

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
PARADISE FOSSIL PLANT
DECONTAMINATION AND DECONSTRUCTION
ENVIRONMENTAL ASSESSMENT
MUHLENBERG COUNTY, KENTUCKY

Tennessee Valley Authority (TVA) is proposing to decontaminate and deconstruct its Paradise Fossil Plant (PAF) located in Muhlenberg County, Kentucky. TVA needs to manage the disposition of the PAF site to provide necessary structures and facilities for ongoing site activities while considering capital cost, long-term operations and maintenance costs, environmental risks, safety and security at the plant site, and making the land available for future economic development.

PAF's coal-fired generating units (Units 1 and 2) were retired in April 2017 and replaced with a new 1,100-megawatt natural gas-fired combined-cycle (NGCC) plant located on the PAF reservation just north of the coal units. The coal-fired PAF Unit 3 was retired in February 2020 due to repair and maintenance costs. The Paradise NGCC Plant will continue operations at this site. Activities associated with the closure of the PAF ash disposal areas will occur independent of the proposed decontamination and deconstruction of PAF and were previously addressed in the Paradise Coal Combustion Residuals (CCR) Management Operations Environmental Assessment (EA).

Alternatives

TVA considered several options for the retired PAF plant, including closing and securing the plant in an "idle and vacant" status, selective decontamination, and demolition of ancillary structures and equipment while leaving the main powerhouse standing. However, these alternatives were rejected from detailed analysis in the EA because they did not meet the purpose and need of the project or were otherwise unreasonable.

TVA carried forward the following alternatives for analysis in the EA:

- Alternative A – Full Demolition of All Structures and Closure of the Coal and Limestone Yards
- Alternative B – No Action Alternative

The impacts of these alternatives are assessed in the attached EA, which is incorporated herein by reference.

Alternative A: Alternative A includes the decontamination and demolition of all buildings and structures within the demolition boundary to three feet below grade or to the top of the mooring cells. Demolition could be conducted via mechanical deconstruction and/or explosives. Alternative A also includes closure of the coal and limestone yards and transmission yards. Alternative A could create approximately 8,000 cubic yards of demolition debris, 20,000 cubic yards of asbestos-containing materials, and approximately 120,000 tons of scrap metal, that would be hauled offsite to be recycled or disposed at an appropriate facility in accordance with

all federal, state, and local regulations. Scrap metal could also be sold to local or regional vendors. No specific disposal site has been identified at this time and ultimate disposition site selection would be determined by the contractor.

Below-grade building areas would be backfilled with suitable concrete/masonry materials or other suitable clean fill material, and the site would be restored to grade while providing proper drainage. All disturbed areas would be covered with topsoil and seeded to establish a permanent vegetative cover or otherwise permanently stabilized. Borrow would be obtained onsite. If there is a need for borrow material from an offsite location, borrow would be obtained from one or more previously developed or permitted commercial borrow site(s) within 30 miles of PAF. TVA would perform any necessary due diligence and reviews in association with the use of such an offsite borrow source.

All buried utilities would be cut and capped within the project boundary and abandoned in place if they do not interfere with other ongoing projects that overlap the project footprint. All hollow pipe utilities would be decommissioned and sealed with a mechanical cap or plug.

The following structures and facilities located within the 464.5-acre project area are not part of this Alternative. These structures and facilities will either remain in place or will be evaluated under a separate NEPA analysis:

- Intake trash boom
- Livewell or credit union building
- Out Building 4

Alternative B: Under the No Action Alternative, TVA would not perform any decontamination or deconstruction activities at PAF. If the facility is left in the “as-is” condition, it likely would present a higher risk than Alternative A for the potential to contaminate soil and groundwater as systems and structures degrade. It would also hinder the future use of the site for economic development. As such, this alternative is not a reasonable alternative. However, the No Action Alternative is included because it provides a baseline for describing the anticipated environmental impacts of the other alternatives.

Preferred Alternative

TVA’s preferred alternative for fulfilling its purpose and need is Alternative A – Full Demolition of All Structures and Closure of the Coal and Limestone Yards. This alternative includes the decontamination and demolition of all buildings and structures within the demolition boundary to three feet below grade. Implementation of this alternative would meet the purpose and need of the project to appropriately manage the disposition of the PAF site to provide necessary structures and facilities for ongoing site activities while considering capital cost, long-term operations and maintenance costs, environmental risks, safety and security at the plant site, and making the land available for future economic development.

Impacts Assessment

Based on the analyses in the EA, TVA concludes that the implementation of Alternative A would not adversely affect land use and prime farmland; geology; aquatic ecology; wildlife; vegetation; threatened and endangered species; climate change; visual resources; natural areas, parks, and recreation; cultural resources; utilities and service systems; safety; and socioeconomics.

