



CEMS

Challenges in Implementation

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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 2nd 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