



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

DAVID W. SALYERS, P.E.
COMMISSIONER

BILL LEE
GOVERNOR

May 13, 2019

Via Electronic Mail to CCR@tva.gov

Attn: Ashley Farless, NEPA Compliance Specialist
Tennessee Valley Authority
1101 Market Street, BR2C-C
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 Supplemental Environmental Assessment (SEA)* for the Bull Run Fossil Plant (BRF) Ash Impoundment Closure project located in Anderson County, Tennessee about 5 miles east of downtown Oak Ridge. TVA has prepared this Draft SEA to evaluate an additional alternative (Alternative C) that was not included in the August 2018 Draft SEA released by TVA.¹ Subsequent to the issuance of the August 2018 Draft SEA, TVA has gained additional insight on conditions of the Main Ash Impoundment and Stilling Pond at BRF. TVA has encountered worker safety and stability issues related to characteristics of the stored CCR. As a result, TVA has recommended changes for construction of Process Water Basin (PWB) 2 (the PWB in the area of the Main Ash Impoundment). According to TVA, the new proposed plan will make the construction effort safer and more feasible, and includes a proposed interim action to leave the CCR in the Main Ash Impoundment in place and construct an interim PWB2 on top of the existing CCR impoundment until a decision on a permanent solution for the disposition of the underlying CCR is made.²

¹ In June 2016, TVA issued a Final Programmatic Environmental Impact Statement (PEIS) and Record of Decision that considered alternatives and related environmental impacts associated with closure of ash impoundments across the Valley. In Part II of the PEIS, TVA considered closure of the BRF Sluice Channel and Fly Ash Impoundment which are part of the wet CCR disposal area at BRF. The preferred closure method was closure in place. In October 2017, TVA released a Supplemental EA and Finding of No Significant Impact. This document was a supplement to the 2016 study. It included a larger study area as well as repurposing of the Stilling Impoundment and a portion of the Fly Ash Impoundment for use as process water basins. The preferred closure method was closure in place. In August 2018, TVA released a second Supplemental EA for BRF. This Supplemental EA included temporary cover of a portion of the Fly Ash Impoundment and Closure-by-Removal of the remaining portion. The Stilling Pond would also be Closed-by-Removal. The portion of the Fly Ash Impoundment that is Closed-by-Removal and the Stilling Pond would be repurposed for use as a Process Water Basin.

² TVA's insight on conditions of CCR in the Main Ash Impoundment and Stilling Pond is related to the specific characteristics of CCR material. The material in these areas originates from argillaceous coal (i.e., coal containing silt to clay-sized particles) which results in fine-grained CCR material. According to TVA, this characteristic leads to CCR that takes longer for pore water to drain as compared to CCR that is characterized as having higher coarse-grain content. Tests from several samples in the Stilling Pond confirm that the CCR has high percentages of fine-grained material. These conditions make it difficult to dry the ash to a degree necessary for excavation and placement in a lined landfill. During early excavation activities associated with closure of the Stilling Pond and construction of PWB1, working with this wet, fine-grained CCR became a safety concern, due to the material's loss of strength when saturated, and subsequent detrimental effect on local stability. Excavation of the CCR under these conditions is difficult and time-consuming, which can cause construction

Actions considered in detail within the Draft SEA include:

- **Alternative A – The No Action Alternative.** Under the No Action Alternative TVA would close the Stilling Pond and Main Ash Impoundment in place as previously described in the October 2017 SE. The Stilling Pond and a portion of the Main Ash Impoundment would be repurposed as PWB as previously described in the October 2017 SEA.
- **Alternative B – Closure-in-Place of a Portion of the Main Ash Impoundment, Closure-by-Removal of the Remaining Portion of the Main Ash Impoundment and Repurposing into a Process Water Basin (PWB2), Closure-by-Removal of the Stilling Pond and Repurposing into a Process Water Basin (PWB1), and Development of a Process Water Basin Emergency Spillway.** Under Alternative B, TVA proposes to cover, with an approved cover system, an approximately 20-acre portion of the Main Ash Impoundment containing approximately 2,900,000 yd³ of CCR materials. The remaining portion (13 acres) of the Main Ash Impoundment would be Closed-by-Removal with up to an estimated 595,000 yd³ of CCR materials being removed and transported to an onsite landfill. The portion of the Main Ash Impoundment that is Closed-by-Removal would be repurposed into a process water basin (PWB2) for BRF.

