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**ALLEN FOSSIL PLANT  
ASH IMPOUNDMENT CLOSURE  
ENVIRONMENTAL IMPACT STATEMENT  
SCOPING REPORT**

**Prepared by:**  
TENNESSEE VALLEY AUTHORITY  
Knoxville, Tennessee

March 2019

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**Abbreviations and Acronyms**

ALF	Allen Fossil Plant
COC	Constituent of Concern
CCR	coal combustion residuals
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
MCL	Maximum Contaminant Level
MLGW	Memphis Light, Gas and Water Division
NEPA	National Environmental Policy Act
NOI	Notice of Intent
PEIS	Programmatic Environmental Impact Statement
RI	Remedial Investigation
RIR	Remedial Investigation Report
TDEC	Tennessee Department of Environment and Conservation
TVA	Tennessee Valley Authority
USFWS	U.S. Fish and Wildlife Service
yd <sup>3</sup>	cubic yards

## 1.0 Introduction

On November 30, 2018, the Tennessee Valley Authority (TVA) published a Notice of Intent (NOI) in the Federal Register to prepare an Environmental Impact Statement (EIS) to address the potential environmental effects associated with several projects to facilitate long-term management of coal combustion residuals (CCR) stored at the Allen Fossil Plant (ALF) located in Shelby County, Tennessee. Specifically, TVA is considering closure of the surface impoundments at ALF including the East Ash Pond Complex, the West Ash Pond and the Metal Cleaning Pond. TVA has previously considered two impoundment closure methods: Closure-in-Place and Closure-by-Removal. The locations of the surface impoundments are shown on Figure 1.

In addition, TVA is considering two options for disposal of the CCR under the closure-by-removal alternative for this project: transport of CCR to a beneficial re-use facility to be processed for use in concrete and other building materials and/or transport and storage of CCR in an existing offsite permitted landfill.

This Scoping Report describes the internal and public scoping for relevant issues relating to these projects and outreach conducted by TVA to notify the public. The Scoping Report also documents the input submitted to TVA by the public and intergovernmental entities during the public scoping period.

### 1.1 Background

ALF is located in Shelby County, Tennessee, southwest of downtown Memphis. The plant, constructed in the 1950s by the Memphis Light, Gas and Water Division (MLGW), is located on the south bank of McKellar Lake and east of the Mississippi River, on land protected from flooding by an existing US Army Corps of Engineers levee system. TVA purchased the plant and the underlying property in 1984. ALF's three coal-fired units were retired on March 31, 2018.

While in operation, ALF consumed approximately 7,200 tons of coal a day and produced approximately 5,160 million kilowatt-hours of electricity a year. CCR produced by the collective units included approximately 85,000 dry tons of slag and fly ash that was wet-slucied to the East Ash Pond Complex every year. The West Ash Pond was the original fly ash surface impoundment for ALF and received slucied fly ash and boiler slag until 1978. All flow to this surface impoundment was rerouted prior to October 19, 2015. The West Ash Pond does not impound water and is considered effectively closed. The Metal Cleaning Pond is a lined pond that contains plant process flows. It is not a CCR surface impoundment and was not designed to accumulate CCR. However, as it was constructed within the footprint of the West Ash Pond, there is CCR below the Metal Cleaning Pond.

On July 28, 2016, TVA issued a Record of Decision for a programmatic NEPA review entitled Ash Impoundment Closure Environmental Impact Statement (CCR Programmatic Environmental Impact Statement [PEIS])(TVA 2016). The purpose of the programmatic NEPA review was to support TVA's goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across TVA's system and to assist TVA in complying with the EPA's CCR Rule issued on April 17, 2015 (80 Federal Register 21302).

The CCR PEIS programmatically considered all TVA surface impoundment closures and the environmental effects of two primary closure methods:

- (1) Closure-in-Place
- (2) Closure-by-Removal

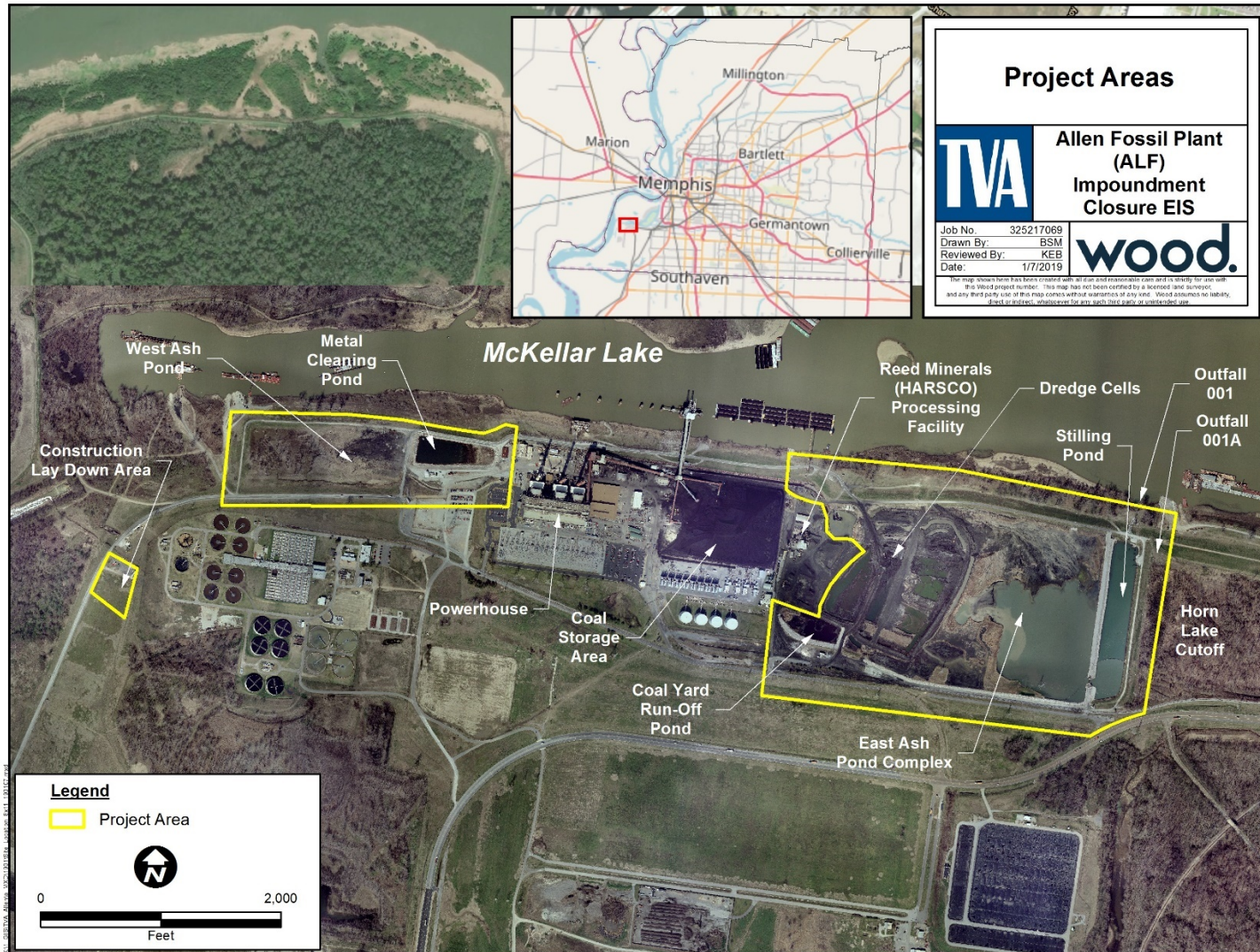


Figure 1. ALF Ash Impoundment Closures Proposed Project and Laydown Areas

A screening analysis to determine the reasonableness of these two closure methods was performed by evaluating a range of key issues and factors related to closure of surface impoundments and the feasibility of undertaking closure activities. Screening factors included:

- Volume of CCR Materials
- Schedule/Duration of Closure Activities
- Stability
- Risk to Human Health and Safety Relating to Closure Activities
- Potential Effects to Water Resources
- Potential Effects to Wetlands
- Risk to Adjacent Environmental Resources
- Mode and Duration of Transport Activities
- Risk to Human Health and Safety Related to Transport of Borrow and CCR
- Cost

This EIS for surface impoundment closures at ALF will tier from TVA's 2016 CCR PEIS, relying upon the over-arching and bounding analyses performed in the PEIS while integrating site-specific details and analyses.

## 1.2 TVA's Objectives

The purpose of this Ash Impoundment Closures EIS is to support the implementation of TVA's goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across the TVA system, and to assist TVA in complying with the EPA's CCR Rule and other applicable federal and state statutes and regulations. In addition, the proposed actions will make the ALF closure area land available for future economic development projects in the greater Memphis area. Unlike at other TVA power plants, much of the land at ALF is not owned by TVA, but by third parties including the City of Memphis, Shelby County, and MLGW. ALF also is located in a heavily industrialized area, which means that redevelopment is of particular interest as the land holds significant economic potential for its non-TVA owners due to its location within the Frank C. Pidgeon Industrial Park as well as its access to the Port of Memphis via McKellar Lake.

TVA must make a decision regarding the method of closure of the surface impoundments as well as how to dispose of CCR removed from the impoundments under the Closure-by-Removal option. TVA's decision will consider factors such as potential environmental impacts, economic issues, and TVA's long-term goals.

## 1.3 Related Environmental Reviews

The following environmental reviews have been prepared for actions related to Ash Impoundment Closure at ALF:

- *Final Ash Impoundment Closure Environmental Impact Statement* (TVA 2016). The PEIS was prepared to address the closure of CCR impoundments at all of TVA's coal-fired power plants. The report consists of two parts: Part I – Programmatic National Environmental Policy Act (NEPA) Review and Part II – Site-Specific NEPA Review. In Part I, TVA programmatically considered environmental effects of closure of CCR impoundments at all of its coal-fired plants. Part II included a site-specific NEPA Review of closure of the West Ash Pond at ALF.

- *Integrated Resource Plan, 2015 Final Report* (TVA 2015). This plan provides direction for how TVA will meet the long-term energy needs of the Tennessee Valley region.
- *Allen Fossil Plant Emission Control Project Environmental Assessment* (TVA 2014). This EA evaluates the impacts of reducing sulfur dioxide emissions at ALF by retiring the coal units and constructing a natural gas-fired power plant.
- *Environmental Assessment of Development of Ash Management Strategy Allen Fossil Plant* (TVA 2006). This EA evaluates the impacts of alternatives for utilization or disposal of the ash at ALF.

## **2.0 Proposed Alternatives**

### **2.1 Alternatives Carried Forward for Analysis**

As a result of internal review and scoping comments, TVA has proposed the following alternatives to be evaluated in the EIS.

#### **2.1.1 Alternative A – No Action Alternative**

Under the No Action alternative, TVA would not close the East Ash Pond Complex or the Metal Cleaning Pond, and the West Ash Pond would remain in its current closed state. No closure activities (i.e., no dewatering or excavation activities) would occur. The No Action Alternative is inconsistent with TVA's plans to convert all of its wet CCR systems to dry systems and is inconsistent with the general direction of the EPA's CCR Rule. In addition, under the No Action Alternative, the ALF closure area land would not be made available to its owners for future economic development projects in the greater Memphis area. Consequently, this alternative would not satisfy the project purpose and need and, therefore, is not considered viable or reasonable. It does, however, provide a benchmark for comparing the environmental impacts of implementation of Alternatives B and C.

#### **2.1.2 Alternative B – Closure of the Metal Cleaning Pond, Closure-by-Removal of the East Ash Pond Complex and the West Ash Pond; Disposal of CCR in an Offsite Landfill Location**

Under Alternative B, TVA would close the East and West Ash Ponds and the Metal Cleaning Pond via Closure-by-Removal. Closure-by-Removal involves excavating and relocating CCR from the surface impoundments in accordance with federal and state requirements. For purposes of the Metal Cleaning Pond, the CCR located under the pond would be removed and the area backfilled and closed. The following are approximate amounts of CCR in the East Ash Pond Complex and the West Ash Pond and the approximate amount of CCR located under the Metal Cleaning Pond:

- East Ash Pond Complex      approximately 3,000,000 yd<sup>3</sup>
- West Ash Pond                approximately 300,000 yd<sup>3</sup>
- Metal Cleaning Pond        approximately 200,000 yd<sup>3</sup> (ash located under pond)

CCR materials would be removed and hauled to an offsite landfill for disposal by either rail, truck, or barge. The location of the offsite landfill has not been determined at this time. Potential locations of the offsite landfill and potential methods of transport will be studied and evaluated in the EIS.

The remaining soil within the East and West Ash Ponds would be graded to drain (with borrow fill as needed) and the disturbed areas would be vegetated with native plant species or otherwise permanently stabilized.

### **2.1.3 Alternative C – Closure of the Metal Cleaning Pond, Closure-by-Removal of the East Ash Pond Complex and West Ash Pond; Disposal of CCR in a Beneficial Re-Use Process & Offsite Landfill Location**

Under Alternative C, TVA would close the East and West Ash Ponds and the Metal Cleaning Pond via Closure-by-Removal in the same manner as Alternative B. However, instead of transporting all excavated CCR material to an offsite landfill, most CCR (ranging from approximately 75 to 95 percent) would be transported to a beneficial re-use facility to be processed for use in concrete and other building materials. Only the remaining percentage of CCR, not suitable for beneficial re-use, would be transported to the offsite landfill. Details and characteristics of the facility and beneficial re-use process will be provided in the EIS.

