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EERC Technology… Putting Research into Practice

ECONOMIC CONSIDERATIONS FOR ADDITIVE INJECTION

Contractors Review Meeting

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Technology

- $CaCl_2$ injection in the coal.
  - Most useful with Western coal (PRB, lignite).
  - More effective with SCR.
- Technology can be enhanced with PAC to achieve higher removals.

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Case Study

- Hawthorn Unit 5
  - 550 MW wall-fired unit, SCR, SDA, FF
  - Burns PRB Coal
- Assumptions/Methods
  - Capital equipment included
  - Ash sales neutral
  - Includes cost of monitoring

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Economics

Plant Name	**Hawthorne**				
Plant Size	550	550	550	550	550
Hg Control Technology	SEA1	SEA1	SEA1	SEA1	PAC + SEA1
Sorbent Feed Rate, (lb/Macf)	0	0	0	0	2
Coal Additive Rate, (lb/Macf)	1.1	2.0	3.0	6.0	1.3
Total Mercury Reduction, %	50	60	80	90	80
Total Annual Cost ($/yr)	1,430,000	2,440,000	3,590,000	7,100,000	3,420,000
Mercury Reduction by Technology, ($/lb)	**$565**	**$1,430**	**$19,800**	**$34,900**	**$13,500**

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Conclusions

- $CaCl_2$ injection when used with SCR can be a cost effective mercury control technology.
- The use of PAC decreases the cost per lb of Hg removed at higher removal efficiencies.

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