In addition, the Stilling Pond would be Closed-by-Removal, which would entail removal and transport of up to an estimated 71,000 yd³ of CCR and residual materials to an existing onsite landfill. The Stilling Pond would be repurposed as a process water basin (PWB1). A subsurface drainage layer would be installed to be used during construction of PWB1 to handle any water that enters the excavation during the liner placement. Following construction of the subsurface drainage system, the liner for the proposed new PWB1 would be installed. The drainage system is not expected to be needed once construction is completed.

Generalized construction steps for this project include dewatering the Stilling Pond and Main Ash Impoundment and removal of CCR materials from the Stilling Pond and the Closed-by-Removal portion of the Main Ash Impoundment. Handling of wet material would occur inside the footprint of the current Main Ash Impoundment and Stilling Pond. The material would be handled and dried, and once dry, it would be disposed of in the onsite landfill.

During dewatering and construction of PWB2, free water and pore water would be removed from the Main Ash Impoundment, pumped into temporary storage tanks or boxes, where it would be treated, and discharged through the National Pollutant Discharge Elimination System (NPDES) permitted outfall. Mitigating measures would be introduced to ensure that discharge waters comply with NPDES permit limits and TDEC water quality criteria. These measures could include but would not be limited to implementing BMPs, waste water treatment technologies, and/or rerouting or recycling water. Once constructed, the PWBs would only manage storm water and non-CCR wastewater from BRF facilities.

For the covered portion of the Main Ash Impoundment, if the CCR materials are suitable for regrading and consolidation, they would remain in the impoundment. If they are not suitable for regrading, the material would be removed, dried, and placed in an onsite landfill. In areas where CCR materials are removed and placed in the onsite landfill, suitable fill material may be imported to grade and support the cover system. The cover system in the Main Ash Impoundment would be constructed to the same standards as described in Part II of the PEIS.

schedule delays, increasing worker exposure to unsafe conditions. Specialty amphibious equipment with lower than expected production rates is necessary to ensure operator safety.

As part of the PWB infrastructure, an emergency spillway would be constructed along the western side of the perimeter dike that borders the Stilling Pond. The emergency spillway would be created by modifying a section of the existing perimeter dike to have a lower elevation. The spillway would be armored with rip rap, concrete, or a combination of the two on the top and outside slope. Laydown areas would be the same as that described in Part II of the PEIS and the prior SEA.

- **Alternative C – Interim Cover of the Main Ash Impoundment and Repurposing a Portion for an Interim Process Water Basin (Interim PWB2), Closure-by-Removal of the Stilling Pond and Repurposing into a Process Water Basin (PWB1), and Development of a Process Water Basin Emergency Spillway.** Under Alternative C, the Stilling Pond would be Closed-by-Removal and repurposed as a process water basin (PWB1) and the emergency spillway would be constructed as described under Alternative B. However, under this alternative the Main Ash Impoundment would be Closed-in-Place with an interim cover.³ TVA would repurpose 13 acres of the closed area and use it as an interim process water basin (Interim PWB2). The capping system for the Closure-in-Place would serve as a bottom liner for Interim PWB2. The new PWBs would receive only storm water flow and non-CCR wastewater from the plant.

To construct this project, the Main Ash Impoundment would be dewatered, regraded and consolidated as necessary to meet closure grades. The Main Ash Impoundment would be capped and Closed-in-Place with an interim cover as described in Part II of the PEIS. A subsurface drainage layer would be installed during construction of PWB1 to manage any water that enters the excavation during the liner placement. Following construction of the subsurface drainage system, the liner for the proposed new Interim PWB2 would be installed.⁴

During dewatering and construction of Interim PWB2, free water and pore water would be removed from the Main Ash Impoundment, pumped into temporary storage tanks or boxes, where it would be treated, and discharged through the NPDES permitted outfall. Mitigating measures would be introduced to ensure that discharge waters comply with NPDES permit limits and TDEC water quality criteria. These measures could include but would not be limited to implementing BMPs, waste water treatment technologies, and/or rerouting or recycling water. Once constructed, the PWBs would only manage storm water and non-CCR wastewater from BRF facilities.

