

# CEMS

Challenges in Implementation

Sanjeev K. Kanchan, CSE





## Why do we need?

## Incessant problem of environmental regime in emerging economies :

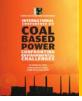
- ✓ Weak pollution norms,
- ✓ Missing- standardised monitoring practices,
- ✓ Transparency,
- ✓ Standardized market (like emission trading)

Accurate and credible pollution monitoring and reporting is crucial both for-compliance enforcement and process optimization/control. CEMS can be instrumental.



### What do we have?

- A pilot scale PM ETS- in 2013
  - ✓ In 3 states- Gujarat, Maharashtra and Tamil Nadu
  - ✓ Guidelines for PM CEMS for pilot scale ETS Nov, 2013
- CPCB's direction for installation of CEMS Feb, 2014
- Effluent CEMS guideline Nov, 2014
- Draft notification by MoEF&CC on CEMS- April, 2015



### What do we have?

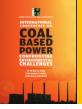
- CEMS started with CPCB's direction (in Feb 2014)
  - √ 17 categories of industries
  - ✓ CETPs, Common bio-medical treatment facility, Common hazardous waste treatment facilities, Municipal solid waste treatment facilities and
  - ✓ Other industries mandated by CPCB/SPCBs/PCCs
- Around 3700 plants was to install (Deadline- 30/6/2015)
  - ✓ Nearly 50% already installed
  - ✓ Another 25% in process



## Challenges (A Stakeholders' Perspective)

Most of the industries have installed CEMS, monitoring & reporting is yet to improve. Compliance and enforcement are further away.

CSE met with plants, SPCBs, device makers and experts and collected information on challenges in implementation and ideas to move ahead.



## What to choose? (Device selection)

- Multiple device makers in market- Data credibility?
   Domestic devices- all claims suitability; Cheaper; Many are not certified
- Industries lack clarity on suitable device selection
  - ✓ Industries tend to just comply; prefer cheaper devices; choose varieties of devices irrespective to their suitability
  - ✓ Many of installations don't measure O2, CO etc. for data correction, no 2-way communication, auto drift & span check
- Wrong device Selection; Multiple consequences
   Investment loss; Responsibility; Data credibility; Fate of CEMS plan?





#### **Device Certification**

No tab whether devices installed are certified or not.

- No indigenous device certification
   No tangible progress in last 2yrs
- No temporary arrangement till a system in put in place
   Draft notification mentions to have a system with NPL, but no system till date
- Internationally certified devices

Draft Notification recommends them till indigenous system put in place. Suitability? calibration for Indian installations?

Manpower, skills, investment, protocol, guidelines- all required. Presently not in place.



### Lab Empanelment

No labs accredited for CEMS till date. All in being done by plant/vendor/labs

- No Lab empanelment system- No initiative in last 2 years Draft Notification mentions EPA certified labs to be empanelled which are few. Doesn't mention protocol, guidelines.
- No temporary arrangement till the system is set-up
- Crunch of Skilled manpower, infrastructure
   CPCB, SPCB, NPL, NABL

Manpower, skills, investment, protocol, guidelines- all required. Presently not in place.



### **Regulatory Gaps**

CEMS can lead to a new environmental regime. But there are gaps to fill-up. Lack of harmony between CPCB and SPCBs is obvious.

- No consistency on parameters
   SPCB demands monitoring of numerous parameters
- CPCB/SPCBs ask CEMS in all stack; CTO/EC asks only for process stacks. Nos. are big in large plants
- Responsibilities of CPCB, SPCBs are not clearly delineated. Presently CPCB is doing everything.



### **Compliance Issues**

Presently, compliance is not checked. We don't have sufficient experience on CEMS.

- SMS alerts on every single data exceedance Flooding in alerts, not possible to respond.
- Non-compliance cases may lead to legal consequences
  - ✓ Draft notification asks for remote calibration.
  - ✓ Whose responsibility- industry? vendor? service provider? Lab?
- Some provisions in Draft notification are not practical
  - ✓ Every single data compliance
  - ✓ Any 2<sup>nd</sup> exceedance by 10% of norms / 5 % data exceeding the norm will invite action.
  - ✓ Doesn't explain key words, don't refer any guidelines, standard methods need for CEMS implementation.



#### Other Issues

- No check on place of device installation
   In stack/ duct; probably not correct installation
- No tab on calibration, zero & span drift; Calibration verification
   Must for data accuracy. But no guidelines.
- No uniform set-up for data transfer to regulator Intermediate server, Data loggers, Internet-based
- Data reporting is not uniform
   1 sec/ 1 min/ 3 min/ 15 min
- No common server (DAHS) and software at CPCB/SPCB practically impossible to use multiple server for analysis