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Progress Made During 2004 on Activated Carbon Injection Technology for Control of Mercury from Coal-Fired Boilers

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This paper is being submitted in response to the EPA Notice of Data Availability (NODA) related to new information on the performance and cost of mercury control technology. The purpose of this paper is to highlight key results from recent full-scale tests of sorbent injection technology conducted as part of programs funded by the Department of Energy National Energy Technology (DOE/NETL), EPRI, and electric power generating companies. These results provide evidence of how rapidly the technology is improving resulting in higher levels of mercury removal at significantly lower costs.

The following topics will be covered in this paper:

- Enhanced capture of mercury from Western fuels through technology innovations and improvements
- Results of a long-term (one year) test of sorbent injection
- EPRI TOXECON and TOXECON II technologies for plants that sell their ash
- Cost implications of recent test results

In addition to the summary information provided in this paper, details of the individual test programs are included in technical papers and presentations that are attached.

SORBENT INJECTION TECHNOLOGY

The power industry in the US is faced with meeting new regulations to reduce the emissions of mercury compounds from coal-fired plants. These regulations are directed at the existing fleet of nearly 1100 existing boilers. These plants are relatively old with an average age of over 40 years. Although most of these units are capable of operating for many additional years, there is a desire to minimize large capital expenditures because of the reduced (and unknown) remaining life of the plant to amortize the project.

In addition, utilities are being faced with operating in an unregulated competitive environment in which they must strive to be the low cost provider. Since the cost of fuel represents approximately 70% of the incremental cost of generating electricity, it is critical that the plant be able to purchase the cheapest fuels available. It is also critical that these plants are operating reliably, especially during peak demand periods.