Activities associated with decontamination and deconstruction have the potential to result in long-term, beneficial impacts to groundwater, floodplains, wildlife, vegetation, visual resources, and safety.

Demolition activities could result in short-term, minor impacts to surface water via stormwater runoff. Construction stormwater discharges would be covered under the current Kentucky Pollution Discharge Elimination System permit; however, a best management practice (BMP) plan for the project would be drafted to detail all BMPs and sediment, erosion controls, and housekeeping practices. Surface water impacts resulting from disturbances during demolition would be mitigated by the use of stormwater pollution prevention BMPs to minimize the extent of disturbance and erosion.

Implementation of Alternative A would result in impacts to the 0.55-acre Wetland 3, located near the cooling towers. Wetland 3 would likely be destroyed during the demolition activities. Impacts to this feature would require mitigation and coordination with the U.S. Army Corps of Engineers (USACE). Mitigation is typically a 2:1 ratio, involving purchase of mitigation credits at a mitigation bank within the service area as required by USACE. This level of mitigation is sufficient to offset wetland impacts associated with the proposed action. Overall direct, indirect, and cumulative wetland impacts are expected to be insignificant. All other streams and wetlands will be avoided.

Air emissions associated with demolition activities would result in an increase in local emissions and fugitive dust. Emissions from equipment and vehicle use is expected to be short-term and minor. In addition, fugitive dust emissions associated with demolition activities would be mitigated through the use of BMPs, such as water suppression for dust control and regular inspections and maintenance of construction vehicles.

Implementation of Alternative A could result in short-term, minor impacts due to the limited potential for hazardous waste to be discharged and/or released into the environment and its associated management in accordance with all applicable state and federal regulations. Demolition debris and hazardous wastes would be hauled by truck to a landfill designed to receive such wastes. Due to the temporary nature of the operations and the use of permitted disposal facilities, along with trained and experienced contractors and personnel, environmental impacts from waste handling and disposal are not anticipated.

Under Alternative A, offsite transportation-related activities such as debris disposal, transport of borrow material, and workforce transportation would result in short-term, minor impacts to transportation. The stacks, cooling towers, and certain structures would be demolished via explosives, the use of which would necessitate increased security measures that would affect transportation in the immediate vicinity of the project site. During blasting events, select public roadways could be closed for public safety and to facilitate site security. Green River boat traffic could be restricted as well due to the potential for demolition debris to fall into the river. Traffic closures would vary from approximately three hours before and up to three hours after the blast. The closures would affect few local residents due to the sparse population in the area. The demolition contractor would create a detailed plan for road closures that would be coordinated with affected parties, including emergency personnel.

Implementation of Alternative A would result in short-term, minor impacts to noise receptors due to decontamination and deconstruction activities, drop removal of the stacks, cooling towers, and other structures, workforce vehicle traffic, transport of deconstruction debris offsite, and transport of borrow material within PAF. Due to the temporary nature of demolition events,

implementation of the demolition plan, the site's industrial location, and distance to nearest receptors (over 0.5 mile), noise and vibration effects on the environment are expected to be short-term and minor.

The reasonably foreseeable future actions (RFFAs) such as the closure of ash disposal areas, Wendell H. Ford Western Kentucky Parkway improvements at Exit 58, and Exit 58 Business Park would contribute to additional traffic volumes on the local transportation network. The number of trucks associated with the transport of debris from PAF deconstruction, added to the number of construction vehicles associated with the RFFAs, could result in a large number of trucks entering and exiting the facility on a daily basis. This could lead to cumulative impacts associated with congestion along adjacent arterial roadways and possibly on Kentucky Route 176, U.S. Highway 431, and Wendell H. Ford Western Kentucky Parkway. TVA would mitigate congestion in the vicinity of PAF with a traffic plan, as needed. Possibilities include staging of trucks, spacing logistics, or timing truck traffic to occur during lighter traffic hours (such as not in the morning or afternoon commute hours). With implementation of these mitigation measures, cumulative impacts of the proposed action to transportation would be short-term and moderate.

During demolition, there would be short-term increases in employment, payroll, and tax payments, resulting in minor beneficial direct and indirect economic impacts. Implementing Alternative A would not cause low-income or minority populations to be disproportionately affected by adverse environmental impacts. Two of the three census tracts (CTs) comprising the study area (CT 9601 and CT 9607) have higher percentages of low-income populations as compared to the state. Given the distance of these communities from PAF, there is a potential that these communities would be indirectly impacted due to an increase in traffic, noise, exposure to fugitive dust, and exhaust emissions from the trucks used to transport demolition debris. It is also likely that some of these communities would be along the routes taken during construction activities for other planned construction projects within the vicinity of PAF. Because these short-term actions are potentially coincident, potential cumulative impacts may be expected to occur on a local basis. Therefore, the cumulative impacts of the proposed action on noise and dust emissions within low-income and minority communities have the potential to represent a moderate increase in impacts to environmental justice populations, if these activities occur concurrently with other construction activities in the geographic area. Such physical impacts associated with the transport of demolition debris (i.e., noise, dust) would be minor and mitigated through BMPs designed to minimize emissions of fugitive dust and noise. These impacts would also be temporary occurring only during the construction periods of these projects.

