

Mercury Reduction Performance of Concrete-Friendly™ C-PAC™ Sorbent

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ABSTRACT

When traditional powdered activated carbon (PAC) mercury sorbents become mixed in with fly ash, the power plant can no longer sell the ash for its highest-value use, as a replacement for cement in concretes. The primary problem is that the PAC highly adsorbs the special air-entraining admixture (AEA) chemicals added to the concrete slurry to generate the air bubbles required for workability and freeze-thaw capabilities.

This paper will present results scaling up a unique brominated PAC called C-PAC™, which has been processed to have extremely low AEA adsorption. A DOE-sponsored full-scale thirty-day trial with this concrete-friendly™ C-PAC™ was performed at Midwest Generation's Crawford Station last summer. The mercury reduction performance results of that trial will be detailed in this presentation. Data on stack opacity and electrostatic precipitator operation will also be presented for the unit's very small, 120-SCA ESP. The resulting C-PAC™ mercury control economics will be discussed.

See also the companion paper by Qunhui Zhou on the concrete performance of fly ashes containing C-PAC™ from the Crawford Station trial.

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