

COMBINED UNDERGROUND DISPOSAL OF
FLYASH AND SCRUBBER SLUDGE¹

by

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Abstract: Since the passage of the Clean Air Act, there is an increased requirement for the installation of Flue Gas Desulfurization equipment (FGD) on both existing and new coal-fired power plants. This FGD installation will create additional quantities of scrubber sludge for disposal, adding to the existing disposal problems for both flyash and bottom ash. Flyash disposal is already a problem for many utilities and is likely to become more so with the increasing pressure from environmental groups to treat flyash as a hazardous waste.

Fieldwork is outlined that was conducted to obtain samples of the existing waste streams from a coal fired power plant and the testing that was conducted on these materials. The aim of the testing was to determine the combinations of waste streams, that when mixed with a cementaceous agent, would create a grout that had a defined strength after curing and that had no decant water. The testing also reviewed the effect of different cementaceous agents, including: lime, cement, and kiln dust. The testing also studied the pumpability of the grout/slurry and its ability to avoid segregation.

The method utilized to determine the available mine void and ways in which existing stoppings or ventilation barriers would effect the grout/slurry take will be outlined. The computer analysis indicates ways in which the injection borehole location can be optimized to avoid environmental or surface ownership location restrictions while maximizing the take per hole.

The costs for the installation of a grout/slurry disposal system and will define the characteristics of the proposed grout/slurry, including review of potential groundwater problems will be outlined. Further, it will be demonstrated that if a suitable adjacent void exists, all of a power plants waste stream can be disposed of in an environmentally acceptable manner.

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