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Project Name: Coal Yard Closure, Construction of a Process Water Basin and Development of a borrow Site at JOF EA
Project Number: 2017-23

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
COAL YARD AND COAL YARD RUNOFF POND CLOSURE, CONSTRUCTION OF A
PROCESS WATER BASIN AND DEVELOPMENT OF A BORROW SITE ON TVA-OWNED
PROPERTY ON OR NEAR THE JOHNSONVILLE FOSSIL PLANT
ENVIRONMENTAL ASSESSMENT
HUMPHREYS COUNTY, TENNESSEE

Tennessee Valley Authority (TVA) has retired all coal-fired units at the Johnsonville Fossil Plant (JOF). As there is no longer a need for coal at JOF, TVA proposes to close the coal yard and coal yard runoff pond. However, TVA continues to operate 20 combustion turbine (CT) units at the Johnsonville Combustion Turbine Facility (JCT) to meet peak power demands primarily during the winter and summer. TVA also operates a Heat Recovery Steam Generator (HRSG) to supply steam to a customer (The Chemours Company) on an adjacent lot.

TVA needs to manage storm water and non-coal combustion residual process water from the JCT. Therefore, TVA is evaluating three possible locations for construction and operation of a process water basin. TVA is also considering developing a borrow site on nearby property owned by TVA to provide fill material to support the closure of the coal yard and coal yard runoff pond and other possible future projects at JOF including decommissioning of the coal plant, evaluated under a separate National Environmental Policy Act (NEPA) review. Borrow may also be used as needed for potential future actions such as closure of Active Ash Pond 2. If and when such actions are undertaken, they will receive separate NEPA review.

Alternatives

TVA evaluated four alternatives in the Environmental Assessment (EA):

- Alternative A – No Action
- Alternative B – Coal Yard Material Consolidation and Cap Closure
- Alternative C – Coal Yard Full Cap Closure
- Alternative D – Coal Yard Remove Material and Close

The impacts of the alternatives were assessed in the attached EA. The EA is incorporated herein by reference.

No Action Alternative: Under this alternative, TVA would not proceed with closure of the coal yard and coal yard runoff pond, construction of a process water basin, or development of a borrow site on TVA-owned property under the No Action Alternative. TVA would continue to secure and maintain the coal yard and coal yard runoff pond to ensure they do not degrade over time. The No Action Alternative is not viable or reasonable as it would not meet the project purpose and need, which is to close the coal yard and coal yard runoff pond because they are no longer needed, to manage storm water and process water from the JCT, or provide borrow material to support planned and future projects at JOF and the JCT. The No Action Alternative

is included because it provides a baseline for describing the anticipated environmental effects of the proposed action.

Alternative B: Under this action alternative, TVA would close the coal yard and coal yard runoff pond, construct a process water basin, and develop a borrow site.

Coal Yard and Coal Yard Runoff Pond: Closure of the coal yard includes the removal of approximately 24,000 cubic yards of unburned coal and 40,000 cubic yards of sediment from the coal yard runoff pond that is stockpiled on the coal yard. Because the quantity of unburned coal remaining in the coal yard has been estimated, TVA conservatively assumes this quantity could vary up to an additional 15 percent and the analysis in the EA is based on this assumption. TVA may elect to consider implementing a reclamation process to recover the maximum amount of reusable fuel remaining in the coal stockpile (70-90 percent of the stockpile). The useable fuel obtained by this process would be delivered to the nearest TVA facility, Cumberland Fossil Plant. The remaining material would be transported to the West Camden Sanitary Landfill. If TVA does not implement the reclamation process, all of the stockpiled material would be transported to the West Camden Landfill. Closure of the coal yard runoff pond would include dewatering, removal of pumps, pipes, platforms and mechanical equipment, and excavation and stockpiling of sediment onto the coal yard stockpile.

Following removal of the coal stockpile and coal yard remnants, CCR underlying the coal yard and soil from the south side of the coal yard would be excavated and consolidated within the north side of the coal yard. Although the coal yard is not governed under the Coal Combustion Residuals (CCR) Rule, the facility received coal ash in the past. The closure system for the north/consolidated side of the coal yard would be designed to meet all state and federal requirements and, although the unit is not subject to the federal CCR Rule, the criteria in 40 C.F.R. § 257.102(d)(3). The closure system would incorporate a geomembrane liner and cover consisting of either protective/vegetative soil or a turf system which consists of an engineered turf and sand fill. The remainder of the coal yard would be graded for proper drainage. Vegetation would be established on areas of bare soil on the south side of the former coal yard.