The remaining soil within the East and West Ash Ponds would be graded to drain (with borrow fill as needed) and the disturbed areas would be vegetated with native plant species or otherwise permanently stabilized.

A specific site for the potential beneficial re-use processing facility has not been identified. Therefore, impacts of this option for CCR disposal will be based on a bounding analysis of the characteristics of a representative beneficial re-use processing facility. Following completion of this EIS, if a site is identified for use that does not fall within the criteria of the bounding analysis, a supplemental NEPA document will be required.

## **2.2 Alternatives Considered but Eliminated from Further Discussion**

TVA considered multiple options for ash impoundment closure at ALF. This section identifies alternatives that TVA considered but rejected from detailed analysis because they did not meet the Purpose and Need of TVA's proposed action or were otherwise unreasonable.

### **2.2.1 Alternative D – Closure of the Metal Cleaning Pond and Closure-in-Place of the East Ash Pond Complex and West Ash Pond**

Under Alternative D, the free water and ash pore water of the East Ash Pond Complex would be dewatered and it would be closed-in-place. The West Ash Pond would also be closed-in-place. Similarly, the Metal Cleaning Pond would be dewatered and closed-in-place. TVA would abide by state and federal post-closure monitoring and corrective action requirements. In areas where the concentrations of CCR constituents in groundwater are above protection standards, the groundwater would be extracted, treated, tested, and discharged to surface water in accordance with an existing National Pollutant Discharge Elimination System permit from the Tennessee Department of Environment and Conservation (TDEC). Groundwater extraction in the vicinity of the East Ash Pond Complex would control the movement of groundwater, keeping it within the TVA property. The groundwater extraction would continue until test results indicate that the groundwater protection standards are achieved.

TVA carefully considered this alternative and determined that closure-in-place should be eliminated from further consideration for the following reasons:

#### **1. Land Use Considerations**

Land use limitations associated with closed facilities under Alternative D would reduce the type and nature of projects that may be considered in conjunction with re-use of the



site. Therefore, Alternative D does not meet the Purpose and Need of making the land available for future economic development projects. Importantly, unlike other coal facilities, TVA does not own all of the property where the ash is located. TVA would like to leave the property in a re-usable state for the property owners.

## 2. Remedial Investigation for East Ash Pond Complex

TVA is currently engaged in a Remedial Investigation (RI) for the ALF East Ash Pond Complex under the direction of the Tennessee Department of Environment and Conservation (TDEC). A Remedial Investigation Report (RIR) was prepared by TVA to present the results of an investigation conducted in 2017-2018. A copy of the report can be viewed [here](#).

During TVA's routine groundwater monitoring around the East Ash Disposal Area in 2017, arsenic, lead, and fluoride (constituents of concern, or COCs) were detected in groundwater at concentrations above U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs). Elevated pH values in groundwater were also observed. In May 2017, TVA voluntarily initiated an investigation to evaluate groundwater conditions on the north and south sides of the East Ash Disposal Area where COCs had been detected. TVA subsequently received a letter in July 2017 from TDEC initiating a remedial investigation.

A closure-in-place solution for the ALF East Ash Pond Complex is not anticipated to fully address the various other influences that may be affecting the site and other factors in the surrounding area, which are detailed in the RIR.

## 3.0 Environmental Review Process

NEPA regulations require an early and open process for deciding what should be discussed in an EIS (i.e., the scope of the document). The NEPA review process is intended to help federal agencies make decisions that are based on an understanding of the action's impacts. NEPA also requires that federal agencies provide opportunities for public involvement in the decision-making process.

As noted, TVA intends to prepare an EIS, the most intensive level of NEPA review, to consider options for management of CCR at ALF. During the development of the EIS, the public, stakeholders, resource and permitting agencies, and other interested parties have two opportunities to provide input on the development of the environmental study. The first opportunity is the initial scoping process that follows the publication of the Notice of Intent. The second opportunity for public comment is at the publication of the Draft EIS subsequent to the publication of the Notice of Availability.

In addition to agency and public input, the EIS will also address specific requirements associated with a number of federal laws such as National Historic Preservation Act of 1966, Endangered Species Act of 1973, Clean Water Act of 1972, and Clean Air Act, and would satisfy the requirements of Executive Order (EO) 11988 (Floodplains Management), EO 11990 (Protection of Wetlands), EO 12898 (Environmental Justice), and EO 13112 as amended by 13751 (Invasive Species).

After considering input from the public scoping period, TVA will develop and publish a Draft EIS. The Draft EIS will be available for public review and comment for at least 45 days. During the public comment period on the Draft EIS, TVA will conduct a public meeting. Once the public

stakeholders, resource and permitting agencies, and other interested parties have reviewed the document, TVA will consider all comments, make revisions if necessary, and publish a final EIS. After a period of at least 30 days, TVA will make a final decision on the proposed action, and this decision will be captured in a Record of Decision.

During the initial public scoping period, TVA estimated that the Draft EIS would be published in the fall of 2019, the Final EIS would be published in the late winter of 2020, and a final decision could be made as early as early spring of 2020, subject to relevant state and federal law.

### **3.1 Public Outreach During the Scoping Period**

As noted, public scoping was initiated with the publication of the NOI to prepare an EIS in the Federal Register on November 30, 2018 (Appendix A). In addition to the NOI in the Federal Register, TVA sent a media advisory to over 300 newspaper, radio, and television outlets across the TVA service area, as well as trade publications. A public notice advertisement was also placed in the *Commercial Appeal* and on the TVA website. Additionally, notifications were issued to stakeholders including MLGW, the Economic Development Growth Engine for Memphis & Shelby County, and Protect Our Aquifer.

Following publication of the NOI in the Federal Register, TVA received requests to extend the duration of the public scoping comment period and hold a public scoping meeting. The public comment period for the NOI was originally scheduled to close January 4, 2019. After thoughtful consideration, TVA extended the public comment period by 27 days and considered comments received through January 31, 2019. In addition, TVA hosted a public information session in Memphis on January 17, 2019, at the Mitchell Community Center from 5:00 to 8:00 p.m. CST. This information session was a combined effort to inform the public about several environmental activities underway at ALF including the Proposed Environmental Investigation Plan (EIP) under an administrative order issued by TDEC in 2015, the current Interim Response Actions for groundwater that are part of a remedial investigation directed by TDEC that began in 2017, and the EIS for Ash Impoundment Closures.

TVA's efforts to notify local residents of the public information meeting included issuing an additional media advisory and notifying the 35 people who had attended a previous meeting related to activities underway at ALF. TVA also sent letters to all residents within a 5-mile radius of the plant and contacted three neighborhood associations surrounding the plant to inform them of the meeting. In addition, TVA distributed 540 flyers throughout the Memphis Public Library System. A total of 77 people attended the public meeting. Attendees included members of the general public, media representatives, and other special interest groups.

### **3.2 Summary of Scoping Feedback**

TVA received a wide variety of comments and opinions regarding the proposed closure of the surface impoundments at ALF and will consider this input in developing its Draft EIS.

TVA received 63 comment submissions from members of the public and federal agencies. The submissions consisted of:

- Two submissions from federal agencies (EPA and U.S. Fish and Wildlife Service (USFWS))
- Two submissions from the Southern Environmental Law Center on behalf of Protect Our Aquifer and the Tennessee Chapter of the Sierra Club

- Thirty-eight submissions from members of the public
- Twenty-one additional submissions from members of the public via a form letter

All comment submissions are included in Appendix B.

Comment submissions were reviewed to identify specific issues of concern by each commenter and were grouped in general categories for identification and review. In total, 70 separate comments were identified. Issues raised by commenters included the following:

1. *Scoping Period and Public Meeting* — Five comments related to scoping were received. These comments included requests to extend the scoping period and to hold a public meeting to inform the community and allow for public comments to be collected in person. As noted above, TVA extended the deadline for the comment period from January 4, 2019 to January 31, 2019 and hosted a public information meeting on January 17, 2019.
2. *Alternatives* — Preferences regarding the stated ash pond closure alternatives were expressed by 28 commenters. Complete removal of CCR and remediation of the site were stressed by some, as was ensuring safe transport and disposal methods. In conjunction with offsite removal, beneficial re-use of CCR material was the preferred alternative for 19 of the commenters. One commenter supported closing the impoundments in-place with a vertical containment wall.
3. *Potential Risks to Water Quality* — TVA received five comments that expressed concerns about groundwater contamination relating to the current method of CCR storage. Commenters noted that the EIS should include a site-specific analysis of groundwater and surface water impacts based upon data collected through ongoing federal and state investigations, and that TVA must disclose and analyze the surface water impacts associated with the current and future operations at ALF.
4. *Beneficial Re-use* — One commenter indicated that more information should be included in the EIS regarding the beneficial re-use process and potential risk to the surrounding communities.
5. *Community Impacts* — Eight comments were received regarding impacts to the surrounding community, onsite workers and an analysis of potential environmental justice impacts. Commenters noted that the EIS must address the health and environmental effects of CCR and associated soil and groundwater contamination to both the community and onsite workers. Additionally, some commenters suggested TVA consider training and hiring residents from the area, and meeting with local community leaders and organizations to obtain further community input.
6. *Transportation* — Three comments noted the EIS should consider a range of transportation options for Closure-by-Removal and beneficial re-use of the CCR.
7. *Wildlife and Recreation* — Three commenters noted that the impoundments provide habitat for birds and wildlife and encouraged TVA to consider potential impacts to wildlife and recreation if the surface impoundments are closed.

8. *Operation of the Allen Combined Cycle Plant* – Four comments noted that the ongoing operation of the Allen Combined Cycle Plant and its use of MLGW cooling water obtained from the Memphis Sand Aquifer should be included within the scope of the EIS.
9. *Cumulative Impacts* — One comment indicated that cumulative impacts of future economic development should be included in the EIS.
10. *General Comments* — The remaining 12 comments addressed general items. Several parties wished to be included on all future updates and notices regarding the EIS, and/or requested to receive the Draft EIS once complete. Requests for additional information included inquiries on the type of coal burned at ALF, specific metals present in the surface impoundments, a history of the project site, and a summary of the January 17 public meeting. One comment noted the EIS must include analysis of how TVA will comply with all relevant state and federal laws.

USFWS noted that they strongly support the efforts of TVA in documenting and addressing degraded environmental conditions at legacy CCR storage and disposal facilities throughout the TVA Power System. EPA noted that the EIS should address alternatives that meet the purpose and need for the project, as well as consideration of a “No Action” alternative.

### **3.3 Issues to be Addressed**

Based on TVA’s internal scoping and input gathered from the public scoping process, TVA anticipates the major issues to be addressed in this EIS include:

- *Surface Water Resources* – TVA will describe the quality of surface water resources, including McKellar Lake, and will analyze the extent to which each closure alternative would affect water quality directly or indirectly (i.e., through infiltration or runoff).
- *Groundwater Resources* – TVA will use data obtained from studies conducted by TVA to describe existing groundwater conditions in the vicinity and will analyze the extent to which each closure alternative would affect groundwater quality.
- *Biological Resources* (vegetation, wildlife and aquatic life) – Community types within the project areas will be described. Significant natural features, including rare species habitat, important wildlife habitat, or locally uncommon natural community types will be identified. TVA will evaluate the effect of each alternative on terrestrial and aquatic ecosystems.
- *Threatened and Endangered Species* – Federally or state-listed as threatened or endangered plants and animals known to exist in the vicinity of ALF or any of the proposed project areas will be identified. The effects of each closure alternative on endangered, threatened, and rare species in need of management will be evaluated.
- *Floodplains and Wetlands* – Wetlands and floodplains within the proposed project areas will be identified and impacts will be quantified. The effects of each of the alternatives on jurisdictional wetlands and floodplains will be evaluated.
- *Geology and Soils* – Regional geology and soils at proposed project sites will be identified and any limitations related to construction and operation will be evaluated. Impacts to prime farmland soils will be quantified.

- *Land Use* – Land uses within the proposed project sites and within the vicinity (5-mile radius) will be identified. Permanent and temporary direct and indirect impacts to land use associated with each of the alternatives will be evaluated.
- *Transportation* – The existing roadway network in the vicinity of ALF, including physical road characteristics (number of lanes, shoulders, and posted speed limit) and existing traffic characteristics will be identified. The effect of borrow transport and transport of CCR to a beneficial re-use processing facility will be evaluated. Additionally, alternative modes of transportation, including trucking, rail, and barge, will be considered for the transport of CCR offsite to an existing landfill, and potential effects of each option will be analyzed.
- *Recreational and Managed Areas* – Natural areas, parks, and other managed areas within the vicinity of the alternatives (5-mile radius) will be identified and potential impacts associated with the proposed alternatives will be addressed.
- *Visual Resources* – The aesthetic setting of each project site will be described and an analysis of changes to scenic attractiveness and scenic integrity associated with each of the alternatives will be completed.
- *Cultural Resources* – TVA will characterize archaeological and historic resources within the Area of Potential Effect of the project site. TVA also will discuss any known sites listed on or eligible for the National Register of Historic Places. The potential effects of each alternative on historic and archaeological resources will be evaluated. Results of the analysis will be reviewed by the Tennessee State Historic Preservation Officer and interested tribes.
- *Noise* – Baseline noise conditions will be characterized, and noise emissions associated with the construction phase equipment use and truck traffic during closure operations will be assessed to determine the potential noise impact of each alternative on sensitive receptors.
- *Air Quality and Climate Change* – Air quality considerations including attainment status, and regional air quality information will be presented. Impacts to air quality from activities associated with each of the alternatives will be evaluated. The impact of emissions from each of the alternatives on climate change will be addressed.
- *Socioeconomics and Environmental Justice* – Demographic and community characteristics within the vicinity of the surface impoundments and potential haul routes will be evaluated. Special attention will be given to identification of potential low-income and minority populations to evaluate the potential for disproportionate adverse impacts in accordance with Executive Order 12898. Economic effects associated with the proposed alternatives will also be evaluated.
- *Solid and Hazardous Waste* – Current practices regarding hazardous materials/waste management at ALF will be identified. In addition, TVA will identify any impacts from waste generation during proposed closure activities. Operational measures (waste management practices) will be incorporated into the assessment of impacts.
- *Health and Safety* – Potential effects of each alternative on the health and safety of the public and of onsite workers will be evaluated. The evaluation will also include potential effects of transportation of CCR and borrow along public roadways.

