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FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
WIDOWS CREEK FOSSIL PLANT SOIL EXCAVATION AND GYPSUM STACK CLOSURE
JACKSON COUNTY, ALABAMA

The Tennessee Valley Authority (TVA) proposes to close the Gypsum Stack (GS) at its Widows Creek Fossil Plant (WCF). The GS is a 160-acre area used for the long-term storage of gypsum and some fly ash. Part of this closure effort would involve constructing a cover over the GS. This cover would shed surface water, limit infiltration, and better isolate the gypsum/fly ash from direct contact with the environment. TVA proposes to use soils excavated from property adjacent to WCF that it owns for the soil layer of the cover over the GS.

With the retirement or idling of seven of the eight coal units at WCF, continued operation of the GS is no longer needed. Closing the GS would result in a stable facility that would reduce the infiltration of water into the gypsum/fly ash and the potential release of leachate from the facility.

The proposed action is the subject of an environmental assessment (EA) prepared by TVA. This EA is incorporated by reference. The EA evaluates two feasible alternatives, i.e., the No Action Alternative and the Proposed Action Alternative. Under the No Action Alternative, TVA would not proceed with the closure of the GS. TVA would also not construct a soil excavation area (SEA) on property adjacent to its WCF. Environmental conditions in the project area would not change. Absent continued maintenance, the GS would become more susceptible to failures and safety risks would increase over time. TVA also considered removing the gypsum/fly ash material in the GS (digging it up) and moving it to a lined landfill, but the cost of doing this would be significantly higher than the proposed action and would have much greater transportation related impacts.

Under the Proposed Action Alternative, TVA would proceed with the closure of the GS. To facilitate the closure, TVA is proposing to use property adjacent to WCF as a SEA to provide a sufficient quantity of suitable soil for construction of the final cover system. The GS closure would follow a two stage process. Stage 1 consists of installing permanent and interim storm drainage pipes from the top of the GS to the existing perimeter ditch; grading the top of the GS; and construction of the final cap/cover system. Stage 2 consists of grading the side slopes of the GS; installation of drainage pipes and structure on the slope and perimeter ditch; re-grading perimeter ditch; installation of outlet culverts; and final surfacing of the access and perimeter roads.

The final cover system would consist of a flexible membrane layer overlain by a geocomposite drainage layer and cover soil. Approximately 400,000 cubic yards of soil for vegetative soil support layer (VSSL) would be needed to close the GS. The VSSL would be a minimum of 18 inches of earthen material that is capable of sustaining native plant growth. Seeding or sod would be placed over the cap to facilitate the establishment of vegetation. The proposed GS closure is anticipated to take 48 months. During closure activities, TVA would utilize the dredge cell, which is previously disturbed, as the laydown area.

A SEA totaling approximately 60 acres of the adjacent property was identified as being suitable as a source of soil for the GS cover. Soil would be excavated from up to 35 acres of the SEA and the remainder would be used for a construction laydown area. Soil excavation would involve the use of heavy equipment, including bulldozers, backhoes, excavators, water trucks, and articulated dump trucks. TVA would need to remove vegetation, including trees and other plant materials, due to the excavation activities. TVA would transport the VSSL to the GS along proposed paved and unpaved haul roads.

The proposed haul roads would be approximately 28 to 31 feet wide to support one-way traffic. The proposed haul roads would connect with the GS' Perimeter Road in order to access the GS. The existing 14.5-foot wide concrete bridge structure at the Horn Branch crossing would be upgraded by installing a new bridge structure that is suitable to handle the traffic load on top of it. The proposed bridge would be a 42 foot pre-cast box beam structure with heavy duty guardrails.

The proposed haul roads would cross County Road 96 to connect with GS Perimeter Road. The proposed haul road would utilize no more than 1,000 feet of CR96. TVA proposes to close a 1.26-mile section of CR96 that includes the crossing area during working hours (7:00 am to 4:00 pm Monday through Friday) to allow the haul trucks to access the GS. TVA would set up traffic controls (flaggers, signals, etc.) to safely close the road and allow the safe crossing of haul trucks. When the project is complete, TVA would repair any damage to CR96 caused by hauling activities. All disturbed areas would be revegetated with non-invasive species at the completion of the soil excavation and GS closure project to avoid erosion and sediment transport.

Potential effects related to geology and soils, natural areas, land use, cultural resources, floodplain, solid and hazardous waste, were absent or minor. There would be minor, temporary decrease in surface water quality in Horn Branch during the proposed bridge work. The proposed detention pond is located within the limits of an unnamed ephemeral tributary to Widows Creek. Given the intermittent flow and lack of aquatic life, there would be no adverse impacts to modifications of this ephemeral stream. Therefore, minor surface water impacts are anticipated under Alternative B. There would be no adverse impacts to groundwater quality from the soil excavation and haul road activities. The GS cover system would reduce infiltration of precipitation into the GS by establishing an impervious cover over the GS. Therefore, the dewatering and installation of the cover system on the GS is anticipated to have minor to negligible impacts to groundwater quality and potentially substantial positive benefits by reducing leachate from the GS.

There would be no significant impacts to visual resources, but long-term improvement in scenic integrity would occur with the reclamation of the GS. There would be short-term adverse impacts from the temporary closure of CR96 to the public during working hours and increase in construction traffic. A five-mile detour is available for traffic that would otherwise travel CR96 and no significant long-term transportation impacts would occur. There would be minor, temporary effects during soil excavation activities to air quality (fugitive dust), noise, socioeconomics and environmental justice; no long term significant impacts would occur.

The placement of the foundation of the proposed Horn Branch bridge improvement would impact approximately 0.10 acre of the large forested wetland complex just north of the GS. The construction of five of the proposed stormwater outflows at the toe of the GS and some grading on the southeast side of the GS would impact approximately 0.6 acre of wetlands. Based on site topography and existing site constraints (roads and site geology) of the GS, TVA has determined there is no practicable alternative to the direct impacts of 0.70 acre of wetland under

Alternative B. To mitigate for these wetland impacts, TVA will purchase 1.4 credits in an approved mitigation bank within the Horn Branch watershed services area. With required mitigation, wetland impacts would be insignificant.

The USFWS concurred with TVA's determination that the proposed action may affect, but is not likely to adversely affect Indiana bat or gray bat, and would not jeopardize the northern long-eared bat.

Mitigation

TVA will implement routine best management practices and the following compliance measure listed in the EA for reducing adverse environmental effects from the closure and soil excavation activities.

- To offset the loss of wetland habitat, TVA will purchase 1.4 credits in an approved mitigation bank within the Horn Branch watershed services area.

Conclusion and Findings

Based on the findings in the EA, TVA concludes that the proposed action of closing the GS using soil excavated from property adjacent to its WCF 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 described above.

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Date Signed