LONG-TERM DEMONSTRATION OF SORBENT ENHANCEMENT ADDITIVE TECHNOLOGY FOR MERCURY CONTROL

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Parametric studies have been conducted at Hawthorn Unit 5 and Mill Creek Unit 4. The results of SEA1 and powdered activated carbon (PAC) injection with fresh selective catalytic reduction (SCR) catalyst at Hawthorn are favorable. Greater than 90% reduction from baseline conditions (96% overall) was obtained with 500 ppm SEA1 ($CaCl_2$) (coal equivalent Cl) and 2 lbs/Macf PAC. The baseline measurements at Mill Creek's wet flue gas desulfurization (FGD) outlet indicated a mercury concentration of ~2.0–3.0 μg/m^3. Based on the average coal mercury concentration of 9.09 μg/m^3, the baseline removal was 70%–80%. PAC injection had little if any impact on mercury removal at Mill Creek. In fact, based on the parametric results, the addition of PAC with either the Babcock and Wilcox (B&W) wet FGD additive or SEA2 had a negative effect on mercury removal. An overall mercury removal of 90% was achieved using the B&W wet FGD additive at an add rate of 80 gph. Long-term testing was completed at Mill Creek in October 2007 with the B&W scrubber additive. The data for the long-term study are not available at this time.