The potential direct and indirect impacts of each resource will be assessed in the EIS. Mitigative measures designed to minimize impacts, as appropriate, will be identified. In addition, the EIS will include an analysis of the cumulative impacts of the preferred alternative. A cumulative impact analysis considers the potential impact to the environment that may result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions (40 Code of Federal Regulations § 1508.7). These actions will include, but are not limited to, the operation of the Allen Combined Cycle Plant, the potential decontamination and deconstruction of ALF, and the potential future industrial redevelopment of the site. The methodology for performing such analysis is set forth in Considering Cumulative Effects under NEPA (Council on Environmental Quality 1997).

## 4.0 References

- Tennessee Valley Authority (TVA). 2006. Development of Ash Management Strategy Allen Fossil Plant, Shelby County, Tennessee, Final Environmental Document, pg. 13, August 2006.
- \_\_\_\_\_.2014. Allen Fossil Plant Emission Control Project, Final Environmental Assessment. August 2014.
- \_\_\_\_\_.2015. Integrated Resource Plan, 2015 Final Report, Knoxville, TN
- \_\_\_\_\_.2016. Final Ash Impoundment Closure Environmental Impact Statement, Part I— Programmatic NEPA Review, June 2016. Chattanooga, TN
- \_\_\_\_\_. 2016. Final Ash Impoundment Closure Programmatic EIS; Part II – Site Specific NEPA Review: Allen Fossil Plant. TVA, Chattanooga, TN
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**Appendix A**  
**Federal Register Notice**

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on during the public comment period. TVA will set time limits for providing oral comments, once registered. Handout materials should be limited to one printed page. Written comments are also invited and may be mailed to the Regional Energy Resource Council, Tennessee Valley Authority, 400 West Summit Hill Drive, WT-9-D, Knoxville, Tennessee 37902.

Dated: November 8, 2018.

**Joseph J. Hoagland,**

*Vice President, Enterprise Relations and Innovation, Tennessee Valley Authority.*

[FR Doc. 2018-26070 Filed 11-29-18; 8:45 am]

**BILLING CODE 8120-08-P**

## TENNESSEE VALLEY AUTHORITY

### Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures

**AGENCY:** Tennessee Valley Authority.

**ACTION:** Notice of intent.

**SUMMARY:** The Tennessee Valley Authority (TVA) intends to prepare an Environmental Impact Statement (EIS) to address the potential environmental effects associated with the future management of coal combustion residual (CCR) material at the Allen Fossil Plant (ALF) located in Shelby County, Tennessee, southwest of the City of Memphis. The purpose of this EIS is to support the implementation of TVA's goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across the TVA system, and to assist TVA in complying with the Environmental Protection Agency's (EPA) CCR Rule. In addition, the proposed actions would make the ALF closure area land available for future economic development projects in the greater Memphis area.

TVA will evaluate closure of the East Ash Pond Complex, the West Ash Pond, and the Metal Cleaning Pond. In addition to these closures, TVA will analyze potential location requirements and associated environmental impacts associated with construction and utilization of a proposed beneficial re-use facility to process CCR materials. TVA will also evaluate potential impacts associated with actions requiring use of permitted borrow sites and the disposal of CCR at existing offsite permitted landfills. TVA will develop and evaluate various alternatives to these actions, including the No Action Alternative. Public comments are invited concerning both the scope of the review and environmental issues that should be addressed.

**DATES:** Comments on the scope of the EIS must be received on or before January 4, 2019.

**ADDRESSES:** Written comments should be sent to Ashley Farless, NEPA Compliance Specialist, 1101 Market Street, BR4A-C, Chattanooga, TN 37402. Comments also may be submitted online at: <https://www.tva.gov/nepa> or by email to [arfarless@tva.gov](mailto:arfarless@tva.gov).

**FOR FURTHER INFORMATION CONTACT:**

Other related questions should be sent to Ashley Farless, NEPA Compliance Specialist, Tennessee Valley Authority, at 423-751-2361 or [arfarless@tva.gov](mailto:arfarless@tva.gov).

**SUPPLEMENTARY INFORMATION:** This notice is provided in accordance with the Council on Environmental Quality's regulations (40 CFR parts 1500 to 1508) and TVA's procedures for implementing the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR part 800).

### TVA Power System and CCR Management

TVA is a corporate agency and instrumentality of the United States created by and existing pursuant to the TVA Act of 1933 that provides electricity for business customers and local power distributors. TVA serves more than 9 million people in parts of seven southeastern states. TVA receives no taxpayer funding, deriving virtually all of its revenues from sales of electricity. In addition to operating and investing its revenues in its electric system, TVA provides flood control, navigation and land management for the Tennessee River system and assists local power companies and state and local governments with economic development and job creation.

Historically, TVA has managed its CCRs in wet impoundments or dry landfills. On March 31, 2018, ALF's three coal-fired units were retired. While in operation, ALF consumed approximately 7,200 tons of coal a day and produced approximately 5,160 million kilowatt-hours of electricity a year. CCR produced by the collective units included approximately 85,000 dry tons of slag and fly ash that was wet-slurried to the East Ash Pond Complex every year.

It is estimated that approximately 250,000 cubic yards (yd<sup>3</sup>) of CCR material remains in the West Ash Pond and approximately 2.7 million cubic yards (yd<sup>3</sup>) of CCR material remains in the East Ash Pond Complex. There are approximately 193,000 cubic yards of CCR in the area surrounding the Metal Cleaning Pond.

In July 2009, the TVA Board of Directors passed a resolution for staff to review TVA practices for storing CCRs at its generating facilities, including ALF, which resulted in a recommendation to convert the wet ash management system at ALF to a dry storage system. On April 17, 2015, the EPA published the final Disposal of CCRs from Electric Utilities rule, also known as the CCR Rule.

In June 2016, TVA issued a Final Programmatic Environmental Impact Statement (PEIS) that analyzed methods for closing CCR impoundments at TVA fossil plants and identified specific screening and evaluation factors to help frame its evaluation of closures at its other facilities. A Record of Decision was released in July 2016 that would allow future environmental reviews of qualifying CCR impoundment closures to tier from the PEIS. This EIS is intended to tier from the 2016 PEIS to evaluate the closure alternatives for the CCR Ash Impoundments at ALF.

### Alternatives

In addition to a No Action Alternative, this EIS will address alternatives that meet the purpose and need for the project. TVA plans to consider the following: (1) No Action, (2) closure of the Metal Cleaning Pond and closure-by-removal of the East Ash Pond Complex, the West Ash Pond and the CCR surrounding the Metal Cleaning Pond to an offsite landfill location (note that the Metal Cleaning Pond would be removed by default while removing the CCR material surrounding it), (3) closure of the Metal Cleaning Pond and closure-by-removal of the East Ash Pond Complex, the West Ash Pond and the CCR surrounding the Metal Cleaning Pond to a beneficial re-use facility & offsite landfill location (see note above in #2), and (4) closure of the Metal Cleaning Pond and closure-in-place of all CCR in the East Ash Pond Complex, the West Ash Pond and CCR surrounding the Metal Cleaning Pond.

### Proposed Resources and Issues To Be Considered

This EIS will identify the purpose and need of the project and will contain descriptions of the existing environmental and socioeconomic resources within the area that could be affected by the management of CCR at ALF. Evaluation of potential environmental impacts to these resources will include, but not be limited to, water quality, aquatic and terrestrial ecology, threatened and endangered species, wetlands, land use, historic and archaeological resources, as well as solid and hazardous waste,

safety, socioeconomic and environmental justice issues. The final range of issues to be addressed in the environmental review will be determined, in part, from scoping comments received. The preliminary identification of reasonable alternatives and environmental issues in this notice is not meant to be exhaustive or final.

### Public Participation

TVA is interested in an open process and wants input from the community. The public is invited to submit comments on the scope of this EIS no later than the date identified in the "Dates" section of this notice. Federal, state and local agencies and Native American Tribes are also invited to provide comments.

After consideration of comments received during the scoping period, TVA will develop and distribute a scoping document that will summarize public and agency comments that were received and identify the schedule for completing the EIS process. Following analysis of the issues, TVA will prepare a draft EIS for public review and comment. In making its final decision, TVA will consider the analyses in this EIS and substantive comments that it receives. A final decision on proceeding with the management and final disposal of CCR and closure of the surface impoundments will depend on a number of factors. These include results of the EIS, requirements of the CCR Rule, relevant state law requirements, engineering and risk evaluations, and financial considerations.

TVA anticipates holding a community meeting near ALF after releasing the Draft EIS. Meeting details will be posted on TVA's website. TVA expects to release the Draft EIS in the Fall of 2019.

**Authority:** 40 CFR 1501.7.

**M. Susan Smelley,**

*Director, Environmental Compliance and Operations.*

[FR Doc. 2018-25914 Filed 11-29-18; 8:45 am]

**BILLING CODE 8120-08-P**

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### Office of Commercial Space Transportation: Notice of Availability and Request for Comment on the Draft Environmental Assessment for Issuing SpaceX a Launch License for an In-Flight Dragon Abort Test, Kennedy Space Center, Brevard County, Florida

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of availability and request for comment.

**SUMMARY:** In accordance with the National Environmental Policy Act of 1969, as amended (NEPA), Council on Environmental Quality NEPA implementing regulations, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, the FAA is announcing the availability of and requesting comment on the Draft Environmental Assessment for Issuing SpaceX a Launch License for an In-flight Dragon Abort Test, Kennedy Space Center, Brevard County, Florida (Draft EA).

**DATES:** Comments must be received on or before December 31, 2018.

**ADDRESSES:** Comments should be mailed to Daniel Czelusniak, Environmental Protection Specialist, Federal Aviation Administration, 800 Independence Avenue SW, Suite 325, Washington, DC 20591. Comments may also be submitted by email to [SpaceXDragonAbortEA@icf.com](mailto:SpaceXDragonAbortEA@icf.com).

**FOR FURTHER INFORMATION CONTACT:** Daniel Czelusniak, Environmental Protection Specialist, Federal Aviation Administration, 800 Independence Avenue SW, Suite 325, Washington, DC 20591; phone (202) 267-5924; email [SpaceXDragonAbortEA@icf.com](mailto:SpaceXDragonAbortEA@icf.com).

**SUPPLEMENTARY INFORMATION:** The FAA is evaluating SpaceX's proposal to conduct a one-time in-flight Dragon abort test at Kennedy Space Center's Launch Complex 39A, which would require the FAA to issue a launch license. Issuing a launch license is considered a Federal action subject to environmental review under NEPA. Under the Proposed Action, the FAA would issue a license to SpaceX, which would authorize SpaceX to conduct the abort test using a Falcon 9 launch vehicle and a Dragon-2 (*i.e.*, SpaceX's crew version of Dragon). Dragon-2 was developed with the intent to carry astronauts. The proposed abort test is part of SpaceX's commercial crew certification process with the National Aeronautics and Space Administration (NASA). The abort test is scheduled to occur in 2019.

Alternatives under consideration include the Proposed Action and the No Action Alternative. Under the No Action Alternative, the FAA would not issue a license to SpaceX to conduct the abort test, and therefore SpaceX would not conduct the abort test.

The Draft EA evaluates the potential environmental impacts from the Proposed Action and No Action Alternative on visual effects (including light emissions); coastal resources; air

quality; climate; noise and noise-compatible land use; biological resources; water resources (surface waters); hazardous materials, solid waste, and pollution prevention; and historical, architectural, archeological, and cultural resources. Potential cumulative impacts are also addressed in the Draft EA.

The FAA has posted the Draft EA on the FAA Office of Commercial Space Transportation website: [https://www.faa.gov/about/office\\_org/headquarters\\_offices/ast/environmental/nepa\\_docs/review/launch/](https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/launch/).

The FAA encourages all interested parties to provide comments concerning the scope and content of the Draft EA. Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask the FAA in your comment to withhold from public review your personal identifying information, the FAA cannot guarantee that we will be able to do so.

Issued in Washington, DC, on November 15, 2018.