Process Water Basin: TVA is considering three options for construction and operation of a process water basin. Two potential locations were located within the coal yard project area and the other would be located in the north rail loop, a disturbed area on JOF property southeast of the coal yard project area. In any location, the process water basin would consist of two basins that would be lined with an approved liner system.

Borrow Site: The identified borrow site is a 165-acre site on TVA-owned property approximately 1.8 miles south of JOF. Within the borrow site limits, two sub areas (Areas B and C) totaling approximately 44 acres would be disturbed. Preliminary estimates indicate that a sufficient quantity of suitable soil could be obtained from the excavation areas within the borrow site to support currently known project needs. TVA has also identified a third excavation area (Area A) within the limits of the 165-acre borrow site that could be developed for future use. However, development of this third area in the future would be analyzed under a separate NEPA Review.

Alternative C: Under Alternative C, removal of the material stockpiled on the coal yard, closure of the coal yard runoff pond, construction of the process water basin, and borrow site development would be the same as described under Alternative B. However, under Alternative C, TVA proposes to cap the coal yard in its current footprint. As described under Alternative B, although the coal yard is not subject to the federal CCR Rule, the closure system would be designed and constructed to meet the criteria identified in 40 C.F.R. 257.102(d)(3) and would

include a protective/vegetative soil layer or a turf system which consists of an engineered turf and sand fill.

Because the full extent of the coal yard would be capped under this alternative, the process water basin would be constructed within either footprint of the coal yard runoff pond or within the north rail loop project area. All other actions described under Alternative B would also be included in Alternative C.

Alternative D: Under Alternative D, removal of the unburned coal and sediment excavated from the coal yard runoff pond, closure of the coal yard runoff pond, and borrow site activities would be the same as described under Alternatives B and C. Current estimates indicate that approximately 600,000 cubic yards (yd³) of CCR are located under the northern half of the coal yard. TVA conservatively estimates this quantity could vary by as much as an additional 15 percent and the analysis in the EA is based on this assumption. Closure of the coal yard would include the excavation of all coal remnants and underlying CCR including bottom ash/spent-bed material fill within the extent of the current footprint and transport of that material to the West Camden Sanitary Landfill. Once the coal yard material is removed, the site would be graded for proper drainage and reseeded with vegetation on areas of bare soil. Storm water would be routed to a new outfall. The process water basin could be constructed within any of the three proposed locations, the footprint of the coal yard, the coal yard runoff pond or the north rail loop. All other actions described under Alternative B would also be included in Alternative D.

Preferred Alternative

TVA has identified Alternative B – Coal Yard Consolidation and Cap Closure as the preferred alternative. Under this alternative TVA would close the coal yard and coal yard runoff pond, construct a process water basin at the north rail loop site and develop a borrow site on TVA-owned property located 1.8 miles south of JOF. Implementation of any of the alternatives would result in minor impacts to the environment. However, Alternative B is preferred because it would achieve the purpose and need of the project and avoids the additional offsite transport of CCR and spent bed materials excavated from the coal yard along public roads which is part of Alternative D. This eliminates the additional impacts associated with air emissions, increased traffic with its associated long-term safety risks and disruptions to the public that would be associated with such offsite transport. In addition, closure of the coal yard under Alternative B could be accomplished sooner, at a lower cost, and offers flexibility for future use of a portion of the coal yard than Alternative C.

Impacts Assessment

Based on the analyses in the EA, TVA concludes that the implementation of Alternative B would not adversely affect climate change, geologic resources, floodplains, wetlands, cultural and historic resources, or socioeconomics and environmental justice. There would be minor impacts to air quality, groundwater, noise, transportation, soils, groundwater, surface water and aquatic resources, plant and animal communities, visual resources, land use, prime farmland, natural areas, and public health and safety.

Air emissions from construction activities and transport of borrow material and coal stockpiled on the coal yard would have a minor transient impact on onsite and offsite air quality, which would remain well below the applicable ambient air quality standard. The reclamation process could result in fugitive dust emissions that could trigger added permitting requirements and modification to the site's Title V Air Permit. TVA would adhere to all terms and conditions of the permit including implementation of BMPs, such as dust suppression. Therefore, impacts to air quality during the reclamation process would be minor and temporary.

