

PROPOSED PLAN TO ADDRESS ENVIRONMENTAL CONDITIONS

Introduction

The Tennessee Valley Authority (TVA) invites the public to comment on this Proposed Plan to address environmental conditions at the Allen Fossil Plant (ALF Plant), located in Memphis, Tennessee. The ALF Plant is a non-operational TVA coal-fired power plant retired in March 2018. During historical operations, coal combustion residuals (CCR, also known as coal ash) were generated and stored onsite within two impoundments: the East Ash Disposal Area (EADA) and the West Ash Disposal Area (WADA).

This Proposed Plan discusses TVA's approach to remove CCR from these onsite storage units and address shallow impacted groundwater near the EADA. Groundwater impacts associated with the WADA are currently being investigated and will be addressed by TVA in the future through Commissioner's Order No. OGC15-0177 issued by the Tennessee Department of Environment and Conservation (TDEC). The Order process includes the development of a corrective action / risk assessment (CARA) plan for the WADA.

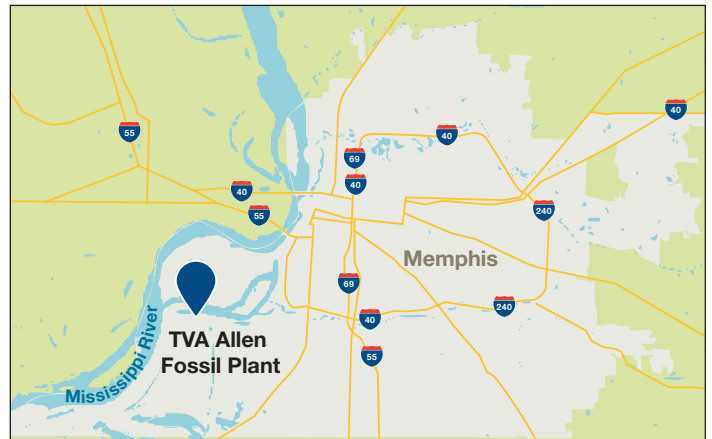
Future land use for the EADA and WADA is expected to remain consistent with the surrounding industrial area.

The public is encouraged to comment on the Proposed Plan during the comment period.

Background

The ALF Plant is a non-operational TVA coal-fired power plant in Shelby County, in the southwest corner of the City of Memphis, Tennessee. Memphis Light, Gas and Water Division (MLGW) constructed the ALF Plant between 1956 and 1959, commencing power generation in 1958 with three coal-fired electric generating units. In 1965, TVA began leasing the ALF Plant from MLGW, and in 1984, TVA purchased the ALF Plant. During operations, CCR was stored in two areas onsite: the WADA (deactivated in 1978) and the EADA. TVA ceased operations in March 2018 and is currently decommissioning the facility. In 2019, TVA began removing free water from the EADA.

During routine groundwater monitoring in 2017, TVA detected arsenic, lead, fluoride, and other CCR-related constituents in groundwater near the EADA. TVA voluntarily initiated an investigation to evaluate groundwater conditions on the north and south sides of the EADA where these constituents had been detected (north and south Groundwater Treatment Areas shown below on Page 4). Under further direction from TDEC, TVA completed a Remedial Investigation (RI) to delineate the extent of the affected groundwater, focusing on arsenic, the most significant constituent of concern. Based on the RI, arsenic in groundwater was found in the upper portion of the Alluvial aquifer. The Memphis Sand aquifer has not been affected and sample results



VIRTUAL OPEN HOUSE WITH LIVE Q&A TO DISCUSS THE PROPOSED PLAN

Tuesday, November 17, 2020
5:00 p.m. – 7:00 p.m. (CST)
www.tvavirtual.com/allen

Virtual access to content will remain available
during the public comment period
(November 17 – December 17)

meet USEPA drinking water standards. TVA plans to further investigate groundwater conditions beneath the EADA when safe to do so.