**Daniel Murray,**

*Manager, Space Transportation Development Division.*

[FR Doc. 2018-26075 Filed 11-29-18; 8:45 am]

**BILLING CODE 4910-13-P**

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## DEPARTMENT OF TRANSPORTATION

### Federal Railroad Administration

#### Notice Rescinding Eight Notices of Intent To Prepare Environmental Impact Statements

**AGENCY:** Federal Railroad Administration (FRA), U.S. Department of Transportation (DOT).

**ACTION:** Notice.

**SUMMARY:** The Federal Railroad Administration (FRA) is issuing this notice to advise the public that FRA is rescinding the Notices of Intent (NOI) for the following Environmental Impact Statements (EIS): The Pennsylvania Maglev Proposal; the Tupelo Railroad Relocation Planning and Environmental Study; the Tier 2 EIS for the Chicago to Joliet High-Speed Rail (HSR) Project; the Tier 2 EIS for the HSR Project between Granite City, IL to St. Louis, MO HSR Project; EIS for the ACEforward Program; EIS for the Milwaukee, WI to Minneapolis, MN Rail Corridor; 7) the Los Angeles to San Louis Obispo North

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## **Appendix B**

# **Public and Agency Comments Submitted During the Scoping Period**

**(November 30, 2018 through January 31, 2019)**

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**From:** [Gissentanna, Larry](#)  
**To:** [Farless, Ashley Robin](#)  
**Cc:** [Militscher, Chris](#); [Buskey, Traci P.](#)  
**Subject:** TVA-Scoping for Allen-Ash-Impoundment-Closure  
**Date:** Friday, December 14, 2018 12:10:32 PM

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**TVA External Message. Please use caution when opening.**

Ms. Asley Farless

[arfarless@tva.gov](mailto:arfarless@tva.gov)

NEPA Compliance

Tennessee Valley Authority

1101 Market St., BR4A-C

Chattanooga, TN 37402

Re: Allen-Ash-Impoundment-Closure

Dear Ms. Farless:

The U. S. Environmental Protection Agency has reviewed the referenced document in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The EPA appreciates the opportunity to review and provide comments.

The EPA understands that TVA's proposed action is to prepare an Environmental Impact Statement (EIS) to address the potential environmental effects associated with the future management of coal combustion residual (CCR) material at the Allen Fossil Plant (ALF) located in Shelby County, Tennessee, southwest of the City of Memphis. The purpose of this EIS is to support the implementation of TVA's goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across the TVA system, and to assist TVA in complying with the Environmental Protection Agency's (EPA) CCR Rule. In addition, the proposed actions would make the ALF closure area land available for future economic development projects in the greater Memphis area.

The EIS should address alternatives that meet the purpose and need for the project. TVA should also consider a "No Action" alternative as well. EPA's preliminary concerns for alternatives at this time can be summarized to include, but not limited to the following areas; e.g., air quality, hazardous waste, solid waste, water, wetlands, noise, energy, socioeconomics resources, aquatic and terrestrial ecology, endangered and threaten species, floodplains, land use, historical and archaeological resources when preparing your NEPA document.

Please continue to keep the community informed throughout the project, and upon completion of your Draft Environmental Impact Statement, please forward 2 hard copies to the NEPA Program Office (address below).

Thank you for the opportunity to provide comments on your proposed project. If you have any questions, feel free to contact me via the information provided below.

Sincerely,

Larry O. Gissentanna

DoD and Federal Facilities, Project Manager

U.S. Environmental Protection Agency/ Region 4

Resource Conservation and Restoration Division

National Environmental Policy Act (NEPA) Program Office

61 Forsyth Street, SW

Atlanta, GA 30303-8960  
Office: 404-562-8248  
[gissentanna.larry@epa.gov](mailto:gissentanna.larry@epa.gov)

**From:** [Dustin Boles](#)  
**To:** [Farless, Ashley Robin](#)  
**Cc:** [Robbie Sykes](#); [Christine Willis](#); [stephanie\\_nash@fws.gov](mailto:stephanie_nash@fws.gov)  
**Subject:** 19-CPA-0114 - Tennessee Valley Authority (TVA), Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the Allen Fossil Plant Ash Impoundment Closures in Memphis, Shelby County, Tennessee (ER 18/531)  
**Date:** Tuesday, December 18, 2018 9:38:53 AM

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**TVA External Message. Please use caution when opening.**

The U.S. Fish and Wildlife Service has reviewed the Environmental Review Distribution Transmittal and the Federal Register Notice (FR Doc. 2018-25914). While the Service has no substantive comments to offer at this time, we strongly support the efforts of TVA in documenting and addressing degraded environmental conditions at legacy coal combustion residue storage and disposal facilities throughout the TVA Power System.

Please let me know if you have any questions regarding these comments.

Sincerely,

Dustin W. Boles

Fish and Wildlife Biologist

U.S. Fish and Wildlife Service

446 Neal Street

Cookeville, Tennessee 38501

Office: 931/525-4984

Cell: 931/261-0117

Email: [dustin\\_boles@fws.gov](mailto:dustin_boles@fws.gov)

NOTE: This email correspondence and any attachments to and from this sender are subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties

# SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 615-921-9470

1033 DEMONBREUN STREET, SUITE 205  
NASHVILLE, TN 37203

Facsimile 615-921-8011

December 4, 2018

Ashley Farless  
NEPA Compliance Specialist  
1101 Market Street, BR4A-C  
Chattanooga, TN 37402

Via email to [arfarless@tva.gov](mailto:arfarless@tva.gov)

**Re: Notice of Intent re: Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures: Request for Public Meeting re: Scoping, Extension of Public Comment Period, and Revision of Notice of Intent to Correct Deficiencies**

Dear Ms. Farless:

On behalf of Protect Our Aquifer and the Tennessee Chapter of the Sierra Club, we are writing in response to the Notice of Intent to prepare an Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures (Scoping Notice)<sup>1</sup> to request that the Tennessee Valley Authority (TVA):

- 1) Extend the public comment period for at least an additional 45 days to allow adequate time for the community to learn about the environmental conditions at the site and the actions proposed by TVA;
- 2) Hold a public meeting during the scoping period to inform the community about TVA's ash pond closure process, and collect public comments on the scope of environmental review in person; and
- 3) Revise the Scoping Notice to include within the scope of the proposed action (1) water withdrawals for the Allen Combined Cycle Plant; and (2) additional information regarding the proposed "beneficial re-use facility" and recirculate the revised Notice of Intent.

We request that TVA extend the public comment period and hold a public meeting during the scoping period regardless of whether TVA revises the Scoping Notice. The basis for each of these requests is set forth below.

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<sup>1</sup> Tennessee Valley Authority, Notice of Intent, Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures, 83 Fed. Reg. 61708 (November 30, 2018) [Scoping Notice].



### **Factual Background**

The Scoping Notice addresses closure of the coal ash ponds at the Allen Fossil Plant and proposes the preparation of an environmental impact statement under the National Environmental Policy Act (NEPA).<sup>2</sup> TVA seeks input from the public regarding the scope of its environmental analysis.

At the Allen Fossil Plant, extremely high levels of coal ash contamination emanating from the ash ponds are the subject of at least two ongoing state investigations: (1) a remedial investigation overseen by the Tennessee Department of Environment and Conservation (TDEC) Bureau of Remediation,<sup>3</sup> and (2) an environmental investigation being conducted pursuant to the TDEC Commissioner's Order.<sup>4</sup> A report commissioned by TVA to comply with the remedial investigation, and subsequently published by the United States Geological Survey (USGS) and the University of Memphis Center for Applied Earth Science and Engineering Research (CAESER), concluded this year that the contaminated shallow groundwater is connected to the Memphis Sand Aquifer, Shelby County's primary drinking water source.<sup>5</sup>

As we explained in comments submitted on the environmental investigation plan last week, data from the remedial investigation and the USGS/CAESER report demonstrate that there is a current and ongoing risk of coal ash contamination entering the Memphis Sand Aquifer and McKellar Lake.<sup>6</sup> TVA has so far refused to acknowledge these risks. The environmental impact statement must address these impacts to groundwater and surface water quality.

In addition, the high levels of coal ash contamination emanating from the Allen Fossil Plant previously resulted in a reversal of TVA's decision to operate production wells at the Allen Combined Cycle Plant that would have pulled contaminated groundwater into the Memphis Sand Aquifer. Instead, TVA is purchasing water from Memphis Light, Gas, & Water,

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<sup>2</sup> Scoping Notice, 83 Fed. Reg. at 61708.

<sup>3</sup> Letter from Steve Goins, TDEC to TVA (July 18, 2017) (outlining requirements for remedial investigation) [hereinafter TDEC Letter re: RI Requirements].

<sup>4</sup> Tennessee Department of Environment and Conservation, In the Matter of Tennessee Valley Authority, Order No. OGC15-0177, Sec. VII.A.d (Aug. 6, 2015) [Commissioner's Order].

<sup>5</sup> Carmichael, J.K., Kingsbury, J.A, Larsen, Daniel, and Schoefnacker, Scott, 2018 Preliminary evaluation of the hydrogeology and groundwater quality of the Mississippi River Valley alluvial aquifer and Memphis aquifer at the Tennessee Valley Authority Allen Power Plants, Memphis, Shelby County, Tennessee: U.S. Geological Survey Open-File Report 2018-1097, 66 p., <https://doi.org/10.3133/ofr20181097> [USGS/CAESER Report].

<sup>6</sup> Att. 1, Letter from Amanda Garcia, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club to [TDECorder@tva.gov](mailto:TDECorder@tva.gov), re: Tennessee Department of Environment and Conservation Commissioner's Order: Environmental Investigation Plan, Revision 2, Allen Fossil Plant (November 28, 2018) [POA/SC Comments on EIP], submitted together with Douglas J. Cosler, Risk of Contamination of the Memphis Sand Aquifer, Allen Fossil and Combined-Cycle Combustion Turbine Plants: Review and Analysis of the Environmental Investigation Plan, Remedial Investigation, and Interim Remedial Action (November 26, 2018) [Cosler Report].

which in turn is extracting Memphis Sand Aquifer water from the Davis well field. The analysis we submitted to TVA and TDEC last week shows that extracting Memphis Sand Aquifer water from the Davis well field will result in additional long-term drawdown of contaminated shallow groundwater under the Allen Fossil Plant into the Memphis Sand Aquifer.<sup>7</sup> We previously submitted comments to TVA demanding that the utility prepare a supplemental environmental assessment and environmental impact statement analyzing the impacts of its use of MLGW water on groundwater quality.<sup>8</sup> To date, TVA has not responded to our letter and has not prepared additional environmental documentation under NEPA to address impacts to groundwater quality from its use of MLGW water.

Our comments on the environmental investigation plan and our comments demanding supplemental environmental analysis regarding cooling water for the Allen Combined Cycle Plant are attached and incorporated into this letter by reference.

### **Requests**

Based on the foregoing factual background, we request that TVA:

#### **1) Extend the public comment period for at least an additional 45 days.**

The regulations implementing the National Environmental Policy Act require “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.”<sup>9</sup> TVA’s regulations implementing NEPA further provide:

There will normally be a public input period of 30 days from the date of publication of the Notice of Intent in the Federal Register to allow other interested agencies and the public an opportunity to review the action alternatives and probable environmental issues identified by the scoping committee.<sup>10</sup>

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<sup>7</sup> POA/SC Comments on EIP, 6; Cosler Report, 19-20.

<sup>8</sup> Att. 2, Letter from Amanda Garcia and Anne Passino, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club, to Ashley Farless, TVA, re: TVA Must Prepare an Environmental Impact Statement for the Allen Fossil Plant Emission Control Project (Project Nos. 2013-33 & 2015-28) to Consider New and Omitted Information Regarding Risk of Arsenic Contamination to Memphis Sand Aquifer 41 (February 21, 2018) [Letter Demanding EIS].

<sup>9</sup> 40 C.F.R. § 1501.7.

<sup>10</sup> Tennessee Valley Authority, Procedures for Compliance with the National Environmental Policy Act § 5.4.3 (1983) [TVA NEPA Procedures].

One of the primary purposes of scoping is to ensure that the agency will obtain the input of the public and affected federal, state and local government entities early in the NEPA process.<sup>11</sup> As the Council on Environmental Quality explains, “Scoping does not create problems that did not already exist; it ensures that problems that would have been raised anyway are identified early in the process.”<sup>12</sup> For this reason, “[s]coping will be effective only if people who are, or may become, interested in the proposed action are involved.”<sup>13</sup>

TVA’s proposed timeframe for public comment will not accomplish this basic purpose of the scoping process. TVA published the Scoping Notice in the Federal Register on November 30, 2018, indicating that the public must submit comments by January 4, 2019. The comment period thus spans two major federal and state holidays: Christmas and New Year’s Day.<sup>14</sup> In addition to these federal and state holidays, the comment period also spans Hanukkah (December 2-10) and Kwanzaa (December 26-January 1). Although TVA technically provides 30 days for public comment, the proposed comment period places an unreasonable burden on interested public agencies and the public to participate in a shortened timeframe due to the intervening holidays.

The proposed limited timeframe is particularly egregious given the high level of engagement by TDEC, the Shelby County Health Department, and other federal, state, and local officials at the Allen Fossil Plant. TVA’s proposed timeframe threatens to stifle participation by important regulatory agencies that are charged with protecting the public’s drinking water resources and the public health. There has also been significant participation by the public at the handful of public meetings TDEC and TVA have convened, including at a public meeting on the environmental investigation plan that was not timely or properly noticed and was held in the middle of a forest at T.O. Fuller State Park. Thus, it is likely that public agencies, officials, and the public generally would participate in this scoping process if provided with a meaningful opportunity to do so.

In addition, as the comments we have submitted in other processes show, TVA has not been straightforward with the community regarding the risk its coal ash management poses at the Allen Fossil Plant, and therefore has placed the burden of understanding this risk on the public.

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<sup>11</sup> Council on Environmental Quality, Memorandum for General Counsels, NEPA Liaisons and Participants in Scoping 3 (April 30, 1981), available at <https://ceq.doe.gov/guidance/guidance.html>.