Best management practices (BMPs), as described in the project-specific Stormwater Pollution Prevention Plan (SWPPP), would be used to control sediment infiltration from storm water runoff during construction phases of the project. Specifically, these BMPs would be implemented during dewatering and excavation of sediment from the coal yard runoff pond ditch and, if dewatering is needed, during excavation the coal yard remnants and bottom ash fill from the south side of the coal yard. With the use of BMPs, impacts to groundwater during construction would be minor and temporary.

Any closure cover system selected for the coal yard would reduce surface water infiltration and would facilitate management of storm water thereby reducing contact with the underlying material and subsequent leaching to groundwater and receiving surface waters. Construction of the process water basin would include placement of a geosynthetic liner to form an impermeable barrier that would effectively contain collected water from multiple site processes. This impermeable barrier would also prevent leaching to groundwater, reducing the potential for groundwater quality impacts. Based on these conditions, the proposed methods of closure of the coal yard and coal yard runoff pond and construction of the process water basin are expected to have a beneficial impact to groundwater.

There are no noise sensitive receptors (such as residences and public recreation areas) within 500 feet of the coal yard, coal yard runoff pond or the north rail loop area; therefore, there would be no noise related impacts associated with the proposed project activities in these areas. There are public parks located from 0.2-0.85 miles from the proposed borrow site. Noise associated with development and operation of the borrow site would only occur during specific construction periods (when borrow is needed at JOF) and during normal working hours which would minimize noise impacts to visitors at these parks. Given the intermittent nature of construction noise, the impact of noise generated from construction activities would be minor.

There would be a minor increase in traffic volumes on roadways during transport of material stockpiled on the coal yard to the landfill or to Cumberland Fossil Plant and the transport of borrow to JOF. This increase would be temporary and would not impact the existing level of service on these roadways. Given the minor and intermittent nature of increases in traffic volumes associated with the proposed project activities, impacts to transportation and noise impacts associated with the traffic along these roadways would be minor. The increase in vehicle miles is a factor in injury and fatal traffic crash rates. The additional truck traffic creates additional opportunities for accidents, however given the limited duration of project activities and use of safety procedures and best management practices, and because the additional traffic would not alter the current levels of traffic congestion there would only be a minor temporary increase risk to traffic and driver safety.

When the need for borrow material ceases, the excavated areas would be graded and reseeded with grass to help promote soil stability, restore native soil biota, and reestablish soil functions. Soil functions in these areas would be adversely impacted until restoration is completed. BMPs outlined in the project specific SWPPP would be implemented to minimize erosion during land clearing, site preparation, and access road construction. With implementation of these BMPs, impacts to soil resources are expected to be minor.

Construction of the process water basin in the north rail loop would result in a direct loss of 0.13 acre of forested wetland. During project design, impacts to this wetland were minimized to the extent practicable, but engineering constraints associated with the siting of the process water basin did not allow avoidance; thus, there was no practicable alternative to the siting of the basin. Unavoidable direct impacts to wetlands will be mitigated as required by both state and

federal agencies in accordance with the Tennessee Water Quality Control Act and Section 404 of the CWA. Therefore, implementation of Alternative B would be consistent with EO 11990. One wetland was identified within the coal yard project area in the west peninsula. A total of 4.6 acres of wetlands were identified within the borrow site project area. Through careful project planning, the proposed excavation areas and construction of the NPDES permitted outfall would avoid direct impacts to all delineated wetland resources within the borrow site area. Erosion and sedimentation controls would minimize indirect impacts to wetland resources.

Access roads within the proposed borrow site would cross Little Indian Creek. A temporary culvert crossing of the stream would be used to maintain the flows while the borrow site is in use. Following the completion of borrow site use, the culvert would be removed and the stream channel would be restored to its previous condition. Aquatic ecosystems and associated aquatic biota within the creek would be impacted by stream alteration from culvert installation. Stream alteration would require a Tennessee Department of Environment and Conservation ARAP/401 Water Quality Certification and U.S. Army Corps of Engineers 404 permit. Construction of the National Pollutant Discharge Elimination System (NPDES) process water outfall on the shoreline of the Tennessee River (Kentucky Reservoir) may also have some temporary direct impacts on aquatic biota. Impacts would be minor for mobile aquatic resources, such as fish, that would likely avoid sections of the river during construction of the outfall and quickly repopulate reservoir sections shortly after construction activities. Less mobile aquatic organisms (aquatic macroinvertebrates) may be directly impacted by placement of rock at the outfall during construction. However, the area of impact would be very small, and many macroinvertebrate species would repopulate quickly. The discharges from this outfall during its operation would meet permit limits, and sampling would be performed at the outfall structure in accordance with the NPDES permit requirements.