In 2020, a Feasibility Study was completed to evaluate various options to address the CCR and the EADA groundwater areas. The remedial objective for the CCR is performance based and includes safe removal of the CCR along with an additional one foot of underlying soil. The remedial objective for the groundwater is to ensure that the Alluvial aquifer quality is protective of the Memphis aquifer and McKellar Lake. This Proposed Plan summarizes the best options identified for ALF in the Feasibility Study.

Proposed Plan

CCR materials are currently stored within the EADA and WADA impoundments. Collectively, 3.5 million cubic yards of CCR are present onsite. Shallow groundwater impacts have been identified at two areas near the EADA: the north area and the south area. Groundwater impacts consist of CCR-related constituents (e.g., arsenic, lead, and fluoride) in the upper portion of the underlying Alluvial aquifer. Although the concentrations of some of these constituents are above groundwater protection standards, impacts to the underlying Memphis aquifer have not been observed.



--- Approximate Boundary

Proposed Plan Summary

CCR IMPOUNDMENTS: REMOVAL AND OFFSITE DISPOSAL

Conducted in accordance with federal and state requirements, this process would include removal of CCR from the EADA and WADA and disposal at an offsite landfill(s). The removal of CCR from the EADA will be performed as the final selected remedy, whereas the removal of the CCR from the WADA will be conducted concurrently to meet TVA's long-standing commitment to environmental stewardship and to support future site re-use.

TVA would stabilize residual ponded areas to provide safe working conditions and then remove CCR material, underlying impacted soil, and support structures within the impoundment footprints. CCR removed from the CCR impoundments would be transported by rail or truck to an offsite existing permitted landfill(s) owned and operated by a third party. The potential landfills for this project include South Shelby Landfill (Memphis, TN) and Tunica Landfill (Tunica, MS). Potential haul routes from the ALF Plant to these landfills are shown on Page 3.

Following CCR material removal, the areas would be backfilled to grade with clean borrow material to support future site re-use. Several borrow sites have been identified to provide backfill for the CCR excavations. The locations of the borrow sites and haul routes to the ALF Plant are shown on Page 3.

To minimize potential traffic effects, a traffic management plan will be developed to manage truck ingress/egress, avoid local low volume roadway segments, and facilitate traffic flow to avoid congestion. To develop the plan, sufficient traffic data is currently being gathered to evaluate site-specific traffic issues (degradation in Level of Service, safety issues, etc.) associated with the proposed action. Based on the detailed traffic analysis, specific actions would be identified to address traffic issues as needed.

