

Worldwide Pollution Control Association

Duke Energy Seminar
September 3 – 5, 2008
Concord, NC



Visit our website at www.wpca.info

W

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Mercury Control

What To Comply To?

How To Comply?

When To Comply?

What To Comply To?

CAMR Vacated

Now Wait and See

Emission Limits Unknown...

How Do We Plan for Compliance?

How to Comply?

Is Technology Capable?

What If the WFGD Does Not Remove 85% Mercury ???

- **WFGD /SCR Co-Benefit:**

What We Know:

- Wet FGD Removes Oxidized Mercury.
- It Does Not Remove Elemental Mercury.
- SCR Oxidizes Mercury To Improve WFGD Hg Removal.

What We Don't Know:

- What About Re-Emissions (HG⁺⁺ to Hg⁰) Across WFGD?
- What Causes Re-Emissions?
- How Can We Improve Mercury Oxidation?

How to Comply?

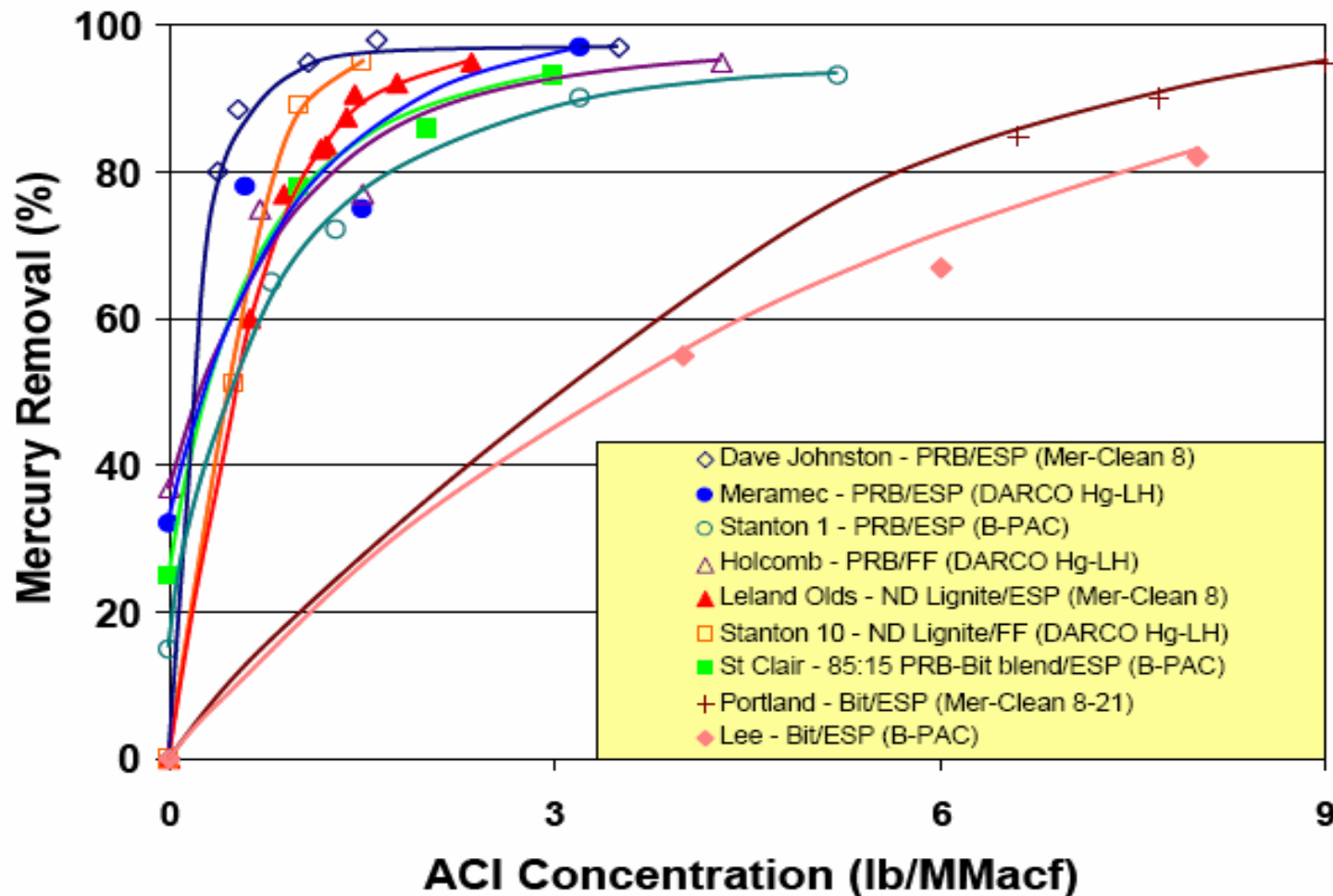
- ESPs / Baghouses:
- **Activated Carbon / Sorbent Injection**
 - Western Fuels?
 - Eastern Fuels?
 - SO₃ Interference.. Is it Real?
 - Ash Sales Impacts: Carbon content / Foam Index
 - Particulate Impact to Trigger PSD and New Source BACT

DOE ACI Results From Phase II Testing

July 2008 DOE Report

Eastern Coals Higher Sulfur Content than Western Fuels

Figure 3 – Phase II Performance Curves for Chemically-treated ACI



How To Comply?

Compliance Measurement

Mercury CEMs

- Very Complex Instruments.
- CEMS Technicians Are Learning A New Science: The Science of Mercury Absorption. Keeping Components at Rated Temperatures is Critical.
- Each Day Is A New Learning Experience. We Are Building The Knowledge Database of Mercury CEMs O&M.
- Probe Tip Pluggage, Sensitivity to Component Temperatures, Filter Pluggage, Mercury Lamp Life...
- Still Waiting on NIST Protocol to Certify The Instruments
- Method 30B Is a Shining Star

When To Comply?

Given a Compliance Date, The Decision Path To Technology Implementation Includes:

- Perform Due Diligence / Industry Queries on Technology: EPRI, DOE, EERC, Network With Other Utilities
- Obtain Full-Scale Repeatable Data on the Technology To Know That It Will Perform.
- Test Technology On Our Own Systems.
- Procure, Install ... Operate

Going Forward

- Perform Due Diligence: Work With EPRI To Learn About the Latest Greatest Control Technologies
- Work With EPRI And Other Utilities To Share Lessons Learned On Mercury CEMs.
- Listen Intently For The Latest Word On Regulations.
- Be Positioned With Qualified Information To Initiate Compliance Strategies When Hg Regulations Are Ultimately Promulgated.
- 2004 Dejavu

Bridging the Compliance Gap

- ACI / Baghouse ?
- Oxidation Agent Addition ?
- FGD Hg Re-Emissions Inhibitor ?
- Reliable, NIST Traceable, Accurate Measurement



Baseline
Mercury Capture

MACT
Compliance

Perspective

It took ~ 30 years to perfect the soda can.
Daniel F. Cudzik of Reynolds Metals in
Richmond, Virginia invented the stay pull tab
on the aluminum can in 1975.

Perfect Mercury Measurement?

Perfect Mercury Control?

Riding the Mercury Train

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