TDEC has reviewed the Draft SEA and provides the following comments:

Cultural and Natural Resources

TDEC believes the Draft SEA adequately addresses potential impacts to cultural and natural resources within the proposed project area.⁵

³ The Interim Cover of the Main Ash Impoundment is temporary pending TDEC approval of a permanent solution. However, if this temporary plan is approved by TDEC as a permanent solution, TVA would evaluate whether additional NEPA review would be required. If TVA determines that additional review under NEPA is required, an additional public comment period would not be necessary since TVA is disclosing to the public now that it could become permanent.

⁴ A conceptual grading plan is provided in Appendix B.

⁵ 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).

Air Resources

TDEC believes the Draft SEA adequately addresses potential impacts to air resources within the proposed project area.

Solid Waste

In Section 1.1 on page 3, TVA fails to discuss that some CCR material may be placed below the water table. If CCR material is placed below the water table, consideration of excavation and removal activities of CCR material should be clearly considered in the Final SEA. If CCR material is not placed below the water table, it should be explicitly stated in the Final SEA. TVA should also address in more detail (such as equipment, approach, potential environmental impact, management of removed liquids, etc...) its approach for removal of free liquids and/or stabilization of the CCR material. In addition, on page 3, a field investigation is recommended for CCR material characteristics in the Main Ash Pond prior to the speculation that it is similar to the CCR material removed from the Stilling Pond. TDEC recommends that all of these factors be clearly explained in the Final SEA.

In Section 3.2.1.3 regarding Groundwater Quality on page 16, the adjacent industrial landfill facility (Industrial Landfill Permit # IDL 010000208) remains in biannual assessment monitoring. Continued Maximum Contaminant Level exceedances of Arsenic may require Owner/Operator to conduct an Assessment of Corrective Measures. TDEC recommends that TVA include this in the Final SEA.

TDEC recommends that any wastes associated with the proposed action or its alternatives be managed in accordance with the Solid and Hazardous Waste Rules and Regulations of the State of Tennessee.⁶ TDEC recommends that the Final SEA reference that any wastes that are generated during the construction process or uncovered during site preparation are subject to the Solid and Hazardous Waste Rules and Regulations of the State of Tennessee.

Water Resources

TDEC is concerned with the stability and feasibility of constructing a PWB on top of the CCR materials in the Main Ash Impoundment. The SEA concludes that the CCR material needs to stay in place as it is difficult to de-water or move due to its fine particulate matter and stability characteristics; so, it will be closed in place and capped. Because TVA notes that de-watering and material stability are significant issues, TDEC recommends that TVA clarify in the Final SEA how, specifically, the CCR material will be de-watered in place, and, further, how the CCR material is stable enough for construction of a PWB on top of it. TDEC recommends that the Final SEA address these concerns in further detail.

TDEC also recommends TVA further explain in the Final SEA how the interim measure PWB on top of the Main Ash Impoundment could feasibly be removed. Further, TDEC is concerned that once the 13 acre interim PWB is built on top of the Main Ash Impoundment it will be difficult for the PWB to be anything but a permanent measure, not an interim one.

TDEC concurs with TVA that a Construction Stormwater Permit and accompanying Stormwater Pollution Prevention Plan will be required since the project will involve the disturbance of more than one acre of land. The

⁶ Reference TDEC SWM Rule 0400 Chapter 11 for Solid Waste and Chapter 12 for Hazardous Waste
<http://sos.tn.gov/effective-rules>.

existing NPDES permit may need to be modified based on the change in discharge waters. There may also be a need to update the General NPDES Stormwater Multi-Sector General Permit for Industrial Activities. TDEC recommends that the potential for NPDES permit modification be considered in the Final SEA.

TDEC appreciates the opportunity to comment on this Draft SEA. 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,



Kendra Abkowitz, PhD
Assistant Commissioner, Office of Policy and Sustainable Practices
Tennessee Department of Environment and Conservation
Kendra.Abkowitz@tn.gov
(615) 532-8689

cc: Daniel Brock, TDEC, DOA
Lacey Hardin, TDEC, APC
Lisa Hughey, TDEC, DSWM
Tom Moss, TDEC, DWR
Stephanie Williams, TDEC, DNA