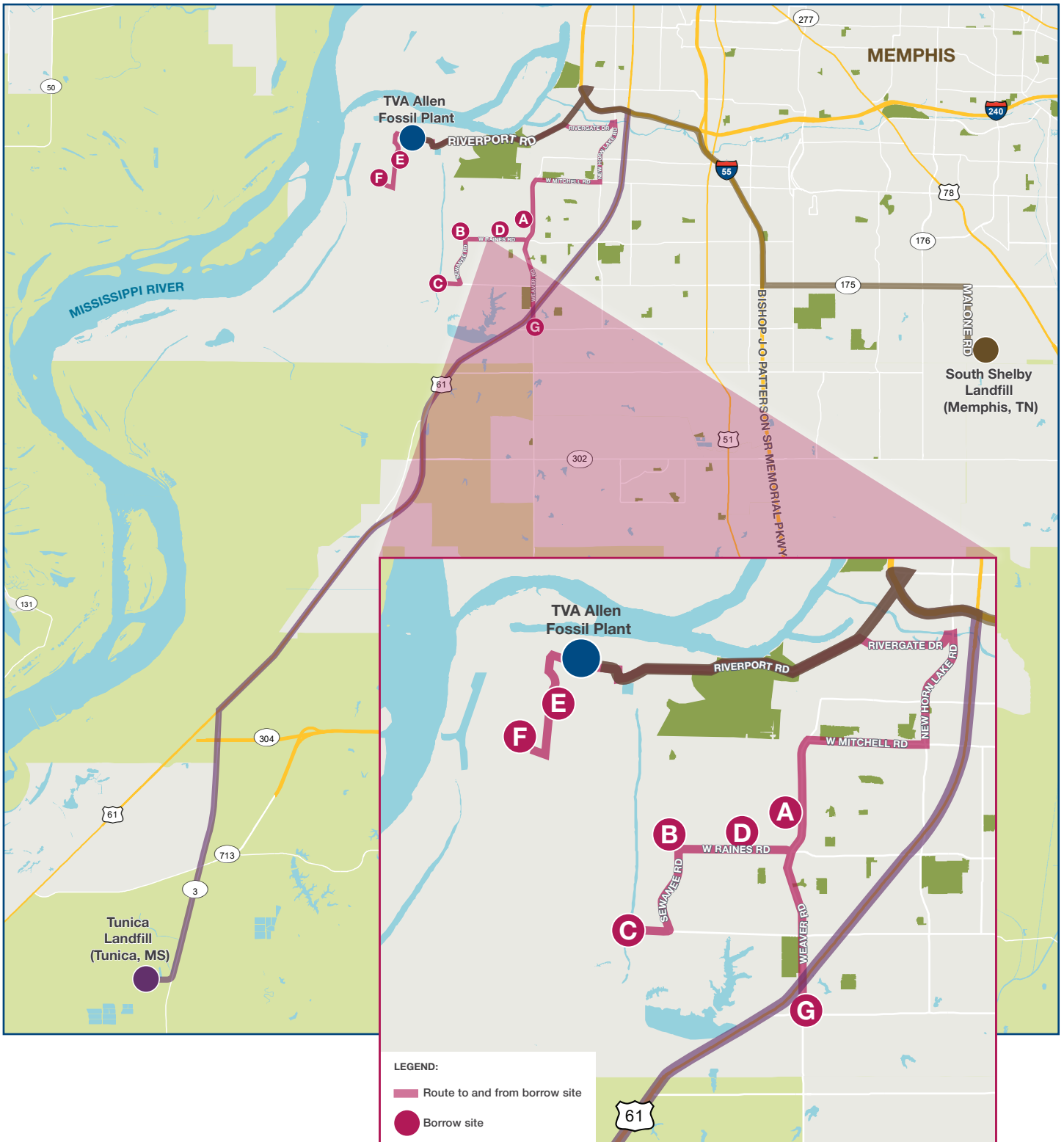
HEALTH AND SAFETY

TVA is a zero-injury culture company and expects the same of all contractors and subcontractors. At all times, including during the implementation of this proposed remedial action, TVA requires that activities be performed in accordance with applicable local, state, and federal health and safety regulations, the TVA Safety Manual, and applicable TVA Health, Safety, and Environmental Procedures and Guidelines. TVA requires all contractors and subcontractors to provide written site-specific safety and health plans.

Work plans will be prepared that include applicable occupational exposure standards, work practices, personal protective equipment, and decontamination procedures.

For the duration of the CCR removal process, TVA will monitor and mitigate fugitive dust to confirm safe working conditions. Dust monitoring will be performed onsite and at the site boundaries. Mitigating activities will include the use of dust suppression onsite.

POTENTIAL HAUL ROUTES TO LANDFILLS + BORROW SITES AND HAUL ROUTES



EADA GROUNDWATER: EXTRACTION AND TREATMENT

This Proposed Plan includes groundwater extraction from the north and south areas of shallow impacted groundwater, onsite groundwater treatment, and discharge of the treated water in accordance with permit requirements. The groundwater extraction system was designed to hydraulically control and remove areas of groundwater with elevated concentrations of arsenic. These areas are inclusive of locations where fluoride, lead, and other CCR-related constituents are present.

