MATS Summary

- Compliance Deadline April 2015
  - Hg emissions limits for Existing Sources:
    - 1.2 lb/TBtu (fuels > 8,300 Btu/lb)
    - 4.0 lb/TBtu (fuels < 8,300 Btu/lb)

- Compliance Reporting
  - Continuous monitoring – 30 day rolling avg
    - CEM
    - Sorbent Traps
  - LEE monitoring (if eligible)
What are you measuring?

- Consider how you are reaching the limit

- Mercury emissions will depend primarily on the following variables:
  - Fuel composition
  - Boiler load
  - Air Pollution Control Devices
  - Active Mercury Controls
Fuel Composition

- Fuel inputs will significantly change mercury emissions
- Trends are established but fuel can be highly variable
  - Mercury content
  - Sulfur content
  - Chlorine content
  - Ash content and make-up

Boiler Load

- Boiler Load will significantly change mercury emissions
  - Effects:
    - Fly ash (LOI)
    - Temperatures
    - Fluid dynamics
      - Time for Hg adsorption
      - Mixing with reactants
Air Pollution Control Devices

- Existing APCDs will effect mercury removal
  - NOx control
    - LOI (boiler controls)
    - NH₃ and temperature
  - Particulate Control
    - Contact time effected by cleaning cycles
  - SOx control
    - SO₃ and halogen concentration (DSI)
    - Absorption and reemission (WFGD)
Monitoring Options

- Bottom line: mercury emissions will vary more than other monitored pollutants
  - How do you want to operate your plant?
    - Sorbent Trap System
      - Passive monitoring
      - Less expensive
      - Simple to operate and QA/QC
    - Continuous Emission Monitor
      - Active monitoring
      - More expensive
      - Requires detailed attention to operate
Monitoring Options

- Now add in another factor:

  **Active mercury Controls**

  - Highest level of effect on mercury emission
  - Will interact with inherent plant operation
Active Mercury Controls

1. Boiler Additives
2. Sorbent Injection
3. Scrubber Additives
Keeping Track

- Continuous mercury monitoring could provide valuable feedback
  - Trends for co-benefits
  - Feedback loops on active controls to modify injection rates with changes to the discussed variables
    - Saves upfront costs
    - Reduces waste

- Must implement proper training and calibration
Recent Hot Topic Hour

- Correlate low/variable control to a cause
  - Full Load:
    - Increased Temp
    - Decreased RT
    - Increased NH$_3$

→ Develop a solution

Non-Halogenated Superior Mercury Capture

US Manufacturer

Cost Effective

Engineered Solutions
Thank you!

Please visit our website at: http://www.carbonxt.com

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