000 mg/N.cu.m. Similarly, without installation of NO_x control systems like SCR, achieving emissions as low as 135 mg/N.cu.m is not possible.

Table 1: Compliance deadlines for units in Lalitpur thermal power station

Urgent measures are needed to comply

● 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 Lalitpur thermal power station). The CEMS data of sulphur dioxide and oxides of nitrogen are under-reported. Hence to avoid discrepancies independent lab assessments of PM emissions could be of benefit.

Table 2: Particulate Matter emissions in Lalitpur thermal power station

Plant reports compliance with the PM norms

■ Unit No. ■ CEMS ■ Lab ■ Norm



Source: Centre for Science and Environment, 2019

- **Sulphur dioxide:** The CEMS data is underreported. Based on coal quality data, CSE stoichiometrically estimates emissions over 1000 mg/N.cu.m (see Table 3: Sulphur Dioxide emissions in Lalitpur thermal power station). CEMS data under reports by more than two-third of the actual emissions.

Table 3: Sulphur Dioxide emissions in Lalitpur thermal power station

Current emission level data is unavailable in public domain

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

| | | | | | | | | | |
|---|-----|----|-----------|-----|---|-----|----|-----------|-----|
| 1 | 290 | NA | over 1000 | 200 | 3 | 297 | NA | over 1000 | 200 |
| 2 | 297 | NA | over 1000 | 200 | | | | | |

Source: Centre for Science and Environment, 2019

- **Oxides of nitrogen:** The CEMS data is severely underreported, even without installation of NO_x control systems like SCR, achieving emissions as low as 135mg/N.cu.m is not possible (see Table 4: Oxides of nitrogen emissions in Lalitpur thermal power station).

Table 4: Oxides of nitrogen emissions in Lalitpur thermal power station

Plant reports compliance with the NO_x norms

■ Unit No. ■ CEMS ■ Lab ■ Norm

| | | | | | | | | | | | |
|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|
| 1 | 128 | NA | 300 | 2 | 135 | NA | 300 | 3 | 135 | NA | 300 |
|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|

Source: Centre for Science and Environment, 2019

CURRENT STATUS:

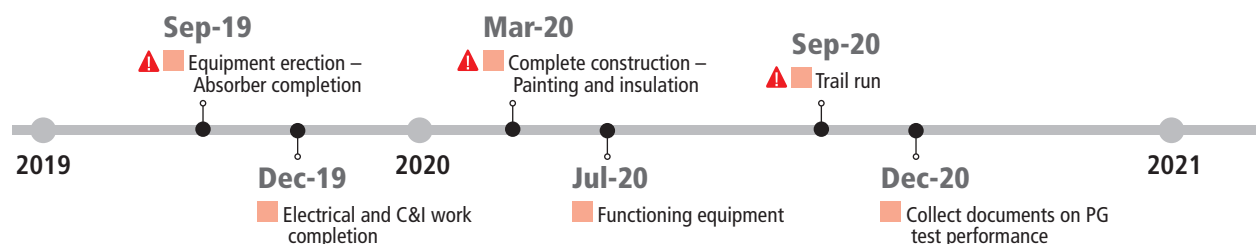
- The power station states cost approval a reason for no further progress. Petition was filed with Uttar Pradesh Electricity Regulatory Commission (UPERC) for approval of capital cost for installation of FGD and other associated systems. UPERC directed them to approach Central Electricity Authority (CEA).

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.

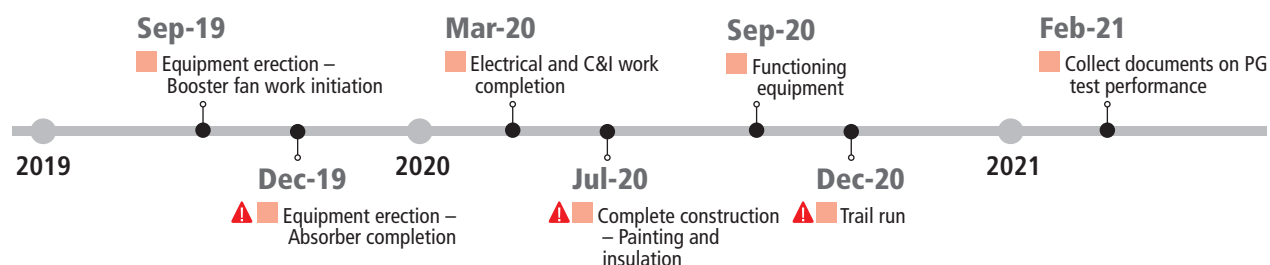
Unit 1 (660 MW)

■ Sulphur dioxide control ▲ Critical



Source: Centre for Science and Environment, 2019

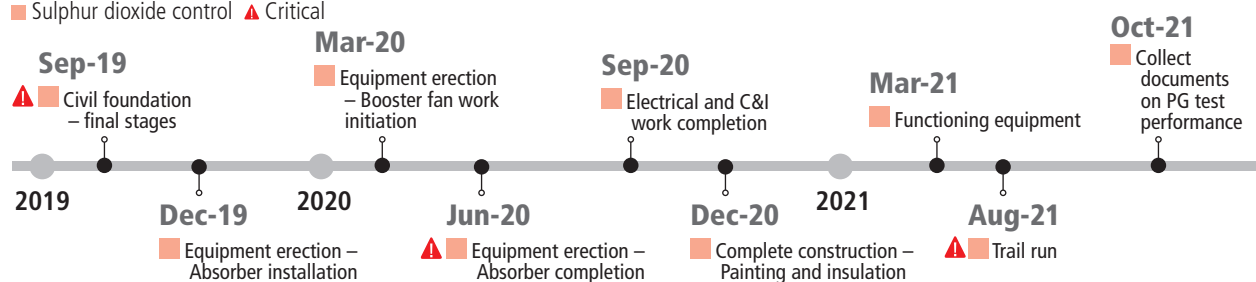
Unit 2 (660 MW)



Source: Centre for Science and Environment, 2019

Unit 3 (660 MW)

■ Sulphur dioxide control ▲ Critical



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.

