STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

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Via Electronic Mail to arfarless@tva.gov
Attn: Ashley Farless, NEPA Specialist
Tennessee Valley Authority
1101 Market St., BR2
Chattanooga, TN 37402

Dear Ms. Farless:

The Tennessee Department of Environment and Conservation (TDEC) appreciates the opportunity to provide comments on the Tennessee Valley Authority (TVA) *Draft Environmental Assessment* (EA) to *evaluate the disposition of buildings and physical structures at the Johnsonville Fossil Plant* (JOF) in Humphreys County, Tennessee near New Johnsonville. JOF ceased operation on December 31, 2017.[1] The purpose of the Proposed Action is for TVA to appropriately manage disposition of the buildings and physical structures at JOF that are no longer used for their original purpose to support power generation. TVA needs to manage the decommissioning and disposition activities of the site while considering capital costs, long-term operations and maintenance costs, environmental risks, and safety and security at the plant site. Decommissioning activities at JOF have already begun on Units 5 through 10 under an agreement that TVA entered into with the United States (U.S.) Environmental Protection Agency (EPA) in April 2011.[2] Work to be performed includes removal of equipment, components, and parts that can be used at other TVA sites, draining of oil/fluids from equipment, removal of ash from boilers, removal of polychlorinated biphenyl (PCB) transformers, removal of furniture/furnishings, removal of information technology assets, removal of plant records, and various other activities.

Actions considered in detail within the Draft EA include:

Alternative A2 – Assess, Close, and Secure Site; Close all CCW tunnels; Implement Operations and Maintenance Program to Maintain Structures and Equipment. The objective of Alternative A2 is to de-energize non-essential systems at JOF Units 1-10 and associated facilities, to minimize environmental and safety risks, and to convert the powerhouse and associated facilities to

[1] Prior to retirement, JOF was the oldest fossil plant in the TVA system with ten coal-fired generating units with a total capacity of 1254 megawatts (MW). The original six units were constructed between 1949 and 1956, followed by the construction of four additional units in 1956. Units 5 through 10 ceased power generation in 2012 and were retired on December 31, 2015. Units 1 through 4 ceased operation and were retired on December 31, 2017.
[2] Decommissioning is the performance of activities required to ready a facility for deactivation and demolition.

a closed “cold, dark, and dry” status. Existing JOF buildings, structures, and equipment within the Deconstruction Project Area would remain in place. Activities associated with Alternative A2 include:

- CCW intake and discharge tunnels would be abandoned in place by installing bulkheads and/or stop logs;
- Projects would be executed to supply raw river water to the water treatment building and fire protection system through installation of new pumping and piping systems;
- Maintenance of fire protection, fire detection, and fire alarm systems, if present, in all buildings;
- Removal of ash from sluice piping;
- Removal of sluice piping outside the powerhouse;
- Abandon sluice piping located beneath the harbor;
- Removal of loose lagging and insulation from Units 7-10 precipitators and from the common trunk duct;
- Maintenance of all HVAC systems and ventilation fans, if present, required for cooling of electrical equipment or personnel safety;
- Addition of heat tracing for critical fire protection supply lines for an unheated environment;
- Periodic roof and structural inspections;
- Periodic hazardous materials condition surveys and removal of hazardous materials over time;
- Removal of all PCB-containing and PCB-contaminated electrical equipment, followed by monitoring of any known PCB-contaminated areas (as required by federal regulation);
- Maintenance of stack lighting according to Federal Aviation Administration regulations;
- Maintenance of building lighting, necessary elevator(s), emergency lighting, exit signs required for walk downs and maintenance or egress;
- Maintenance of electrical systems and feeds;
- Maintenance of non-retired/removed machinery and equipment;
- Maintenance of the operation of select sump pumps to prevent below-grade flooding or unpermitted discharges to the environment; and
- Continued investigation of retired equipment that could be used at other TVA facilities.
- Transmission Projects:
    - Johnsonville CT Feed – removal of start-up/emergency feed from common auxiliary boards in the JOF powerhouse, providing an alternate location for continued power feed to the JCT facility site unit 13 emergency transformer, and providing an alternate power source for the CT storage warehouse.
    - Replacement of the 500- and 161-kV switchyard transformers and installation of Supervisory Control and Data Acquisition control of the 500-kV switchyard.
    - Installation of new capacitor banks.
    - Installation of Supervisory Control and Data Acquisition control of the 161- and 69-kV yards and retirement of several breaker feeding units and bus modules.
    - Replacement of 161-kV bus insulators with high-strength insulators, transfer of certain connections, and the reconfiguration of several breakers to ‘Normally Open.’