The potential for impacts to water quality and instream habitat for aquatic organisms as a result of construction activities would be minimized through the use of applicable BMPs. All proposed project activities would be conducted in a manner to ensure that waste materials are contained, and the introduction of pollutants to the receiving waters would be minimized. A General Permit for Storm Water Discharges Associated with Construction Activities would be required for this project and this permit would require development of a project-specific SWPPP. The Tennessee Erosion and Sediment Control Handbook would be referenced to ensure BMPs are appropriate. Therefore, in consideration of the disturbance to surface water coupled with the commitment to implement appropriate BMPs, direct and indirect impacts to surface water and aquatic ecology resources are considered to be minor.

Final stormwater drainage from the coal yard and coal yard runoff pond would be routed to existing or new discharge points in compliance with the current NPDES permit, under the Tennessee Storm Water Multi-Sector General Permit or under a new NPDES permit for the JCT, to ensure compliance with regulatory requirements. All runoff would be monitored to ensure compliance with applicable regulations and permits and should result in only temporary, minor surface water impacts. Additionally, consolidating and capping of the existing coal yard and closure of the coal yard runoff pond would reduce loadings discharged to the Tennessee River (Kentucky Reservoir), providing minor beneficial impacts.

Closure of the coal yard, closure of the coal yard runoff pond and process water basin construction within the footprint of the coal yard and use of the laydown area would occur within a highly disturbed and fragmented industrial landscape that offers minimal habitat for wildlife. Construction of the process water basin in the north rail loop area would require removal of approximately 6.6 acres of fragmented deciduous forest. Some early successional habitat would

also be removed. Development of the borrow area would include removal of approximately 35 acres of forested lands and 9 acres of common herbaceous vegetation. While the proposed actions would result in alteration of habitats and displacement of resident wildlife species, impacts to wildlife are not expected to result in notable large-scale habitat alteration or destabilization of any wildlife species. Therefore, impacts to wildlife resulting from the implementation of Alternative B would be minor.

Approximately 35 acres of forest in the borrow site and 6.6 acres of forest in the north rail loop were identified as potential suitable summer roosting habitat for the federally listed Indiana bat and northern long-eared bat. No records of these species have been recorded within the proposed project areas. Unavoidable impacts to potential suitable summer roosting habitat for the northern long-eared bat and Indiana bat would be addressed using TVA's programmatic biological assessment on routine actions and federally listed bats in accordance with the Endangered Species Act Section 7(a)(2) (TVA 2017b). Specific conservation measures would be implemented to minimize effects, including tree removal of potentially suitable summer roosting habitat in winter months (between November 15 and March 31) where feasible. However, if tree removal must occur between April 1 and November 14, a bat habitat assessment would be performed. TVA would track and document removal of potentially suitable summer roost trees and include in annual reporting in accordance with Section 7(a)(2) consultation. For those activities with potential to affect bats, TVA would commit to implementing specific conservation measures to ensure that direct and indirect impacts to federally-listed bat species would be minor. Given the relatively small amount of suitable habitat (approximately 41.7 acres) proposed for removal, and the abundance of available habitat within the TVA region implementation of this alternative is anticipated to have a negligible impact on available bat habitat within the region.

The closed coal yard and process water basin would be mainly seen by employees and facility operators. These features would generally be absorbed by surrounding industrial components and would become visually subordinate to the overall landscape character associated with the plant site. Therefore visual impacts associated with these project actions would not be expected. There would be a long-term change in visual integrity of the landscape which would result in a minor impact to the local viewshed in the vicinity of the borrow site. However, after borrow materials are exhausted from within the site, the area would be graded and seeded or sodded to support the establishment of herbaceous vegetation. Therefore, it is not expected that the existing scenic class would be significantly reduced based on the U.S. Forest Service scenic management system used to assess visual impacts.

Under Alternative B, approximately 17 acres of undeveloped land in the proposed excavation areas within the borrow site are classified as prime farmland soils and would be converted to industrial use. The impacts to land use and prime farmland are minor due to the abundance of undeveloped land and land designated as prime farmland within a 5-mile radius of the site.

