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FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
PARADISE CCR MANAGEMENT AND PROCESS
WATER BASINS
MUHLENBERG COUNTY, KENTUCKY

The Tennessee Valley Authority (TVA) is proposing to construct three process water basins (PWBs) for treatment of plant process flows and surrounding stormwater flows in support of TVA's stated goal of eliminating all wet coal combustion residual (CCR) storage at the Paradise Fossil Plant (PAF). The PWBs are consistent with the preferred alternative in the 2017 Paradise CCR Management and Operations Environmental Assessment (2017 EA); however, under that action the PWBs would have been developed within the footprint of Slag Impoundment 2A/2B. In contrast, the action under consideration proposes locating the PWBs in an alternate location separate from the existing slag impoundment.

This proposed action will assist TVA in complying with state requirements and the Environmental Protection Agency's CCR Rule. The project is needed to facilitate on-going plant operations and the proper management and treatment of water in accordance with Kentucky Pollutant Discharge Elimination System (KPDES) permitting requirements. TVA has prepared a supplemental environmental assessment (SEA) for this proposed action, which is incorporated by reference. The SEA is a supplement to the 2017 EA.

Alternatives

TVA evaluated two primary alternatives in the SEA: Alternative A – No Action and Alternative B – Development of PWBs in an Alternate Location.

Under the No Action Alternative, TVA would implement the preferred alternative described in the 2017 EA – Construction of an onsite CCR landfill, Implementation of CCR Dewatering and Handling Projects, and Impoundment Closures. Some CCR in Slag Impoundment 2A/2B would be excavated to achieve the final desired grade. This excavated CCR would be consolidated into the Peabody Ash Impoundment or would be recovered by Harsco for marketing where feasible. The excavated surface would be covered with a composite geosynthetic liner to meet or exceed applicable permeability requirements, and the impoundment would be converted to lined PWBs.

Under Alternative B, TVA would implement the preferred alternative as described in the 2017 EA, but would develop the PWBs and associated chemical wastewater treatment injection in a separate location immediately north of Slag Impoundment 2A/2B. As such, no PWBs would be developed within the footprint of Slag Impoundment 2A/2B. Under this alternative, Slag Impoundment 2A/2B would be Closed-in-Place as specified in the 2017 EA. Impoundment 2A may be used as a "staging area" for interim tanks during construction of the PWBs. Impoundment 2C will remain in service and would be cleaned out and lined.

Process water lines and bottom ash lines would also be constructed to convey process water directly to a junction chamber where flow would be diverted to PWB 1 during normal operations. The bottom ash lines would be routed first to a dewatering tank so that the effluent entering the PWBs would meet all KPDES permit limits. Flow would continue in series from PWB 1 to PWB 2, and then to PWB 3 through connecting pipelines. Flow would be released to the Green River from a newly permitted KPDES outfall after final treatment in PWB 3.

Additional site modifications in conjunction with the proposed action include the modification of Coal Yard Pond 1 and replacement of Coal Yard Pond 2 which is currently located in the footprint of the proposed PWB 1. Both of these ponds are located within the limits of disturbance (LOD) and include an associated pipeline or ditch to convey runoff to PWB 1. Removal of existing Coal Yard Pond 2 will require removal of coal fines that have accumulated in the area and transfer of any coal fines that can be either reclaimed to the coal pile for fuel or to the Peabody Ash Pond to be used as fill material.

Additionally, bottom ash lines would be developed to convey bottom ash sluice from the plant to dewatering tanks and an associated bottom ash laydown area. Water released from the dewatering tanks would be conveyed via pipeline to the previously described junction chamber where flow would be conveyed to PWB 1.

Laydown areas would be the same as they were originally defined in the CCR Management EA or would be located within the footprint of the LOD. Additional activities that would be undertaken as part of this alternative include the following:

- Use of power sources in the coal conditioner buildings or other suitable location within the LOD and appropriate interconnects.
- Use of potable water for polymer mixing from a location close to the utility/maintenance building and associated piping.
- Installation of appropriate automatic process controls for wastewater treatment connecting to the Unit 3 scrubber building or other location within the LOD.
- Use of existing gravel roads to support construction, operations, and chemical delivery.

Impacts Assessment

TVA determined that potential impacts of the alternatives on air quality; climate change; natural areas, parks, and recreation; aquatic ecology; visual resources; solid and hazardous waste and hazardous materials; noise; transportation; and socioeconomics are bounded by the analysis contained in the 2017 EA including the site-specific assessment of PAF ash impoundments.

Based on the analyses in the SEA, TVA concludes that implementation of Alternative B would not affect threatened and endangered species, wetlands, and cultural and historic resources. There would be minor and mostly temporary construction-related impacts to groundwater, surface water, soils, floodplains, vegetation, wildlife, and wetlands.

Implementation of Alternative B would result in minor temporary impacts from construction to groundwater and surrounding surface waters which would be mitigated with implementation of Best Management Practices (BMPs). The new Coal Yard Pond 2 would be constructed up-gradient of PWB 1 to intercept coal yard runoff and would function to remove sediment prior to entering the PWB system, thereby reducing surface water impact. Two Wet Weather Conveyances (WWCs) in the area between the existing slag ponds and the Green River would be impacted (total of 92 linear feet) by a new outfall structure. These WWCs are not considered jurisdictional streams. However, final confirmation of jurisdictional status would be determined by the USACE, Louisville District. The impacts to these onsite WWCs would be direct and permanent. However, these WWCs are not of high quality and with the proper controls of both process and storm water, discharges would be expected to have minor impacts to the receiving surface waters of the Green River.