Alternative B – Selective Demolition of Outlying Facilities including the Coal Handling Facilities. Alternative B includes the actions described in Alternative A2 along with the removal of most outlying structures including the coal handling facilities. This option could include removal of the following buildings/structures to a minimum of 3 feet below grade:

- Old Water Treatment Plant and Sump
- Office Wing
- Service Bay
- Red Storage Barn North of the Service Bay
- Crusher Building
- Coal Barge Unloaders (down to the concrete pad; foundation will remain)
- Aboveground Coal Conveyors and Coal Conveyor Tunnels to 3 feet below final grade (those below 3 feet would be abandoned in place)
- Steam Line
- Tank Farm
- Wash Pad Facility North of the Utility Building
- Storage Building and Warehouses near the Utility Building
- Utility Building
- Gasoline Island
- Diesel Fueling Island and associated piping (to 3 feet below final grade)
- Receiving Conveyor and Hopper Building
- Red Warehouse
- Electrical Control Building
- Hydrogen Trailer Port A
- Hydrogen Trailer Port B
- Retired Underground Tank
- Railroad and crossties

The following features are also included for consideration for deconstruction/demolition under Alternative B:

- Select plant roads and parking lots
- Street Lighting
- Removal of decommissioned piping where deemed necessary
- Dock Service Building
- Rotary Car Dumper (and associated railroad track, ties, and ballast)

Additionally, Alternative B could include:

- Removal of hazardous materials in structures being demolished
- Abandonment or removal of sanitary sewer connections from demolished facilities (main network of sewers, connected to the Johnsonville municipal waste system, will remain)

- Installation of bulkheads for coal conveyor tunnels remaining below final grade, reclaim hopper emergency egress, and electrical cable tunnels
- Plugging of conduit banks and penetrations to coal handling tunnels
- Abandonment/plugging of unused electrical manholes
- Under Alternative B, approximately five workers would be required to perform all necessary operations and maintenance activities at JOF once the facility has been decommissioned (i.e., safely removed from service). Personnel from other TVA facilities may be used, as necessary, to assist with performing operations and maintenance activities.

Alternatives C1, C2, C3, and C4 – Demolish to Grade ("Brownfield") with Stack Options. All four Alternative C options would include the removal actions described under Alternatives A2 and Alternative B. Additionally, the Alternative C options could include removal of:

- Powerhouse Units 1 through 10
- 600-foot tall Flue Gas Stack
- Roads and Parking Lots
- Guard House
- Plant Perimeter Fencing

The common objective of all four Alternative C options is to remove all unneeded structures, roads, and parking lots. In addition, all environmental issues associated with identified structures would be assessed and abated, including the decontamination of all buildings, structures, conveyers, and tunnels associated with plant operations, to remove hazardous materials. All removed structures would be demolished to 3 feet below final grade leaving roughly 40 feet of basement wall. Further, all basements, pits, and trenches would be backfilled up to the surrounding grade while providing proper drainage. All disturbed areas would have topsoil installed and seeded or otherwise stabilized. Additionally, a new guard house would be constructed south of the JOF facility.

Demolition could occur through the use of explosives, mechanical deconstruction, or a combination of these processes. All clean concrete and masonry would be processed and used for backfill as appropriate. All Alternative C options include the assumption that, with the exception of the municipal sewer line, all buried utilities would be cut, capped, and abandoned in place. All hollow pipe utilities would be decommissioned and sealed with a mechanical cap or plug. This work is normally done during deactivation.

Alternatives C1 through C4 include the deconstruction item of sealing the intake and discharge tunnels with bulkheads. Sealing would consist of erecting bulkheads within the intake and discharge tunnels. Valves would be abandoned in place.

Alternative C1 – Demolish to Grade ("Brownfield"), Stack Remains. Under Alternative C1, the flue gas stack would remain in place.

Alternative C2– Demolish to Grade ("Brownfield"), Drop Removal of Stack. Under Alternative C2, the flue gas stack would be dropped by conventional construction equipment including cranes, excavators, and explosives.

Alternative C3 – Demolish to Grade ("Brownfield"), Controlled Removal of Stack. Under Alternative C3, the flue gas stack would be removed by hand (mechanical deconstruction) or other controlled deconstruction method.

Alternative C4 – Hybrid Demolish to Grade ("Brownfield"), Controlled Removal of Stack to Specific Height, then Drop Removal. Under Alternative C4, the flue gas stack would be removed through a hybrid method. The stack would first be lowered to a specific minimum height by hand (mechanical deconstruction) or other controlled deconstruction method, followed by explosive drop/fall to fully demolish the remaining portions of the structure.

Alternative D – No Action. Under the No Action Alternative, TVA would not perform any deconstruction or other disposition activities. Consequently, JOF Units 1-10 would be left in place in their current condition. Additionally, TVA would take no action to maintain the units in operable condition. The plant would not generate power, and it would not be possible to restart the units. The plant would not be heated, cooled, or supplied with electricity. TVA would continue to restrict access to JOF. Periodic inspections and critical maintenance would be performed as needed. TVA would maintain the NPDES permit, implement the Integrated Pollution Prevention Plan, and perform environmental monitoring and reporting as required.

TDEC has reviewed the Draft EA and has the following comments regarding the proposed action and its alternatives:

Cultural and Natural Resources

TDEC believes the Draft EA adequately addresses potential impacts to cultural and natural resources within the proposed project area.[3]

Air Resources

The Draft EA does not provide estimates of the fugitive emissions impacts for the proposed complete demolition and removal of the facility components from the site. TDEC recommends TVA include this information in the Final EA.

