Coal Fired Power Stations in India : Adopting Flexibility and Addressing Challenges for New Emission Norms

Flexibility of conventional Power Plants:

- Renewable Energy (PV, Wind) is preferred
- Feed into the grids depend on availability
- Thermal plants: No longer baseload operation, flexibility and alternate operation required
- Challenges for thermal power plants:
  - Combustion stability
  - Efficiency
  - Thermal stress
  - Generator operation
  - Emissions

Adopting Flexibility – Challenges for the combustion:

- Safe low load operation – 1- or 2-mill operation
- Fast hot start-up – fast ignition systems
- Safe and stable detection of flames at changing loads
- Continuous and accurate fuel (coal) flow measurement
- Thermal analysis of flame area to reduce thermal stress

Indian Emission Norms for Coal Fired Power Stations:

- Existing since many years for particulates (dust)
- Gaseous components are newly included
- Total Mercury is an important pollutant to be measured
- More stringent norms create challenges for existing plants
- Low load operation creates challenges
- Cross-reference almost exclusively to US-EPA norms
- Acceptance of European Norms and Approvals should be added


THANK YOU
FOR YOUR INTEREST