<sup>12</sup> *Id.*

<sup>13</sup> *Nw. Coal. For Alternatives To Pesticides v. Lyng*, 673 F. Supp. 1019, 1022 (D. Or. 1987), *aff’d sub nom. Nw. Coal. for Alternatives to Pesticides (NCAP) v. Lyng*, 844 F.2d 588 (9th Cir. 1988).

<sup>14</sup> E.g., <https://www.tn.gov/hsda/hsda-state-holidays.html>; <https://www.opm.gov/policy-data-oversight/snow-dismissal-procedures/federal-holidays/#url=2018>.

The public needs additional time to engage with and understand the multiple regulatory investigations underway at the Allen Fossil Plant in order to provide substantive input into the scoping process.

## **2) Hold a public meeting during the scoping period.**

The regulations implementing the NEPA also recommend that an agency may “[h]old an early scoping meeting or meetings which may be integrated with any other early planning meeting the agency has.”<sup>15</sup> The regulations observe that “[s]uch a scoping meeting will often be appropriate when the impacts of a particular action are confined to specific sites.”<sup>16</sup> TVA’s implementing regulations further provide:

The scoping committee will determine the need, nature, and format for the various scoping sessions. Session type and format will be selected to facilitate timely and meaningful public input into the EIS process.<sup>17</sup>

Both the CEQ regulations and TVA’s implementing regulations suggest that holding meetings may be appropriate in order to “facilitate meaningful public input” and where the impacts of a proposed action center around a specific sites—here, the Allen Fossil Plant, McKellar Lake, the shallow aquifer, the Memphis Sand Aquifer, and communities that live near the site and/or the proposed beneficial reuse site.

The same reasons that warrant extension of the comment period also support convening a public scoping meeting to obtain the input of the local communities that will be affected by TVA’s proposed action. Local community members, including members of Protect Our Aquifer and the Sierra Club, have been deeply engaged in protecting their drinking water resources from the threat of coal ash contamination at Allen for several years. They have shown up for meetings at the TDEC field office, the public library, and even in the middle of a forest in a public park to learn more about TVA’s activities at the Allen Fossil Plant. The community deserves to hear from TVA directly and to provide input to TVA directly—on a schedule that is not interrupted by four major holidays.

In addition, based on our experience at previous community meetings, TVA has made little to no effort to make technical information accessible to the community most likely to be adversely affected by its decisions. We therefore also respectfully request that at public meetings and in written materials or other communications efforts related to the Allen Fossil Plant, TVA provide plain-language summaries of the information being presented in more

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<sup>15</sup> 40 C.F.R. § 1501.7(b)(4).

<sup>16</sup> *Id.*

<sup>17</sup> TVA NEPA Procedures, § 5.4.3.

technical documents, including information related to the contaminated condition of the Allen Fossil Plant, risk to the Memphis community, alternatives being considered, and implications for the community. This information should not include acronyms and technical terms that are not accessible to the general public. Such materials could include short videos that explain, for example, the connection between the shallow and deep aquifers and the downward flow of groundwater toward the deep aquifer at the site. Depending on the communities that may be affected, this information may need to be presented in both English and Spanish.

### **3) Revise the Scoping Notice to address water withdrawals for the Allen Combined Cycle Plant and the Beneficial Re-Use Facility.**

The scope of a proposed action “consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement.”<sup>18</sup> “The scope of an individual statement may depend on its relationships to other statements.”<sup>19</sup> Actions that should be included in a single EIS include connected actions, such as interdependent actions, and cumulative actions.<sup>20</sup> TVA’s implementing regulations require a scoping notice to “briefly describe the action, reasonable alternatives thereto, and potential environmental impacts associated with the action.”<sup>21</sup> Without an adequate description of the proposed action and alternatives in the scoping notice, the public and public agency stakeholders cannot provide meaningful input into the development of the EIS, including key action alternatives, significant environmental issues to be addressed in detail, and related environmental documents.<sup>22</sup>

The Scoping Notice fails to include within the scope of the proposed action TVA’s decision to purchase water from MLGW, even though the withdrawal of water from the Memphis Sand Aquifer at the Davis well field to cool the Allen Combined Cycle Plant is a connected and cumulative action that must be studied in the EIS. Withdrawing water from the Memphis Sand, even three miles away, threatens to pull coal ash-contaminated water from the Allen Fossil Plant into the Memphis Sand.<sup>23</sup> TVA has not analyzed the groundwater quality impacts associated with its decision to purchase water from MLGW and must do so here because the action is connected and cumulative to the closure options for the coal ash ponds at the Allen Fossil Plant. Moreover, the Scoping Notice should identify reasonable alternatives to the use of

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<sup>18</sup> 40 C.F.R. § 1508.25

<sup>19</sup> *Id.*

<sup>20</sup> *Id.* at § 1508.25.

<sup>21</sup> TVA NEPA Procedures , § 5.4.3.

<sup>22</sup> *See* TVA NEPA Procedures, § 5.4.3 (describing required outcomes of the scoping process).


<sup>23</sup> Cosler Report, 19-20.

MLGW water, including the use of gray water from the nearby Maxon wastewater treatment facility.<sup>24</sup>

The Scoping Notice refers to an alternative that would include “closure of the Metal Cleaning Pond and closure-by-removal of the East Ash Pond Complex, the West Ash Pond, and the CCR surrounding the Metal Cleaning Pond to a beneficial re-use facility & offsite landfill location....”<sup>25</sup> However, the Scoping Notice includes no detail regarding the beneficial reuse facility. The Scoping Notice is inadequate to solicit meaningful input from the public and affected public agencies. At a minimum, TVA must include information that (1) identifies the type of “beneficial re-use” proposed (encapsulated or unencapsulated); (2) the proposed methods of storage of coal ash at the proposed reuse facility; and (4) potential locations for the proposed facility (e.g., whether TVA is considering constructing the facility on-site, in Frank Pidgeon Park, or elsewhere in Memphis).

Thank you for considering these requests. We look forward to hearing from you and to participating in the process.

Sincerely,



Amanda Garcia  
Senior Attorney  
Southern Environmental Law Center

/s with permission  
Ward Archer  
President  
Protect Our Aquifer

/s with permission  
Scott Banbury  
Conservation Program Coordinator  
Tennessee Chapter Sierra Club

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<sup>24</sup> Letter Demanding EIS, 37-41.

<sup>25</sup> Scoping Notice, 83 Fed. Reg. at 61708.

## **Attachments**

Att. 1, Letter from Amanda Garcia, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club to [TDECorder@tva.gov](mailto:TDECorder@tva.gov), re: Tennessee Department of Environment and Conservation Commissioner's Order: Environmental Investigation Plan, Revision 2, Allen Fossil Plant (November 28, 2018), submitted together with Douglas J. Cosler, Risk of Contamination of the Memphis Sand Aquifer, Allen Fossil and Combined-Cycle Combustion Turbine Plants: Review and Analysis of the Environmental Investigation Plan, Remedial Investigation, and Interim Remedial Action (November 26, 2018).

Att. 2, Letter from Amanda Garcia and Anne Passino, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club, to Ashley Farless, TVA, re: TVA Must Prepare an Environmental Impact Statement for the Allen Fossil Plant Emission Control Project (Project Nos. 2013-33 & 2015-28) to Consider New and Omitted Information Regarding Risk of Arsenic Contamination to Memphis Sand Aquifer 41 (February 21, 2018).

# SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 615-921-9470

1033 DEMONBREUN STREET, SUITE 205  
NASHVILLE, TN 37203

Facsimile 615-921-8011

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January 31, 2019

Ashley Farless  
NEPA Compliance Specialist  
Tennessee Valley Authority  
1101 Market Street, BR4A-C  
Chattanooga, TN 37402

Via email to [arfarless@tva.gov](mailto:arfarless@tva.gov)

**Re: Notice of Intent re: Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closure**

Dear Ms. Farless:

On behalf of Protect Our Aquifer and the Tennessee Chapter of the Sierra Club (“Sierra Club”; collectively, “Conservation Groups”), we offer the following comments on the Tennessee Valley Authority’s Notice of Intent to prepare an Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures (“Scoping Notice”).<sup>1</sup> Protect Our Aquifer and the Sierra Club care about protecting the City of Memphis and Shelby County’s clean water for the benefit of the resource, our community, and future generations. To achieve this goal, we believe that TVA must (1) clean up, not cover up, the coal ash pollution at the Allen Fossil Plant (“Allen Coal Plant” or “Coal Plant”); and (2) use a sustainable source of water to operate the Allen Combined Cycle Plant (“Allen Gas Plant” or “Gas Plant”).

The Scoping Notice addresses potential methods to close the East Ash Pond Complex, the West Ash Pond, and the Metal Cleaning Pond (collectively, “Ash Ponds”).<sup>2</sup> In the Scoping Notice, TVA indicates that it plans to consider four alternatives: (1) a no action alternative; (2) closure of the Ash Ponds by removing the ash and placing it in an off-site landfill; (3) closure of the Ash Ponds by removing the ash to a beneficial re-use facility and off-site landfill; and (4) closure of the Ash Ponds in place.<sup>3</sup> Although the Scoping Notice does not itself identify a preferred alternative, TVA has indicated in a recent filing with the Securities Exchange

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<sup>1</sup> Tennessee Valley Authority, Notice of Intent, Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures, 83 Fed. Reg. 61708 (November 30, 2018) [Scoping Notice].

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*



Commission that it will propose closure by removal as its preferred alternative for the East Ash Pond Complex.<sup>4</sup>

As we discuss in this letter, TVA's environmental impact statement ("EIS") must include within its scope a site-specific analysis of (1) groundwater and surface water impacts based upon data collected through ongoing federal and state investigations at the Allen Coal Plant; (2) whether and how each alternative will comply with all relevant laws, including but not limited to the federal Coal Combustion Residuals Rule ("Coal Ash Rule");<sup>5</sup> and (3) a reasonable range of alternatives, including various options for closure by removal and "beneficial re-use," and an analysis of the environmental impacts associated with each alternative, including environmental justice impacts. Although the Scoping Notice indicates TVA's intent to "tier" its analysis from the 2016 Final Ash Impoundment Closure EIS ("PEIS"),<sup>6</sup> such tiering would be inappropriate because the PEIS lacks the site-specific analysis for the Ash Ponds required by the National Environmental Policy Act ("NEPA").

In addition, the EIS must include within its scope the ongoing operation of the Allen Gas Plant.<sup>7</sup> Specifically, the operation of the Gas Plant is a connected and cumulative action. Because of TVA's current reliance on water from the Memphis Sand Aquifer, the operation of the Gas Plant has the potential to cause and/or exacerbate groundwater pollution associated with the Ash Ponds and other groundwater pollution sources. To date, TVA has not analyzed these potential groundwater quality impacts or explored alternatives, such as the use of gray water from the nearby Maxson Wastewater Treatment Plant ("Maxson WWTP"), in light of new information related both to the impacts themselves and to treatment improvements planned for the Maxson WWTP.

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<sup>4</sup> Att. 1, Tennessee Valley Authority, Form 10-K, Annual Report Pursuant to Section 13, 15(d), or 37 of the Securities Exchange Act of 1934 (September 30, 2018), available at <http://www.snl.com/Cache/396387482.PDF?O=PDF&T=&Y=&D=&FID=396387482&iid=4063363>.

<sup>5</sup> 40 C.F.R. §§ 257.50-107; *see also* U.S. EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, 80 Fed. Reg. 21,302, 21,312 (Apr. 17, 2015); as amended by Technical Amendments to the Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities—Correction of the Effective Date, 80 Fed. Reg. 37,988 (July 2, 2015) [hereinafter Coal Ash Rule].

<sup>6</sup> Scoping Notice, 83 Fed. Reg. at 61708; *see also* TVA, Final Ash Impoundment Closure EIS Part I-Programmatic NEPA Review (June 2016).

<sup>7</sup> We have previously commented that the Scoping Notice is itself deficient because it fails to include the operation of the Gas Plant as a connected action to be studied in the EIS. *See* Att. 2, Letter from Protect Our Aquifer and Sierra Club to Ashley Farless, Re: Notice of Intent re: Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures: Request for Public Meeting re: Scoping, Extension of Public Comment Period, and Revision of Notice of Intent to Correct Deficiencies (December 4, 2018).

## I. Factual Background

At the Allen Coal Plant, extremely high levels of coal ash contamination emanating from the ash ponds are the subject of at least two ongoing state investigations: (1) a remedial investigation overseen by the Tennessee Department of Environment and Conservation (“TDEC”) Bureau of Remediation,<sup>8</sup> and (2) an environmental investigation being conducted pursuant to the TDEC Commissioner’s Order.<sup>9</sup> A report commissioned by TVA to comply with the state remedial investigation, and subsequently published by the United States Geological Survey (“USGS”) and the University of Memphis Center for Applied Earth Science and Engineering Research (“CAESER”) in 2018, concluded that the contaminated shallow groundwater is connected to the Memphis Sand Aquifer, Shelby County’s primary drinking water source (“USGS/CAESER report”).<sup>10</sup>

In addition to these state investigations, TVA is also conducting an investigation into groundwater contamination at the East Ash Pond pursuant to the federal Coal Ash Rule.<sup>11</sup> TVA reported high levels of multiple coal ash contaminants in groundwater under the East Ash Pond in its annual CCR Rule groundwater monitoring report for 2017.<sup>12</sup> After determining that the contaminants did not come from a source other than its own coal ash, TVA placed the East Ash Pond in assessment monitoring under the federal CCR Rule.<sup>13</sup> According to guidance issued by

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<sup>8</sup> Letter from Steve Goins, TDEC to TVA (July 18, 2017) (outlining requirements for remedial investigation) [hereinafter TDEC Letter re: RI Requirements].