Under future operating conditions, it is expected that the level of water treatment would be maintained or enhanced as flows would be treated in lined PWBs, thus eliminating any potential seepage. With proper treatment implementation, the water quality of these waste streams would not be expected to negatively impact surface water quality.

Additionally, TVA would conduct routine characterization/monitoring of the new KPDES discharge. The waters would be analyzed for metals and other parameters. If determined to be necessary, appropriate mitigating measures would be evaluated and implemented as needed, which may include passive and/or targeted wastewater treatment to ensure that the discharge permit requirements for water quality parameters are met.

Construction of the outfall structure associated with PWB 3 would require minor removal and reinforcement with rip rap of undisturbed soils within a 1.9-acre area of the spillway area between PWB 3 and the Green River. Grading and construction activities have the potential to disturb soil stability and increase erosion. Despite this, impacts to soil resources associated with surface disturbances during construction and excavation activities are expected to be minor, as BMPs outlined in the Kentucky Best Management Practices for Construction Activities would be implemented to minimize erosion during land clearing and site preparation.

Based on current topographic conditions, the PWBs would be located outside the 100- and 500-year floodplain. Therefore, the proposed action would be consistent with Executive Order 11988. The proposed outfall would be constructed within the Green River floodplain, and is considered to be a repetitive action in the 100-year floodplain. To minimize adverse impacts, the outfall would be constructed at or below the existing ground elevation, and as such, would not result in the placement of a net increase in fill within the floodplain which would be consistent with the National Flood Insurance Program and EO 11988. TVA will also submit appropriate documentation to the Commonwealth of Kentucky in a Letter Of Map Revision (LOMR) to update the existing published floodplain mapping.

Impacts to vegetation would generally result from ground disturbance activities related to development of the PWBs and associated infrastructure. However, disturbance would primarily occur to developed open space, barren lands, and the highly disturbed plant communities within the industrialized portion of the site. Impacts to the relatively undeveloped riparian forested area along the Green River would be approximately 0.9 acre and are minor.

Construction activities would use equipment transported to the project area from offsite locations. This use of offsite equipment has the potential to contribute to the spread of invasive plant species. However, any temporary use areas within the project area would be revegetated with an approved seed mix of herbaceous vegetation. BMPs consisting of erosion control measures and use of approved, non-invasive seed mixes designed to establish desirable vegetation would mitigate the potential spread of invasive species. Therefore, because the project area is predominantly a previously disturbed industrial site, impacts to the forested riparian zone along the Green River are limited, and the potential expansion of invasive species would be minimized through use of BMPs, impacts to vegetation are minor.

Development of the PWBs would largely occur in intensely disturbed areas that offer little habitat for wildlife. Resident wildlife species in these areas are likely using the landscape opportunistically, and would continue to do so after construction of the PWBs has been completed. During construction, most wildlife present in the area would disperse to adjacent and/or other similar habitats. Direct temporary effects to some individuals may occur if those individuals are less mobile during the time of construction, especially if construction occurs during breeding/nesting season. Construction of the outfall would result in the loss of a very limited amount of low quality, forested riparian habitat. The proposed action would not substantially impact the local population of any wildlife species.

Both Alternative A and Alternative B would have beneficial impacts to groundwater due to measures taken associated with reduction in potential subsurface releases from ash impoundments and the commitment to supplemental mitigative measures such as groundwater monitoring.

Alternative B meets the purpose and need and would allow TVA to continue to support the implementation of TVA's stated goal of eliminating all wet CCR storage at its coal plants by establishing

lined PWBs for treatment of water generated onsite. Compared to the No Action Alternative, under Alternative B the PWBs would not be constructed on CCRs closed in place and thus will avoid implications associated with potential CCR rule changes regarding building over a former ash facility.

Public and Intergovernmental Review

The Draft SEA was released for public review and comment for 14 days beginning on July 2, 2018. The availability of the Draft SEA was announced in four local newspapers and posted on TVA's Web site. TVA circulated the draft SEA to local, state, and federal agencies and federally recognized tribes. Comments were received from the Kentucky State Clearinghouse in a letter which identified statutory and regulatory requirements. Pursuant to Section 106 of the National Historic Preservation Act, TVA consulted with the Kentucky State Historic Preservation Officer (SHPO) requesting concurrence that the proposed action would have no effect on cultural resources. The SHPO concurred with this determination in letters dated May 8, 2013; February 18, 2014; April 29, 2014; September 5, 2017; and July 19, 2018.

Mitigation

TVA's analysis of Alternative B includes mitigation, as required, to reduce or avoid adverse effects. TVA will implement best management practices throughout the project to minimize erosion, prevent spills, and further reduce potential impacts on environmental resources as described in the SEA.

In addition, TVA has identified the following non-routine mitigation regarding floodplains:

- TVA will submit documentation to update current and future site topography for onsite areas adjacent to the Green River, when appropriate. Changes in topography will be documented with the Federal Emergency Management Agency through completion of a LOMR.

Conclusion and Findings

Based on the findings in the SEA, TVA concludes that implementing Alternative B – Development of PWBs in an Alternate Location would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Date Signed