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FINAL ENVIRONMENTAL ASSESSMENT

INSTALLATION OF FLUE GAS DESULFURIZATION SYSTEM ON PARADISE FOSSIL PLANT UNIT 3

Muhlenberg County, Kentucky

TENNESSEE VALLEY AUTHORITY

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Proposed project: Installation of Flue Gas Desulfurization (Scrubber) System on Paradise Fossil Plant Unit 3
Muhlenberg County, Kentucky

Lead agency: Tennessee Valley Authority

**For further information,
contact:**
Bruce Yeager
NEPA Team Leader
Tennessee Valley Authority
400 West Summit Hill Drive (WT 8C)
Knoxville, TN 37902
Phone: (865) 632-8051
Fax: (865) 632-6855
e-mail: blyeager@tva.gov

Abstract: The Tennessee Valley Authority (TVA) has prepared a Final Environmental Assessment (FEA) of a proposal to reduce sulfur dioxide (SO_2) emissions from Unit 3 at Paradise Fossil Plant (PAF) by installing flue gas desulfurization equipment that employs the wet limestone forced oxidation technology. TVA needs to reduce SO_2 emissions at PAF to meet requirements under the 1990 Clean Air Act amendments. This FEA considers the impacts of the No Action Alternative and the proposed Action Alternative.

Issue areas identified in scoping of potential environmental impacts and subsequently analyzed in the EA were air quality; vegetation, wildlife, and natural areas; protected and sensitive species; wetlands and floodplains; land use, visual aesthetics, and noise; cultural resources; coal combustion byproduct generation, handling, and disposal; surface water and wastewater; groundwater quality; aquatic ecology; socioeconomics; and transportation.

Impacts of the proposed Action Alternative are insignificant with incorporation of the following commitments. Operational and technological controls to meet limits of the PAF National Pollutant Discharge Elimination System permit would avoid aquatic toxicity in discharges from PAF. TVA will complete all appropriate coordination under Section 106 of the National Historic Preservation Act when more specific information is available and prior to making a decision on the purchase of limestone in 2005-2006. Since approximately 2.2 acres of wetlands previously degraded by mining activity may be affected, TVA would coordinate with the U.S. Army Corps of Engineers (USACE) to obtain a federal jurisdictional determination for wetlands within the project area. If USACE determines the wetlands to be jurisdictional, TVA would obtain a USACE permit/state water quality certification and must comply with all mitigation requirements. Use of Best Management and Engineering Practices, elevation or flood proofing of critical system components, and provision of portable toilets for project construction personnel ensure that construction-related discharges would comply with applicable regulations and Executive Orders. If during construction, soil contaminated with diesel fuel is encountered, it would be tested and if appropriate disposed of or managed on site in accordance with applicable Kentucky regulations.

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