<sup>9</sup> Tennessee Department of Environment and Conservation, In the Matter of Tennessee Valley Authority, Order No. OGC15-0177, Sec. VII.A.d (Aug. 6, 2015) [Commissioner’s Order].

<sup>10</sup> Carmichael, J.K., Kingsbury, J.A., Larsen, Daniel, and Schoefnacker, Scott, 2018 Preliminary evaluation of the hydrogeology and groundwater quality of the Mississippi River Valley alluvial aquifer and Memphis aquifer at the Tennessee Valley Authority Allen Power Plants, Memphis, Shelby County, Tennessee: U.S. Geological Survey Open-File Report 2018-1097, 66 p., <https://doi.org/10.3133/ofr20181097> [USGS/CAESER Report].

<sup>11</sup> TVA, Notice of Establishment of Assessment Monitoring Program, <https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Groundwater%20Monitoring/Assessment%20Monitoring/TVA%20NOTICE%20OF%20ESTABLISHMENT%20OF%20AN%20ASSESSMENT%20MONITORING%20PROGRAM%20ALF%20EAST%20ASH%20POND.pdf>.

<sup>12</sup> TVA, 2017 Annual Groundwater Monitoring and Corrective Action Report, Program (Allen Fossil Plant; East Ash Disposal Area), [https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Groundwater%20Monitoring/Annual%20Groundwater%20Report/257-90\(e\)\\_Annual%20Groundwater%20Monitoring%20Report\\_ALF\\_East%20Ash%20Disposal%20Area.pdf](https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Groundwater%20Monitoring/Annual%20Groundwater%20Report/257-90(e)_Annual%20Groundwater%20Monitoring%20Report_ALF_East%20Ash%20Disposal%20Area.pdf).

<sup>13</sup> TVA, Notice of Establishment of an Assessment Monitoring Program (Allen Fossil Plant; East Ash Disposal Area), <https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Groundwater%20Monitoring/Assessment%20Monitoring/TVA%20NOTICE%20OF%20ESTABLISHMENT%20OF%20AN%20ASSESSMENT%20MONITORING%20PROGRAM%20ALF%20EAST%20ASH%20POND.pdf>.

the U.S. Environmental Protection Agency (“EPA”), as part of TVA’s ongoing groundwater investigation, by January 14, 2019, TVA must have made its initial determination of whether there has been detection of a statistically significant increase of an Appendix IV constituent above the relevant groundwater protection standard in the downgradient wells.<sup>14</sup>

Information obtained through all three of these ongoing investigations at the Allen Coal Plant is relevant to the question TVA seeks to address through this EIS: namely, what is the appropriate method for closing the Ash Ponds? It is also relevant to the connected question of how TVA will provide water to operate the Allen Gas Plant.

As Conservation Groups explained in comments submitted in November 2018 on the environmental investigation plan required by the Commissioner’s Order, data from the state remedial investigation and the USGS/CAESER report demonstrate that there is a current and ongoing risk of coal ash contamination entering the Memphis Sand Aquifer and McKellar Lake.<sup>15</sup> TVA has so far refused to acknowledge these contamination risks. However, TVA can no longer avoid the issue. The environmental impact statement required by NEPA must address these impacts to groundwater and surface water quality.

In addition, the high levels of coal ash contamination emanating from the Allen Coal Plant resulted in a reversal of TVA’s decision to operate water production wells at the Allen Combined Cycle Plant that would have pulled or exacerbated the ongoing migration of contaminated groundwater into the Memphis Sand Aquifer. Instead, TVA is purchasing water from Memphis Light, Gas, & Water (“MLGW”), which in turn is extracting Memphis Sand Aquifer water from the nearby Davis well field. The analysis we submitted to TVA and TDEC in November 2018 shows that extracting Memphis Sand Aquifer water from the Davis well field will result in additional long-term drawdown of contaminated shallow groundwater under the Allen Fossil Plant into the Memphis Sand Aquifer.<sup>16</sup>

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[E%20OF%20ESTABLISHMENT%20OF%20AN%20ASSESSMENT%20MONITORING%20PROGRAM%20ALF%20EAST%20ASH%20POND.pdf](#).

<sup>14</sup> Letter from U.S. EPA to Edison Electric Institute & Venable LLP re: Coal Combustion Residuals Rule Groundwater Monitoring Requirements (Apr. 30, 2018). Arsenic, lead, and fluoride are all Appendix IV pollutants. See Appendix IV to 40 C.F.R. Part 257.

<sup>15</sup> Att. 3, Letter from Amanda Garcia, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club to [TDECorder@tva.gov](mailto:TDECorder@tva.gov), re: Tennessee Department of Environment and Conservation Commissioner’s Order: Environmental Investigation Plan, Revision 2, Allen Fossil Plant (November 28, 2018) [POA/SC Comments on EIP], submitted together with Douglas J. Cosler, Risk of Contamination of the Memphis Sand Aquifer, Allen Fossil and Combined-Cycle Combustion Turbine Plants: Review and Analysis of the Environmental Investigation Plan, Remedial Investigation, and Interim Remedial Action (November 26, 2018) [Cosler Report].

<sup>16</sup> POA/SC Comments on EIP, 6; Cosler Report, 19-20.

We previously submitted comments to TVA demanding that the utility prepare a supplemental environmental assessment and environmental impact statement analyzing the impacts of its use of MLGW water on groundwater quality.<sup>17</sup> To date, TVA has not responded to our letter and has not prepared additional environmental documentation under NEPA to address impacts to groundwater quality from its use of MLGW water.

Our comments on the environmental investigation plan and our comments demanding supplemental environmental analysis regarding cooling water for the Allen Combined Cycle Plant are attached and incorporated into this letter by reference.

## **II. Legal Framework**

### **A. NEPA requires TVA to consider the full scope of site-specific impacts from its closure decision at the Allen Coal Plant.**

NEPA is “our basic national charter for protection of the environment.”<sup>18</sup> Other environmental statutes focus on particular media (like air, water or land), specific natural resources (such as wilderness areas or endangered plants and animals), or discrete activities (such as mining, introducing new chemicals, or generating, handling or disposing of hazardous substances). In contrast, NEPA applies broadly “to promote efforts which will prevent or eliminate damage to the environment.”<sup>19</sup>

[NEPA] has twin aims. First, it places upon [a federal] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.<sup>20</sup>

To accomplish its goal of informed decision-making, NEPA requires the agency proposing the action to provide a full and fair analysis of the environmental impacts of a

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<sup>17</sup> Att. 4, Letter from Amanda Garcia and Anne Passino, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club, to Ashley Farless, TVA, re: TVA Must Prepare an Environmental Impact Statement for the Allen Fossil Plant Emission Control Project (Project Nos. 2013-33 & 2015-28) to Consider New and Omitted Information Regarding Risk of Arsenic Contamination to Memphis Sand Aquifer 41 (February 21, 2018) [Letter Demanding EIS].

<sup>18</sup> 40 C.F.R. § 1500.1(a).

<sup>19</sup> National Environmental Policy Act § 2, 42 U.S.C. § 4321.

<sup>20</sup> *Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1066 (9th Cir. 2002) (quoting *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983)) (internal quotations and citations omitted, alteration in original).

proposed action and its alternatives.<sup>21</sup> In order to engage in this analysis, the agency must (1) define the purpose of its action; (2) identify alternatives that might help it achieve that purpose; and (3) describe an accurate environmental baseline against which to evaluate the impacts of the proposed action and its alternatives.<sup>22</sup>

To the extent an agency proposes to “tier” its analysis from a programmatic EIS, such tiering is not intended to allow the agency to obscure the extent of site-specific environmental impacts or to narrow artificially the alternatives available during site-specific analysis.<sup>23</sup>

NEPA “emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decisionmaking to the end that ‘the agency will not act on incomplete information, only to regret its decision after it is too late to correct.’”<sup>24</sup> Only after fully evaluating a reasonable range of alternatives and the environmental impacts associated with each in compliance with NEPA may an agency determine its preferred course of action.

The regulations implementing the National Environmental Policy Act require “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.”<sup>25</sup> TVA must “[d]etermine the scope [] and the significant issues to be analyzed in depth in the environmental impact statement.”<sup>26</sup> The “scope” consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement.<sup>27</sup>

One of the primary purposes of scoping is to ensure that the agency will obtain the input of the public and affected federal, state and local government entities early in the NEPA

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<sup>21</sup> 40 C.F.R. § 1502.14.

<sup>22</sup> 40 C.F.R. §§ 1502.13–.16.

<sup>23</sup> *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982). (“The critical inquiry in considering the adequacy of an EIS prepared for a large scale, multi-step project is not whether the project’s site-specific impact should be evaluated in detail, but when such detailed evaluation should occur.”); *id.* at 763 (“The promise of site-specific EIS’s [sic] in the future is meaningless if later analysis cannot consider wilderness preservation as an alternative to development.”).

<sup>24</sup> *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998).

<sup>25</sup> 40 C.F.R. § 1501.7.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* § 1508.25.

process.<sup>28</sup> As the Council on Environmental Quality explains, “Scoping does not create problems that did not already exist; it ensures that problems that would have been raised anyway are identified early in the process.”<sup>29</sup>

The Sierra Club, together with others, previously commented extensively on the fundamental inadequacy of TVA’s programmatic and site-specific analyses in the Ash Impoundment Closure EIS, the final version of which was published in June 2016 (“PEIS”). Comments we provided on the draft and final versions of the PEIS are attached to this letter and are incorporated by reference.<sup>30</sup> Below we discuss some issues that must be addressed by TVA in its analysis of each of the proposed actions identified in the Scoping Notice.

**B. TVA’s preferred alternative for closure must comply with Federal and State laws governing coal ash disposal and water pollution.**

In addition to satisfying NEPA, TVA’s proposal to close its coal ash ponds must comply with other state and federal laws governing coal ash disposal and water pollution.

In 2008, TVA’s mismanagement of its coal ash impoundment at the Kingston Fossil Plant caused the largest coal ash release in this country’s history—over one billion gallons of coal ash released into the community and the Emory and Clinch Rivers.<sup>31</sup> TVA has spent more than \$1 billion on clean-up.<sup>32</sup> After the Kingston catastrophe, TVA’s Board required the agency’s ash handling convert to dry storage.<sup>33</sup> More broadly, EPA then developed the federal

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<sup>28</sup> Council on Environmental Quality, Memorandum for General Counsels, NEPA Liaisons and Participants in Scoping 3 (April 30, 1981), available at <https://ceq.doe.gov/guidance/guidance.html>.

<sup>29</sup> *Id.*

<sup>30</sup> See generally Att. 5, SELC et al., Comments on Draft Ash Impoundment Closure Environmental Impact Statement (Mar. 9, 2016) [hereinafter Comments on Draft PEIS]; Att. 6, Letter from SELC, et al., to Ashley Farless, TVA, re: TVA’s Obligation to Prepare a Supplemental Environmental Impact Statement for Draft Ash Impoundment Closure Environmental Impact Statement, Part I-Programmatic NEPA Review, and Part II, Site-Specific NEPA Review (“DEIS”) (Originally published December 2015); TVA’s Continuing Refusal to Disclose and Properly Analyze Key Environmental Impacts in the DEIS (May 23, 2016); Att. 7, SELC, et al., Comments on Final Ash Impoundment Closure Environmental Impact Statement (July 8, 2016).

<sup>31</sup> Duane Gang, *Five years after coal ash spill, little has changed*, USA Today (December 23, 2013), <http://www.usatoday.com/story/news/nation/2013/12/22/coal-ash-spill/4143995/>.

<sup>32</sup> *Id.*

<sup>33</sup> DEIS Part I at 2.

Coal Combustion Residuals Rule (“Coal Ash Rule”),<sup>34</sup> which establishes nationwide minimum standards for coal ash disposal to protect the public and the environment from adverse effects of coal ash pollution, including contamination of groundwater, surface water, air and soil.<sup>35</sup>

The adverse effects of coal ash contamination are well-documented. In the risk assessment justifying the Coal Ash Rule, EPA determined cancer risks from arsenic contamination were significantly above levels of concern.<sup>36</sup> EPA also found non-cancer risks to be above levels of concern.<sup>37</sup> Moreover, it found that health and environmental damage cases “were primarily associated with unlined units.”<sup>38</sup> EPA concluded that these risks warranted regulation of coal ash under the federal Resource Conservation and Recovery Act.<sup>39</sup>

As the Coal Ash Rule recognizes, location matters. The Coal Ash Rule requires new and existing impoundments, as well as new landfills, to comply with five location restrictions: ash generally must not be stored in (1) the uppermost aquifer; (2) wetlands; (3) fault areas; (4) seismic impact zones; or (5) unstable areas.<sup>40</sup> A coal ash storage unit in any of these settings must close if it does not meet specified requirements.<sup>41</sup> The Rule’s restriction on storing ash in unstable areas applies to existing landfills as well as the other categories of covered units.<sup>42</sup>

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<sup>34</sup> 40 C.F.R. §§ 257.50-107; *see also* U.S. EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, 80 Fed. Reg. 21,302, 21,312 (Apr. 17, 2015); as amended by Technical Amendments to the Hazardous and Solid Waste Management System; Att. 3, Disposal of Coal Combustion Residuals from Electric Utilities—Correction of the Effective Date, 80 Fed. Reg. 37,988 (July 2, 2015) [hereinafter Coal Ash Rule].