Public and Intergovernmental Review

The draft EA was released for a 30-day public comment period on November 18, 2020. TVA's interagency involvement included circulation of the draft EA to local, state, and federal agencies for comments. Pursuant to Section 106 of the National Historic Preservation Act (NHPA), TVA has consulted with the Kentucky State Historic Preservation Officer regarding the determination that PAF is ineligible for inclusion in the National Register of Historic Places and TVA's finding that no historic properties are located within the Area of Potential Effect of the demolition and deconstruction project. The Kentucky State Historic Preservation Officer has concurred with TVA's determination.

TVA received one comment letter on the draft EA from a member of the public. The remaining comments received on the draft EA were from the Kentucky Department for Environmental Protection (state clearinghouse). All comments were carefully reviewed. Appendix D of the EA contains the comments on the draft EA and TVA's responses to those comments.

Mitigation

TVA would implement operating permit requirements and the routine BMPs described in the EA to avoid or reduce minor adverse environmental impacts associated with the decontamination and deconstruction activities. In addition, mitigation measures designed to avoid, minimize, or compensate for adverse impacts associated with the proposed activities include:

- TVA will notify Muhlenberg and Ohio Counties prior to any demolition activities that have the potential to mobilize dust offsite.
- TVA would conduct presence/absence surveys at least one month prior to demolition of the structures to determine if migratory birds or listed bat species are utilizing these buildings. If active nests of migratory birds are present and demolition activities must occur within the active nesting season, coordination with the U.S. Department of Agriculture Wildlife Services would be required for guidance to ensure compliance under the Executive Order 13186 [Responsibilities of Federal Agencies to Protect Migratory Birds].
- A number of activities associated with the proposed action are addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service (USFWS) on routine actions and federally listed bats in accordance with the Endangered Species Act Section 7(a)(2) and completed in April 2018. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. Conservation measures required for this project are identified on pages 5-8 of the TVA Bat Strategy Project Review Form (Appendix B of the EA) and will be implemented as part of the proposed action.
- If evidence of bat use in buildings warrants seasonal modification or removal, TVA will strive to (and in most cases anticipates being able to) accommodate seasonal modification or removal. Risk to human safety; however, will take priority. For project-specific cases in which TVA is unable to accommodate seasonal modification or removal, and federally listed bat species are present, TVA will consult with the USFWS to determine the best approach in the context of the project-specific circumstance. This may include establishment of artificial roosts before demolition of structures with bats present.
- TVA does not anticipate obtaining borrow material offsite. If there is a need for borrow material from an offsite location, borrow would be obtained from one or more previously developed or permitted commercial borrow site(s) within 30 miles of PAF, the selection of the borrow site would be left up to the contractor. However, TVA would perform all necessary due diligence and consultation as required under Section 106 of the NHPA related to any offsite borrow areas.
- To mitigate the potential for impacts to public safety, TVA would restrict or close roads in the vicinity should blasting be used to demolish the stacks, cooling towers, or other structures. Boat traffic could be restricted in the area during the demolition activities for safety, if necessary, and TVA would coordinate with relevant agencies as appropriate. TVA would work with the demolition contractor to create a detailed site-specific plan for any public road closures that would be distributed to affected parties, including emergency personnel.
- If determined necessary, TVA would mitigate traffic impacts by implementing measures such as timing of entry and exit to the facility, establishing alternate ingress/egress routes and possible busing of workers.

- TVA would require the demolition contractor to develop and implement a demolition plan to minimize vibration effects at PAF and in the vicinity.
- Explosives would be managed under the direction of a licensed blaster; 24-hour security would be provided to monitor the explosives.
- Detailed security plans related to the transport and storage of explosives and site security would be developed.
- Notifications to the public would be issued prior to the use of explosives for demolition. Prior to the demolition, the area would be prepared, and the explosives contractors would establish a fall exclusion zone. During the blast event, no personnel would be allowed in the fall exclusion zone.
- Though not anticipated, if deconstruction activities have the potential to emit pollutants greater than acceptable thresholds in PAF's existing Title V air permit, mitigation could include a request to modify the permit.
- To minimize adverse impacts on natural and beneficial floodplain values, demolition and deconstruction material would be disposed of outside of the 100-year floodplain, and concrete and masonry used as backfill in the floodplain would be placed at-grade or below.

Conclusion and Findings

Based on the findings in the EA, TVA concludes that implementing Alternative A – Full Demolition of All Structures and Closure of the Coal and Limestone Yards, 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