The target cleanup goals for groundwater were defined in the Feasibility Study and will consist of drinking water standards (Maximum Contaminant Levels, or MCLs) or Regional Screening Levels (RSLs) when MCLs have not been established. The table to the right provides proposed target cleanup goals for the primary constituents of concern, which are MCLs.

The groundwater extraction and treatment system would operate during and after removal of CCR from the EADA. After CCR removal, the groundwater remedy would be evaluated and modified as necessary to adequately address groundwater impacts

Primary Constituent of Concern	Proposed Target Cleanup Goal (micrograms per liter, µg/L)
Arsenic	10
Fluoride	4,000
Lead	15

at the EADA until the target cleanup goals are met. As proposed, groundwater extraction and treatment would be the final remedy.

Extraction wells would be installed to capture and control groundwater in the impacted groundwater areas. Groundwater from the shallow Alluvial aquifer would be extracted at approximately 130 gallons per minute and conveyed to TVA's onsite treatment facility. The treated water would then be discharged to the City of Memphis wastewater system after assuring permit requirements are met. After CCR removal, additional extraction wells may be added within the current EADA footprint if impacts are found. In addition, in-situ treatment methods may be added (e.g., pH adjustment) if TVA and TDEC determine they will safely speed the groundwater remediation process.

EAST ASH DISPOSAL AREA (EADA) AND GROUNDWATER TREATMENT AREAS



● Groundwater extraction well

TIME FRAME

Site preparation and mobilization may begin in late 2020 or early 2021. Removal of CCR from the impoundments is expected to take up to nine years, during which time groundwater monitoring around the EADA and the WADA would continue. Operation of the groundwater extraction and treatment system would begin in

2021 and continue throughout the CCR removal process and until concentrations of CCR constituents in groundwater meet target remediation goals. Groundwater monitoring would continue for the duration of the extraction and treatment process to confirm groundwater capture and allow for system optimization as needed.

Public Comment

To ensure the concerns of the community are considered in selecting an effective path forward for the ALF CCR impoundments, TVA welcomes the public to comment on this Proposed Plan. The public comment period runs from November 17 to December 17, 2020. Additional information and reports related to this project are available online at TVA's ALF website: www.tva.com/allen.

TVA will host a virtual open house with live Q&A on Tuesday, November 17, 2020 at www.tvavirtual.com/allen. TVA representatives will discuss details of the Proposed Plan to address the environmental impacts at the ALF Plant and answer any questions the public may have. The meeting will be held in a virtual Open House format from 5:00 p.m. until 7:00 p.m. (CST).

Virtual access to the content will remain available during the public comment period. To access the content after the live event, visit www.tvavirtual.com/allen starting on November 17, 2020 at 5:00 p.m. (CST) through December 17, 2020.

You may submit your comments during the virtual Open House, or by mail or email during the public comment period (see below for details). Comments and questions received during the public comment period will be summarized and responses will be provided in the Record of Decision (ROD). The ROD, issued by the Tennessee Department of Environment and Conservation, will document the final remedial action and provide the rationale for the selection.

TVA Contacts

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TVA Wants Your Comments!

TVA relies on public input to ensure the concerns of the community are considered in selecting the best path forward for the ALF CCR impoundments.

**The public is encouraged to comment on the documents from:
November 17 to December 17, 2020**

Submit your comments by:

Mail: Ms. Latrivia Welch at
TVA Allen Fossil Plant,
2574 Plant Rd, Memphis, TN, 38109

Email:
lswelch0@tva.gov

Open house: Submit them
at the Open House on
November 17

For more information, please visit TVA's ALF website:
www.tva.com/allen



PUBLIC COMMENT SHEET

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for the ALF Plant is important. You may use the space below to write your comments, then fold and mail. A response to your comments will be included in the Record of Decision (ROD). Comments must be postmarked no later than December 17, 2020.