<sup>35</sup> 40 C.F.R. § 257.1 (purpose of Coal Ash Rule is “for determining which CCR landfills and CCR surface impoundments pose a reasonable probability of adverse effects on health or the environment...”); *id.* § 257.50 (Coal Ash Rule establishes “minimum national criteria”); Coal Ash Rule, 80 Fed. Reg. at 21,313–30 (discussing EPA’s risk assessment justifying regulation, including finding cancer risk from arsenic contamination above levels of concern and damage cases indicating contamination of groundwater in unlined impoundments and landfills); *id.* at 21,326 (variation in state programs “strongly supports the need for federal requirements to establish a consistent national standard of groundwater and human health protection”).

<sup>36</sup> Coal Ash Rule, 80 Fed. Reg. at 21,326.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> 40 C.F.R. §§ 257.60–.64.

<sup>41</sup> *Id.* § 257.101.

<sup>42</sup> *Id.* § 257.64.

The Coal Ash Rule also requires new landfills and impoundments to install liners between the ash and the underlying surface.<sup>43</sup> Among other requirements, existing landfills and impoundments are subject to ongoing groundwater monitoring requirements and corrective action if monitoring demonstrates exceedances of certain coal ash pollutants.<sup>44</sup>

In its risk assessment supporting the Coal Ash Rule, EPA found that “disposal of CCR wastes in unlined surface impoundments and landfills presents the greatest risks to human health and the environment.”<sup>45</sup> EPA also found that disposal of coal ash in unlined pits was responsible for the vast majority of damage cases based on groundwater and surface water contamination.<sup>46</sup>

In addition to the Coal Ash Rule, TVA’s coal ash disposal is regulated by the federal Clean Water Act, which seeks to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”<sup>47</sup> To accomplish this goal, the Clean Water Act prohibits discharge of any pollutant except in compliance with a National Pollutant Discharge Elimination System (“NPDES”) permit.<sup>48</sup> The Clean Water Act is a strict liability statute. Each violation of a NPDES permit, and each discharge that is not authorized by the NPDES permit, is a violation of the Clean Water Act.

TVA’s coal ash disposal is also regulated by state water pollution and solid waste laws. The State of Tennessee has asserted that its solid waste laws may require more stringent regulation of coal ash disposal than the Coal Ash Rule.<sup>49</sup> Indeed, in its Commissioner’s Order dated August 6, 2015, the Tennessee Department of Environment and Conservation specifically

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<sup>43</sup> *Id.* §§ 257.70–.72.

<sup>44</sup> *Id.* §§ 257.91–.98.

<sup>45</sup> U.S. EPA, RIN 2050-AE81, Human and Ecological Risk Assessment of Coal Combustion Residuals, at ES-7 (Dec. 2014).

<sup>46</sup> 80 Fed. Reg. 21,452, 21,361.

<sup>47</sup> 33 U.S.C. § 1251(a).

<sup>48</sup> *Id.* §§ 1311, 1342.

<sup>49</sup> Commissioner’s Order at 2, *In re Tenn. Valley Auth.*, No. OGC015-0177 (Tenn. Dep’t of Env’t & Conservation Aug. 8, 2015), [https://tn.gov/assets/entities/environment/attachments/TVA\\_Order\\_8-6-15.pdf](https://tn.gov/assets/entities/environment/attachments/TVA_Order_8-6-15.pdf).



asserts jurisdiction and supervision over TVA's selection of closure methods for coal ash ponds, including at the Allen Coal Plant.<sup>50</sup>

Neighboring states and utilities have recognized clean closure—removal of coal ash for recycling and/or to a dry, appropriately lined landfill—as the appropriate remedy for groundwater contamination at existing impoundments.<sup>51</sup> In South Carolina, for example, all of the utilities have committed to close their ash ponds by excavating the ash and removing it to dry, lined storage. In Georgia, Georgia Power has committed to excavate 39 million tons of coal ash from its ponds.<sup>52</sup> Most recently, the Governor of Virginia gained bipartisan support, along with support from the state's monopoly utility, Dominion Energy, for legislation that would require Dominion to excavate coal ash from all of its leaking, unlined pits.<sup>53</sup>

### **III. The scope of the EIS must be broadened to include connected actions, site-specific considerations, a reasonable range of closure alternatives, and environmental justice impacts.**

The scope of a proposed action “consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement.”<sup>54</sup> “The scope of an individual statement may depend on its relationships to other statements.”<sup>55</sup> Actions that should be included in a single EIS include connected actions, such as interdependent actions, and cumulative actions.<sup>56</sup> TVA's implementing regulations require a scoping notice to “briefly describe the action,

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<sup>50</sup> *Id.* at 7.

<sup>51</sup> Consent Agreement, *In re Duke Energy Progress, Inc., Robinson Steam Elec. Plant*, No. 15-23-HW (S.C. Dep't of Health & Env'tl. Control 2015); Sen. Larry Martin & Rep. Davey Hiott, *Rules Change for Coal Ash was Needed*, Greenville Online (Feb. 29, 2016), [www.greenvilleonline.com/story/opinion/contributors/2016/02/29/rules-change-coal-ash-needed/80937280/](http://www.greenvilleonline.com/story/opinion/contributors/2016/02/29/rules-change-coal-ash-needed/80937280/).

<sup>52</sup> See <https://www.georgiapower.com/content/dam/georgia-power/pdfs/company-pdfs/1601738-ashpond-closures.pdf>; <https://www.prnewswire.com/news-releases/georgia-power-updates-ash-pond-closure-plans-for-plants-branch-and-bowen-300705118.html>; [https://www.georgiapower.com/content/dam/georgia-power/pdfs/company-pdfs/plant-bowen/20180927\\_clospln\\_bow\\_ap\\_amended\\_final.pdf](https://www.georgiapower.com/content/dam/georgia-power/pdfs/company-pdfs/plant-bowen/20180927_clospln_bow_ap_amended_final.pdf).

<sup>53</sup> Laura Vozzella, *Coal ash cleanup bill wins bipartisan backing in Virginia*, The Washington Post (January 24, 2019), [https://www.washingtonpost.com/local/virginia-politics/coal-ash-clean-up-bill-wins-bipartisan-backing-in-virginia/2019/01/24/99c2a798-1ff4-11e9-8e21-59a09ff1e2a1\\_story.html?noredirect=on&utm\\_term=.e671397e654e](https://www.washingtonpost.com/local/virginia-politics/coal-ash-clean-up-bill-wins-bipartisan-backing-in-virginia/2019/01/24/99c2a798-1ff4-11e9-8e21-59a09ff1e2a1_story.html?noredirect=on&utm_term=.e671397e654e).

<sup>54</sup> 40 C.F.R. § 1508.25.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.* at § 1508.25.

reasonable alternatives thereto, and potential environmental impacts associated with the action.”<sup>57</sup> If the agency does not define the scope of the EIS adequately, the public and public agency stakeholders cannot provide meaningful input into the development of the EIS, including key action alternatives, significant environmental issues to be addressed in detail, and related environmental documents.<sup>58</sup>

**A. The EIS must consider a reasonable range of closure alternatives, including various options for closure by removal, and carefully consider the environmental justice and other impacts associated with each one.**

In the Scoping Notice, TVA identifies four alternatives, including (1) no action; (2) closure by removal of the Ash Ponds to an off-site landfill; (3) closure by removal of the Ash Ponds to a “beneficial re-use facility” and an off-site landfill; and (4) closure in place of the Ash Ponds.<sup>59</sup> The EIS should include additional alternatives that consider a range of transportation options for closure by removal and locations for “beneficial re-use” or recycling. In addition, the EIS should carefully consider the environmental justice, worker safety, and other environmental impacts associated with each alternative.

**1. TVA should consider a reasonable range of transportation options and locations for closure by removal.**

The scope of the EIS should include three types of alternatives, including a no action alternative, “other reasonable courses of action,” and mitigation measures not in the proposed action.<sup>60</sup>

Two of the alternatives identified by TVA include moving ash to an off-site landfill. With respect to hauling coal ash off site to an existing, off-site permitted landfill, TVA should consider a reasonable range of options, including: (1) transportation by rail; (2) transportation by barge; (3) varying distances to potential landfills; and (4) various routes for any trucking alternatives.

In addition, the Scoping Notice refers to an alternative that would include “closure of the Metal Cleaning Pond and closure-by-removal of the East Ash Pond Complex, the West Ash

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<sup>57</sup> TVA NEPA Procedures, § 5.4.3.

<sup>58</sup> See TVA NEPA Procedures, § 5.4.3 (describing required outcomes of the scoping process).

<sup>59</sup> Scoping Notice, 83 Fed. Reg. 61708.

<sup>60</sup> 40 C.F.R. § 1508.25.

Pond, and the CCR surrounding the Metal Cleaning Pond to a beneficial re-use facility & offsite landfill location....”<sup>61</sup> However, the Scoping Notice includes no detail regarding the beneficial re-use facility. In the EIS, TVA must include information that (1) identifies the type of “beneficial re-use” proposed (encapsulated or unencapsulated); (2) the proposed methods of storage of coal ash at the proposed re-use facility; and (4) potential locations for the proposed facility (e.g., whether TVA is considering constructing the facility on-site, in Frank Pidgeon Park, or elsewhere in Memphis). TVA must consider a reasonable range of alternatives associated with any beneficial re-use facility, including the same range of transportation options it considers for the off-site landfill alternatives.

## **2. TVA must consider the environmental justice, worker safety, and other environmental impacts associated with each alternative.**

TVA must also consider the environmental justice implications of the selection of a particular site for coal ash disposal. In the aftermath of the Kingston coal ash failure, TVA transported ash to the Arrowhead Landfill in Perry County, Alabama, a landfill in an environmental justice community that had already been subjected to repeated violations of pollution laws.<sup>62</sup> In September 2016, the United States Commission on Civil Rights issued a report finding that the decision to move coal ash to the Arrowhead Landfill was primarily based on technical considerations, including cost, and did not properly take into account environmental justice concerns.<sup>63</sup> This must not happen again. TVA must ensure that any disposal location for its coal ash, including any “beneficial re-use facility,” complies with laws designed to protect people from pollution, and takes into account disproportionate impacts on communities that are already burdened.

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<sup>61</sup> Scoping Notice, 83 Fed. Reg. at 61708.

<sup>62</sup> Kristen Lombardi, *Welcome to Uniontown: Arrowhead Landfill Battle a Modern Civil Rights Struggle*, NBC News (Aug. 5, 2015), <http://www.nbcnews.com/news/nbcblk/epa-environmental-injustice-uniontown-n402836>. Arrowhead Landfill is listed on the 2015 Public Notice of Significant Non-Compliance for Significant Industrial Users. See ADEM, Public Notice of Significant Non-Compliance for Significant Industrial Users (Feb. 2016), <http://www.adem.state.al.us/newsEvents/notices/feb16/2snc.htm>.

<sup>63</sup> U.S. Commission on Civil Rights, *Environmental Justice: Examining the Environmental Protection Agency’s Compliance and Enforcement of Title VI and Executive Order 12,898*, 65-69 (September 2016), [http://www.usccr.gov/pubs/Statutory\\_Enforcement\\_Report2016.pdf](http://www.usccr.gov/pubs/Statutory_Enforcement_Report2016.pdf).

In addition, TVA's history with the Kingston coal ash remediation raises concerns about the safety of clean-up workers and the communities where the coal ash is recycled or disposed.<sup>64</sup> In November 2018, a jury found that TVA's contractor for the Kingston clean-up failed to adequately protect workers from exposure to coal ash contamination.<sup>65</sup> More than 30 workers have died and more than 300 are sick.<sup>66</sup> This, too, must never happen again. In the EIS, TVA must commit to following all laws, regulations, and best practices for worker safety and require its contractors to do the same. TVA must explicitly address concerns about worker safety to gain the confidence of the Memphis community with respect to any of the available alternatives.

Finally, as discussed in Section III.B, below, TVA must fully disclose and analyze other environmental impacts associated with each alternative, including potential groundwater and surface water quality impacts.

**B. The EIS must include site-specific analysis of groundwater and surface water quality impacts, including information from the ongoing investigations at the Allen Coal Plant.**

As described in Section I above, TVA currently is engaged in three ongoing and interrelated groundwater contamination investigations at the Allen Coal Plant. TVA must incorporate information obtained through these investigations into the analysis of groundwater and surface water impacts in the EIS.

**1. With respect to groundwater impacts, existing data from the investigations indicate a current and ongoing risk of contamination of the Memphis Sand Aquifer from the Ash Ponds.**

The key finding of the USGS/CAESER report is that the contaminated alluvial aquifer and the Memphis Sand Aquifer are hydraulically connected.<sup>67</sup> Nevertheless, to date, TVA's

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<sup>64</sup> Jamie Satterfield, *Kingston coal ash spill: Roane County leaders push for testing of children's sports complex*, Knox News (December 14, 2018), <https://www.tennessean.com/story/news/crime/2018/12/14/kingston-coal-ash-spill-roane-county-workers-memorial-tva/2242929002/>.