The transport of stockpiled materials from the coal yard runoff pond to the existing landfill or to Cumberland Fossil Plant would utilize existing roadways that are located adjacent to or within 0.5-mile of the two natural areas. Indirect impacts to natural and managed areas and parks along these routes associated with the offsite hauling of stockpiled material include increased traffic, noise, and potential fugitive dust from the transport vehicles. However, roadways used to transport stockpiled material to these facilities currently support truck traffic. This impact would be minor and would not impact the use or enjoyment of these areas given the short-term nature of the transport of the stockpiled material and the preferred use of arterial or interstate roadways that currently support truck traffic. There is a potential for indirect impacts associated with the

transport of borrow material to JOF as the haul route is located approximately 800 feet east of C.L. Edwards Memorial Park. However, because the haul route does not utilize the roadways within the park or impact the primary access road to the park, indirect impacts to users of this facility from project activities is small. Considering the intermittent nature of the transport of borrow and the relatively low number of trucks anticipated to be used to transport borrow material, indirect impacts to parks or recreation areas are anticipated to be temporary and negligible.

TVA would manage all solid waste and hazardous wastes generated from construction activities in accordance with pertinent federal, state and local requirements.

Public and Intergovernmental Review

The Draft EA was released for public review and comment for 30 days beginning on December 19, 2018. TVA notified local, state, and federal agencies and federally recognized Indian tribes of its availability through their required consultations. Pursuant to Section 106 of the National Historic Preservation Act, TVA consulted with the Tennessee State Historic Preservation Officer (SHPO) and federally recognized tribes requesting concurrence that the proposed action would have no effect on cultural resources. The SHPO concurred with this determination by letters dated April 5, 2018 and November 28, 2018, and no tribe objected or raised concerns.

Mitigation

TVA has identified the following BMPs that would be used to minimize impacts and restore areas disturbed during construction:

- TVA would use applicable BMPs as described in the project-specific SWPPP.
- Fugitive dust emissions from site preparation and construction would be controlled by wet suppression and BMPs (Clean Air Act Title V operating permit incorporates fugitive dust management conditions).
- Consistent with EO 13112, as amended by EO 13751, disturbed areas would be revegetated with native or nonnative, non-invasive plant species to avoid the introduction or spread of invasive species.

Mitigation measures designed to avoid, minimize, or compensate for adverse impacts associated with the proposed activities include:

- TVA would comply with the terms and conditions of any applicable TDEC Aquatic Resources Alteration Permit/401 water quality certification and U.S. Army Corps of Engineers (USACE) 404 permits, including any compensatory mitigation credits, if required, prior to the start of clearing and construction.
- Unavoidable impacts to potential suitable summer roosting habitat for the northern long-eared bat and Indiana bat would be addressed using TVA's programmatic biological assessment on routine actions and federally listed bats in accordance with the Endangered Species Act Section 7(a)(2). Specific conservation measures would be implemented to minimize effects, including tree removal of potentially suitable summer roosting habitat in winter months (between November 15 and March 31) where feasible. However, if tree removal must occur between April 1 and November 14, a bat habitat assessment would be performed. TVA would track and document removal of potentially suitable summer roost trees and include in annual reporting in accordance with Section

7(a)(2) consultation. For those activities with potential to affect bats, TVA would commit to implementing specific conservation measures to ensure that direct and indirect impacts to federally-listed bat species would be minor.

- Osprey nests are present on lighting structures around the coal yard project area. Birds nesting around the coal yard project area are acclimated to frequent, loud disturbances caused by the functioning of JOF and the JCT. No activities would occur that may cause additional disturbance beyond what these ospreys are accustomed to while the nests are occupied and active (typically March-July).
- The temporary culvert in Little Indian Creek would be designed in accordance with BMPs and design requirements appropriate for the site, Little Indian Creek, and construction access roads. The temporary culvert in Little Indian Creek would be removed once borrow site use is complete and the stream channel would be restored to its previous condition.
- The minimum amount of fill or riprap necessary to stabilize the outfall structures would be used.
- Upon cessation of excavation, the borrow site would be graded for proper drainage and vegetated with native, non-invasive plant species.

Conclusion and Findings

Based on the findings in the EA, TVA concludes that implementing Alternative B – Coal Yard Consolidation and Cap Closure, would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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03/14/19

Date Signed