4th Edition

FLUE GAS DESULPHURISATION SYSTEMS

A VIRTUAL CONFERENCE
Experience So Far, Technology Showcase and Future Outlook

August 6, 2020

Organisers: PowerLine, Indian Infrastructure

Co-sponsor: HADEK
**Flue Gas Desulphurization Systems**

**Mission**

- One of the top priorities of power plant developers currently is to comply with the MoEFCC’s emission norms notified in December 2015, which requires significant curtailment of SO\textsubscript{x} emissions.
- Typically, the SO\textsubscript{x} emissions from a coal-based power plant are in the range of 800 to 1,000 mg per Nm\textsuperscript{3}. However, the new norms require a reduction in SO\textsubscript{x} levels to 600 mg per Nm\textsuperscript{3} for 15 to 25-year-old plants, 300 mg per Nm\textsuperscript{3} for 5 to 7-year-old plants and 100 mg per Nm\textsuperscript{3} for new plants by 2022.
- Flue gas desulphurisation (FGD) is recognised as a mature technology globally for controlling SO\textsubscript{x} emissions and has proved to be effective for a wide range of coal qualities and operating conditions. It removes SO\textsubscript{x} from the flue gas produced by boilers, furnaces and other sources.
- Among the various FGD technology choices, wet limestone-based FGD has been the dominant technology solution in view of its techno-economic feasibility, ease of handling, and high removal efficiency and multiple pollutant control features. Meanwhile, the dry and semi-dry FGD processes are suitable for small power generation units (<250 MW); besides, these also have lower removal efficiency.
- The CEA has prepared a detailed phasing plan for FGD upgrades across 440 units aggregating 166 GW of capacity by 2022. However, the progress in FGD installations has been sluggish so far. FGD systems have been commissioned for only 1.8 GW of capacity. Further, bids have been awarded for only 39 GW of capacity as of May 2020. A majority of units are at preliminary stages of feasibility studies (completed across 144 GW of capacity) and tender awards (111 GW).
- Clearly, the deadline of 2022 is highly challenging for gencos, which were required to begin FGD construction by 2019. The FGD implementation schedules are likely to take a further hit due to the Covid-19 pandemic leading to supply chain disruptions. Developers have been seeking an extension in the deadline to comply with the norms; however, there has been no relief so far.
- The government’s decision to allow pass through of additional expenditures on account of FGD implementation in tariffs has brought some relief. Nonetheless, a number of challenges still remain.
- The increase in the variable cost of generation with FGD installation is likely to put the plant at a disadvantage in merit order despatch. Besides this, the availability of quality limestone and long-distance transportation costs of the raw material are a challenge. The disposal of surplus unutilised gypsum – the waste produced from FGD plants - is also critical. There are, moreover, additional water requirements for FGD make-up water and for gypsum washing, further putting pressure on the plant’s specific water consumption. Besides, space and layout constraints hinder the implementation of FGD systems.
- The mission of this conference is to provide a platform to discuss the genco experience and plans as well as the issues and challenges associated with FGD implementation. It will also showcase best practices as well as the latest and most promising technologies.

**Target Audience**

The event is expected to draw participation from executives, managers and decision-makers from:

- Power plants
- Pollution control boards
- FGD technology providers
- State gencos
- Government and regulatory agencies
- Consultancy organisations
- Other industrial plants
- Research and development organisations
- Environmental firms
- Etc.

To register: Call +91-9999401099, email: monish.grover@indiainfrastructure.com or visit us at www.indiainfrastructure.com
### KEY TRENDS AND OUTLOOK
- What is current level of SOx emissions at coal-based power plants?
- What is the coal-based capacity affected by the revised SOx norms?
- What are the key issues and challenges? What is the future outlook?

### EMISSION NORMS: PROGRESS IN COMPLIANCE AND FUTURE OUTLOOK
- What has been the progress in compliance with the SOx norms?
- What has been the impact of Covid-19 on project execution and timelines?
- What are the key issues and concerns? What is the way forward?

### GOVERNMENT PERSPECTIVE
- What is the government’s perspective on FGD implementation by TPPs?
- What are the key issues and concerns? What are the steps being taken to address these?
- What is the way forward for expediting implementation?

### NTPC’s PERSPECTIVE
- What has been the progress in FGD implementation across NTPC’s power plants?
- What has been NTPC’s experience so far? What have been the technologies adopted?
- What are the key issues and challenges? What has been the impact of Covid-19?
- What is NTPC’s roadmap for the next two to three years?

