

# **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**