No timeline for regulated asbestos containing materials (ACM) removal was presented nor were the approved disposal locations that will receive the waste materials identified. The amounts of ACM

[3] This is a state-level review only and cannot be substituted for a federal agency Section 106 review/response. Additionally, a court order from Chancery Court must be obtained prior to the removal of any human graves. If human remains are encountered or accidentally uncovered by earthmoving activities, all activity within the immediate area must cease. The county coroner or medical examiner, a local law enforcement agency, and the state archaeologist's office should be notified at once (Tennessee Code Annotated 11-6-107d).

identified in the proposal include over 300,000 linear feet of ACM and over 2,000,000 square feet of ACM, to be removed prior to demolition. Additionally, even with the best efforts to remove all of the identified ACM, some will remain in areas that are inaccessible for removal and therefore likely to potentially contribute to any fugitive dust emissions. TDEC recommends TVA develop a specific action plan to address such ACMs encountered during demolition that were not previously removed and include discussion of this plan in the Final EA.

The Draft EA does not provide estimates of the emissions which will result from the proposed demolition equipment, transportation of removed materials, and staff commuting to and from the demolition site. Similarly the Draft EA does not offer estimates of the total cubic yards of debris to be disposed of (including estimates of the total amount of hazardous waste containing materials, such as regulated ACM that could not be removed prior to demolition). Additionally, no estimates were provided for the emissions associated with proposed explosive use in controlled demolitions. TDEC recommends TVA include these considerations in the Final EA.

Solid Waste[4]

Section 3.12 of the Draft EA describes the environmental consequences as a result of hazardous materials and solid and/or hazardous wastes. Various wastes have already been recorded and characterized by the past hazardous materials survey performed by Arcadis in August of 2017 for the TVA project area.[5] The regulatory framework in which both federal and state authorities interface for the management of this large portfolio of individual and mixed wastes is complex; the Draft EA and Arcadis provided a substantial but not comprehensive review of the anticipated removal, handling, transport, and final disposal activities entailed for this large portfolio and the relevant licenses and permits required. TDEC reiterates that all materials determined to be wastes must be evaluated (e.g. waste determinations) and managed (e.g. inspections, container requirements, permitted transport) in accordance with the Solid and Hazardous Wastes Rules and Regulations of the State (TDEC Division of Solid Waste Management Rule 0400 Chapters 11 and 12, respectively) in addition to other applicable regulations (federal, state, e.g. rules) and TVA best management practices.

[4] Prior to release of the Draft EA, TDEC was contacted about its files or relevant information relating to the subject site locations. TDEC made available comments and supporting documents in a letter to Paul J. Pearman, TVA Project Manager, on December 15, 2016 regarding the demolition; however, some concerns still need to be addressed, in particular, on page 2 of the letter, "TVA shall provide CCR material quantity and horizontal extents in the coal yard. Note 9(c) on drawing 10W211-1 indicates bottom ash and fly ash were obtained from the JOF disposal area and utilized in the Coal Yard grading plan." It is understood that the impact of activities associated with closure of the Coal Yard will be assessed in separate environmental reviews since such activities would occur independently of the JOF deconstruction. TDEC encourages TVA to consider this information in the development of its separate environmental review for closure of the Coal Yard.

[5] These wastes include but are not limited to: asbestos containing material, lead-containing material, Toxic Substances Control Act-regulated, such as PCBs in transformers and oil-filled equipment, materials exceeding Technologically Enhanced Naturally Occurring Radioactive Materials and/or Resource Conservation and Recovery Act (RCRA) disposal criteria, hazardous and universal wastes within RCRA subtitle C, oils that are possibly mixed with TSCA and RCRA metal contaminants, and typical municipal wastes). The survey also noted and estimated inaccessible materials —liquids, residual solids in sumps, tanks — that would need to be sampled prior to demolition activities; moreover, per the survey, a majority of these reservoirs are currently being deactivated, drained, and decommissioned.

Water Resources

As TVA notes, the current NPDES Permit (TN0005444) would remain as the closure project continues. Modifications to the Multi-Sector General Stormwater Permit's (TNR05000) Storm Water Pollution Prevention Plan (SWPPP) would need to be modified to reflect current site conditions. Depending on the specific closure project chosen, an Aquatic Resource Alteration Permit (ARAP) could be necessary if there will be any alterations to wet weather conveyances, streams, wetlands, or other aquatic resources. The Draft EA states that a desktop review of the proposed project area did not document any wetlands, streams or water features within the area proposed for demolition/deconstruction. An onsite hydrologic determination will have to be performed by a certified hydrologic professional to identify all of the aquatic resources within the project limits of disturbance and assess the potential for any alterations to wet weather conveyances, streams, wetlands, or other aquatic resources to adequately consider potential impacts to these resources. TDEC recommends TVA include these permitting and hydrologic determination considerations in the Final EA.

TDEC appreciates the opportunity to comment on this Draft EA. Please note that these comments are not indicative of approval or disapproval of the proposed action or its alternatives, nor should they be interpreted as an indication regarding future permitting decisions by TDEC. Please contact me should you have any questions regarding these comments.

Sincerely,

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