### STATE GENCO PERSPECTIVE
- What is the capacity covered under the revised SOx norms?
- What has been the experience of gencos so far in meeting the SOx norms?
- What has been the impact of Covid-19 on tendering, project execution timelines, etc.?
- What are the other issues and challenges? What are the future plans of gencos?

### PRIVATE GENCO PERSPECTIVE
- What has been the experience of private gencos in meeting the SOx norms?
- What have been the key considerations in the choice of FGD technology?
- What is the current ordering and tendering status?
- What are the key issues and concerns? What is the way forward?

### WET FGD SYSTEMS
- What are the key operational attributes of a wet FGD system vis-a-vis other technologies?
- What is the efficiency level of wet FGD systems? What are the cost estimates?
- What has been the experience so far?

### FOCUS ON OTHER FGD TECHNOLOGIES (DSI, AMMONIA-BASED FGD, CIRCULATING DRY SCRUBBERS, SEAWATER SCRUBBERS, ETC.)
- What are the latest FGD technology options?
- What are their features? How do these compare in terms of performance and costs?
- What has been the experience so far in India and globally? What are the key issues and concerns?

### LOW LOAD OPERATIONS: IMPACT ON FGD SYSTEMS & POSSIBLE SOLUTIONS
- What is the impact of low load operations on the performance of FGD systems?
- What is the minimum load requirement for optimal operation of these systems?
- What are possible solutions to address the challenges?

### COST ECONOMICS, TARIFF IMPACT AND SCHEDULING
- What is the likely impact of FGD implementation on generation tariff?
- How is it expected to affect the scheduling of the power plant?
- What has been the trend in prices discovered in recent FGD tenders?
- What are the steps needed to tackle the challenges?

### FOCUS ON RAW MATERIAL AND BYPRODUCTS
- What has been the trend in the availability of raw material (such as limestone) for FGDs?
- What are the options for FGD byproduct (gypsum) utilisation?
- What are the key issues and concerns? What is the way forward?

### CIVIL ENGINEERING FOR FGD
- What are the design and construction challenges associated with FGD systems?
- What are some of the advances in equipment and methods for design and construction?
- What are the global best practices? What are the key learnings?
What differentiates our conferences?

- The **agenda** is developed by our researchers, who track the sector round the year. It is thus **relevant** and **topical**. It is not driven by a particular organisation and does not have a particular slant.
- The **speakers** are **professionals** and **experts** involved in the sector, not a mix of ambassadors, ministers, celebrities and business owners.
- The conferences do not just comprise panels and speeches; they provide a good mix of **expert presentations** and **case histories**, and of course **panel discussions**.
- We have **representation** from **across the country**, as is the case at our physical conferences too.
- Each **stakeholder group** – **policy makers**, **developers**, **financiers**, **consultants** and **relevant NGOs** – is represented at our conferences.
- The moderators merely ask the questions. The **stars** are the **speakers** themselves.
- The **sessions begin and end on time**.
- There is adequate time for a **Q&A session** with **each speaker**. These are not “hit and run” speeches.
- The **delegates** are **professionals** who are vested in the sector, and are not just assembled through social media.
- A **recap** of the conference is also made available to reinforce the key takeaways.

Delegate benefits (Virtual Conference)

- Direct interaction with senior speakers (Q&A facility)
- Easy connectivity to geographically dispersed delegates (click of a mouse)
- Cost effective (lower ticket price as compared to a physical conference)
- Offers flexibility and convenience
- Access to conference recording
- Recap of conference sessions
- Contributes to sustainability and lower carbon footprint

Benefits of sponsorship (Virtual Conference)

- E-Meet influencers and decision-makers/
- Reach out to and engage with new or active prospects
- Generate high quality sales leads
- Increase brand recognition
- Target a captive and engaged audience
- Drive website traffic through social media promotions
- Position your company as the thought-leader in your industry

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Previous Participants

Registration Fee

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- There is a 30 per cent discount before July 14, 2020
- There is a 15 per cent discount before July 22, 2020
- GST @18 per cent is applicable on the registration fee.
- Registration will be confirmed on receipt of the payment.
- To register online, please log on to https://indiainfrastructure.com/events/4th-edition-flue-gas-desulphurisation-a-virtual-conference/

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Payment Policy:
- Full payment must be received prior to the conference.
- Payments for “early bird” registrations should come in before the last date of discount. Discount offers cannot be combined with any other offer.
- Conference fees cannot be substituted for any other product or service being extended by India Infrastructure Publishing Pvt. Ltd.

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