

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
INSTALLATION OF A MECHANICAL GYPSUM DEWATERING SYSTEM AT
KINGSTON FOSSIL PLANT

Proposed Action and Need

In July 2009, the Tennessee Valley Authority (TVA) Board of Directors passed a resolution to review and address systems, controls, and standards related to coal combustion products (CCPs) (fly ash, bottom ash, and gypsum), which result from the burning of coal to produce electricity. TVA has subsequently reviewed its practices for handling and storing CCPs at its generating facilities, including its coal-fired Kingston Fossil Plant (KIF). An outcome of that review is the current proposal, for which TVA has prepared a final supplemental environmental assessment (SEA), to mechanically dewater the gypsum produced by the scrubbers rather than use the current gravity dewatering method. The SEA, which is incorporated by reference, supplements a 2006 environmental assessment (EA) entitled *Installation of Flue Gas Desulfurization System at Kingston Fossil Plant*.

Alternatives

TVA reviewed two alternatives in the SEA: No Action and Action.

Under the No Action Alternative, TVA would continue current operations as described in the 2006 EA for the addition of scrubbers at KIF. TVA would continue the use of the wet gypsum gravity dewatering and handling system and the use of existing impoundments as are currently permitted.

Under the Action Alternative, which is also the Preferred Alternative, TVA would add a mechanical dewatering handling system to the CCP handling process. TVA would not operate the gypsum disposal area (GDA) as proposed in the 2006 scrubber EA unless the mechanical dewatering system is temporarily offline. The current process for removing the effluent slurry from the scrubber is to send the effluent slurry directly to the GDA for settling and gravity dewatering prior to stacking the gypsum. This type of operation is typically referred to as wet stacking. TVA is now proposing to install a mechanical gypsum dewatering system and to provide a transfer point for on-site gypsum disposal (i.e., the GDA) and off-site gypsum sales.

Impacts Assessment

The construction of the proposed gypsum dewatering and handling system would occur on previously disturbed parts of the KIF site and would not affect wetlands, floodplains, wildlife, vegetation, aquatic ecology, endangered or threatened species, natural areas, prime farmland, navigation, recreation, or cultural resources. Potential effects to these resources were evaluated in the original scrubber EA, which also addressed the addition of dewatering equipment in the currently proposed location.

The potential environmental consequences of the No Action and the Action Alternatives are compared in Table 1 below on air resources, water resources, solid waste, and transportation. The No Action Alternative would be a continuation of the current operation. The Action

Alternative would involve converting the wet handling system to a dewatered gypsum handling system and the subsequent operation of the new system including the GDA.

Table 1. Comparison of the Environmental Consequences of the No Action and Action Alternatives

Issue Area	No Action Alternative	Action Alternative
Air Resources	None	The air quality impact of construction-related activities for the project would be minor. Operation of the proposed dewatering system and disposal operations would comply with the State of Tennessee process regulations and fugitive dust regulations and would have total particulate matter emissions below significant emission levels.
Water Resources	Discharge to the GDA would contain 30 percent solids.	Discharge to the GDA would contain 0.2 percent solids, a smaller fraction of solids compared to the flow into the GDA from the existing system. The eventual discharge of the flue gas desulfurization wastewater through the condenser cooling water channel would not adversely impact water quality.
Solid Waste	None	No change in volume of gypsum handling
Transportation	None	No drops in the level of service are expected for the common route to Interstate Highway 40, which is Swan Pond Road to U.S. Highway 70 and then to Pine Ridge Road. The potential for additional accidents from increased truck traffic would be insignificant.

Public and Intergovernmental Review

TVA accepted comments on the draft SEA from August 31, 2010, until September 30, 2010, and the comments and responses are included in the final EA. The draft SEA was posted on the TVA Web site, and copies were mailed to state and federal agencies.

Special Commitments and Mitigation Measures

- During construction, emissions from open construction areas and unpaved roads will be mitigated by spraying water on the roadways, as needed, to reduce fugitive dust emissions.
- During operation of the system, wet suppression of the GDA and the paved/unpaved roads will be implemented.
- TVA will conduct an operational characterization of the waters of the GDA to confirm no significant impacts to the Clinch River. The waters will be analyzed for metals and other parameters. If determined to be necessary, appropriate mitigating measures will be evaluated and implemented to ensure that the discharge National Pollutant Discharge Elimination System Permit requirements for the water quality parameters are met.

- Portable toilets will be provided for the additional construction workers as needed. These toilets will be regularly pumped out and the sewage transported by tanker truck to a publicly owned treatment works accepting pump out.
- Although the impacts of the trucks transporting ash materials will be minor on the transportation network, TVA's request for proposals will require potential bidders to use appropriate measures for reducing the potential impact of their KIF trucking activities upon the environment. The contractor will be required to take into account such factors as air pollution, erosion control, noise control, solid waste disposal, and wastewater disposal. Truck owners will be required to maintain trucks properly, including tune-ups, which improve fuel efficiency. Truck routes will avoid schools, historic districts, and downtown areas to the extent possible. Additional requirements such as the use of ultra-low sulfur diesel fuel and the minimizing of vehicle idling time will also be required.

Conclusion and Findings

Based on the findings listed above and the analyses in the SEA, TVA concludes that the proposed action involving the construction and operation of the gypsum dewatering handling system at KIF would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required. This finding is contingent upon adherence to the mitigation measures provided above.



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Date Signed