

Leaching of Phase II Mercury Control Technology By-products

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ABSTRACT

The U.S. EPA has issued a final regulation for control of mercury from coal-fired power plants. An NETL research, development and demonstration program under DOE/Fossil Energy Innovations for Existing Plants is directed toward the improvement of the performance and economics of mercury control from coal-fired plants. The current Phase II of the RD&D program emphasizes the evaluation of performance and cost of control technologies through slip-stream and full scale field testing while continuing the development of novel concepts. One of the concerns of the NETL program is the fate of the captured flue gas mercury which is transferred to the condensed phase by-product stream. These adulterated by-products, both ashes and FGD material, represent the greatest challenge to the DOE goal of increased utilization of by-products. The degree of stability of capture by-products and their potential for release of mercury can have a large economic impact on material sales or the approach to disposal. One of the considerations for mercury control technology is the potential trade-off between effective but temporary mercury capture and less effective but more permanent sequestration. As part of a greater characterization effort of Phase II facility baseline and control technology sample pairs, NETL in-house laboratories have performed aqueous leaching procedures on a select subset of the available sample pairs. This report describes batch leaching results for mercury, arsenic, and selenium.

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