<sup>65</sup> Jamie Satterfield, *Jury: Jacobs Engineering endangered Kingston disaster clean-up workers*, Knox News (November 7, 2018), <https://www.knoxnews.com/story/news/crime/2018/11/07/verdict-reached-favor-sickened-workers-coal-ash-cleanup-lawsuit/1917514002/>.

<sup>66</sup> Jamie Satterfield, *Kingston coal ash spill: Judge orders TVA contractor to negotiate with sickened workers*, Knox News (January 14, 2019), <https://www.knoxnews.com/story/news/crime/2019/01/14/tva-coal-ash-spill-jacobs-lawsuit-mediation/2523080002/>.

<sup>67</sup> USGS/CAESER Report, 44 ("The aquifer-test results indicate that the MRVA and Memphis aquifers are hydraulically connected in the TVA plants area.").

public-facing position has that there is no risk of coal ash contamination migrating to the Memphis Sand Aquifer.<sup>68</sup> To date, TVA has also failed to accurately characterize the extent of the existing coal ash contaminant plume by selectively including only data for arsenic, fluoride and lead, and by failing to take into account additional indicators of downward groundwater flow at the site.<sup>69</sup> The EIS can and must disclose and analyze this ongoing risk to the City of Memphis and Shelby County's drinking water source.

Specifically, our independent review of the data from the investigations and the USGS/CAESER report support the following key findings:

- There is a hydraulic connection between the Mississippi River Valley Alluvial ("MRVA") Aquifer and the Memphis Sand Aquifer;
- The areal extent of the breach in the confining layer that is causing the hydraulic connection may be much larger than the USGS-CAESER report initially indicated;
- The degree of hydraulic connection, based on pumping-induced water-level reductions in the MRVA Aquifer, may be much stronger than the USGS-CAESER report initially indicated;
- There are significantly elevated concentrations of boron and sulfate, CCR indicator constituents, deep in the MRVA Aquifer at the Allen Plant;
- These boron and sulfate tracer concentration distributions indicate that long-term downward groundwater flow has been occurring in the Alluvial aquifer in the Allen Plant area;
- Shallow and deep vertical hydraulic gradients within the MRVA Aquifer, as well as significantly higher hydraulic heads in the MRVA aquifer compared to the Memphis Sand, also indicate downward groundwater flow;
- Age dating of groundwater (e.g., tritium analyses by USGS, 2018) and elevated sulfate concentrations in Memphis-Sand Production Well 5 indicate that mixing of MRVA

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<sup>68</sup>Stantec, Draft TVA Allen Fossil Plant-East Ash Disposal Area-Remedial Investigation Report, ES-i (March 6, 2018) [RI Report] ("The north and south areas of affected groundwater are not impacting the Memphis aquifer or the public drinking water supply.")

<sup>69</sup>*Id.*, ES-i ("Sampling confirmed the highest concentrations of arsenic, fluoride and lead were limited to the north and south areas, primarily within the upper 40 feet of the shallow Alluvial aquifer. The aquifer is over 100 feet thick. Groundwater flow in the aquifer is essentially horizontal and is not moving downward.")

Aquifer groundwater with Memphis Sand Aquifer water is occurring in the vicinity of the Allen Plant and that potential ongoing transport of CCR constituents from the MRVA into the Memphis Sand Aquifer is occurring; and

- TVA's extraction of Memphis Sand Aquifer groundwater from the Davis well field will result in long-term drawdown in the Memphis Sand under the Allen Plant and increase downward vertical hydraulic gradients from the MRVA to the Memphis Sand.

These site-specific findings, based on TVA's own data and the analysis provided by independent experts in the USGS-CAESER report, must be disclosed and analyzed in the EIS.

**2. With respect to surface water impacts, existing data from the investigations indicate a current and ongoing risk of pollution of McKellar Lake and other surface water from the Ash Ponds.**

Data presented in the ongoing investigations and the USGS/CAESER report strongly indicate that coal ash pollution is moving from the East Ash Pond and groundwater beneath the East Ash Pond into McKellar Lake. To date, TVA has underestimated the transport rate of coal ash pollution into McKellar Lake because it does not properly characterize the groundwater flow. In addition, at least one of the investigations describes historic and current seeps through the berms of the East Ash Pond and West Ash Pond.<sup>70</sup>

Despite these data, TVA has stated that it is not planning to undertake investigation of surface water or sediment impacts in McKellar Lake or other surface water bodies, including Nonconnah Creek.<sup>71</sup> TVA's primary justification for omitting investigation of the potential surface water impacts its coal ash pollution is having on McKellar Lake is that the lake is polluted by many sources.<sup>72</sup> The fact that McKellar Lake may be polluted by other sources does not give TVA a free pass to add more arsenic, lead, boron and other coal ash contaminants to its pollutant load.

NEPA requires site-specific disclosure and analysis of all potentially significant impacts in the EIS. This includes impacts that are cumulatively significant.<sup>73</sup> TVA must disclose and analyze the surface water impacts associated with its coal ash pollution.

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<sup>70</sup> TVA, Environmental Investigation Plan, Revision 2, Allen Fossil Plant, p. 24, Sec. 3.42 (West Ash Pond); pp. 29-31, Sec. 3.5.5 (East Ash Pond) (July 20, 2018) [EIP].

<sup>71</sup> EIP, pp. 62-67.

<sup>72</sup> *Id.* at 63-64.

<sup>73</sup> 40 C.F.R. § 1508.25(c).

**C. The EIS must include within its scope, as a connected action, the operation of the Allen Gas Plant.**

The Scoping Notice fails to include within the scope of the proposed action TVA's decision to purchase water from MLGW, even though the withdrawal of water from the Memphis Sand Aquifer at the Davis well field to cool the Allen Gas Plant is a connected and cumulative action that must be studied in this EIS. Indeed, TVA previously identified construction of the Allen Gas Plant as a cumulative action in the West Pond EA.<sup>74</sup> The operation of the Gas Plant is also a connected action.<sup>75</sup> Connected actions include actions that are "interdependent parts of a larger action and depend on the larger action for their justification."<sup>76</sup> Here, the closure of the Ash Ponds is part of TVA's larger action of retiring the Coal Plant and constructing and operating the Gas Plant.

In a previous environmental assessment, TVA considered the retirement of the Coal Plant and the construction and operation of the Gas Plant together.<sup>77</sup> One of the issues addressed in the Environmental Assessment was the source of water needed to operate the Gas Plant. Because the Gas Plant captures the hot exhaust from burning gas and uses the captured condensed steam to run another turbine,<sup>78</sup> the Gas Plant needs millions of gallons of water, also known as "cooling water," to function.<sup>79</sup>

In the August 2014 Final Environmental Assessment, TVA selected as its preferred alternative using gray water ("recycled water") for cooling the Gas Plant.<sup>80</sup> TVA defined "gray water" as "non-potable treated wastewater . . . [that] has 98 percent of waste removed."<sup>81</sup> In response to public comments on the 2014 Environmental Assessment, TVA confirmed that it

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<sup>74</sup> West Pond EA, 48.

<sup>75</sup> 40 C.F.R. § 1508.25.

<sup>76</sup> *Id.*

<sup>77</sup> Att. 8, TVA, Allen Fossil Plant Emission Control Project Final Environmental Assessment, 1 (Aug. 2014) [hereinafter "Final EA"].

<sup>78</sup> "How a Combined Cycle Power Plant Works" (TVA), <https://www.tva.gov/Energy/Our-Power-System/Natural-Gas/How-a-Combined-Cycle-Power-Plant-Works>.

<sup>79</sup> See Att. 9, TVA, Finding of No Significant Impact, Allen Fossil Plant Emission Control Project–Groundwater Wells (Apr. 29, 2016) [hereinafter "2016 FONSI"].

<sup>80</sup> Final EA, at §§ 2.1.2.2.2, 2.5.

<sup>81</sup> Final EA at 11.

planned to use recycled gray water from its neighbor, the Maxson Wastewater Plant, for condenser cooling water.<sup>82</sup> In fact, TVA described its decision to use the recycled water as “an opportunity to reduce the use of natural resources in the Memphis area,” because, according to TVA, “The proximity of the proposed facility to the Maxson WWTP makes the use of gray water feasible for all uses that are currently fulfilled by McKellar Lake water.”<sup>83</sup> TVA therefore left no doubt in the public’s mind that TVA’s plan was viable. Indeed, the Gas Plant requires only a small fraction of the available recycled water generated each day at Maxson:

The proposed gas plant would use approximately 4-8% of the gray water available from the WWTP. TVA would treat the gray water as necessary for use in the gas plant and would return approximately 1-2% of the treated water back to the WWTP. Currently the WWTP produces over 100 million gallons per day (MGD). The maximum that TVA would use is approximately 7-10 MGD.<sup>84</sup>

In 2016, TVA changed course. While using gray water was still technologically feasible, a consultant hired by TVA concluded that using recycled wastewater would be more expensive than potable water.<sup>85</sup>

Revisiting its available alternative sources for cooling water, TVA issued a Supplemental Environmental Assessment (“SEA”) in 2016, without public notice or opportunity for comment.<sup>86</sup> The SEA evaluated three alternatives to supply the cooling water for the Gas Plant:

1. “No Action,” under which TVA would obtain gray water from, and discharge waste water to, the Maxson Plant, as proposed and described in the 2014 Environmental Assessment;
2. Installation of five wells into the Memphis Sand Aquifer; and
3. Purchasing potable water from Memphis Light, Gas & Water.<sup>87</sup>

Without disclosing or analyzing groundwater contamination at the nearby Allen Coal Plant or the vulnerability of the Aquifer in the vicinity of the Plant, TVA determined that the use

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<sup>82</sup> Final EA at 223.

<sup>83</sup> *Id.*

<sup>84</sup> Final EA at 223.

<sup>85</sup> Kiewit Study, “KP-TVA-0225 - TVA Allen Water Treatment Study.”

<sup>86</sup> Att. 10, TVA, Allen Fossil Plant Emission Control Project Supplemental Environmental Assessment, 11 (Apr. 2016) [hereinafter SEA].

<sup>87</sup> 2016 FONSI, 1.



of groundwater extraction wells, which would withdraw water from the Memphis Sands Aquifer, would have no significant environmental impacts.<sup>88</sup>

Less than a year later, in July 2017, TDEC disclosed to the public that groundwater under TVA's coal ash pond was exceeding groundwater protection standards by more than 300 times.<sup>89</sup> Alarmed by the extraordinarily high levels of a cancer-causing toxin, TDEC required TVA to perform a remedial investigation, with a particular focus on the potential for the contaminated groundwater to be pulled into the Memphis Sand by TVA's freshly-drilled gas plant wells.<sup>90</sup>

Remarkably, even after the disclosure of arsenic contamination and the vulnerability of Shelby County's drinking water source, TVA has continued to insist that it might operate its Gas Plant water wells.<sup>91</sup> Under pressure from the public and area local, state, and federal elected officials, TVA eventually agreed not to operate the wells until the investigation was complete.<sup>92</sup> However, TVA still has not surrendered its permits.

Even purchasing water, which would induce the local utility to withdraw millions more gallons of water per day from just three miles away from the Coal Plant, threatens to pull coal ash-contaminated water from beneath the Coal Plant into the Memphis Sand Aquifer.<sup>93</sup> TVA has not analyzed the groundwater quality impacts associated with its decision to purchase water from MLGW and must do so here because the action is (1) connected to the retirement of the Coal Plant and the operation of the Gas Plant; and (2) cumulative to the closure options for the coal ash ponds at the Allen Fossil Plant. Moreover, TVA's use of MLGW water could pull contaminated groundwater from other industrial sources, including those TVA identified in its

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<sup>88</sup> *Id.*

<sup>89</sup> TDEC, TVA Allen Fossil Plant –Site Information: Discovery of Arsenic in Ground Water Monitoring Wells, 3 (July 11, 2017) [hereinafter Allen Fossil Plant-Site Information]. At the same time, TVA was defending its groundwater well permits before the Shelby County Groundwater Board and in court.

<sup>90</sup> Letter from Steve Goins, TDEC to TVA (July 18, 2017) (outlining requirements for remedial investigation) [hereinafter TDEC Letter re: RI Requirements].

<sup>91</sup> August 23, 2017 Letter from TVA to TDEC re “Allen Fossil Plant CCR Constituents in the Upper Most Aquifer and Use of Cooling Water Wells Installed into the Memphis Sands Aquifer” (“TVA does not plan to utilize ACC cooling water wells for plant operations until we have additional data to support safe use.”).

<sup>92</sup> November 27, 2017 Letter from TVA to TDEC re “Allen Combined Cycle Plant (ACC) – Use of Production Wells” (“TVA will not use the production wells at the Allen Combined Cycle Plant before the completion of the Remedial Investigation, and TVA will rely on the results of the Remedial Investigation to guide TVA's actions thereafter.”).

<sup>93</sup> Cosler Report, 19-20.

remedial investigation, such as the sewage sludge unit associated with the Maxson WWTP.<sup>94</sup> For all of the reasons set forth in our previous letter demanding an EIS, this EIS should analyze reasonable alternatives to the use of MLGW water, including the use of gray water from the nearby Maxson wastewater treatment facility.<sup>95</sup>

**D. The EIS cannot tier from the 2016 Programmatic EIS or otherwise rely on TVA's 2016 analysis of closure options for the West Ash Pond.**

In the Scoping Notice, TVA asserts that its analysis of closure alternative in the EIS will “tier” from the analysis in the PEIS.<sup>96</sup> As explained at length in comments on the PEIS, that document provides no site-specific analysis of groundwater and surface water impacts. Moreover, the PEIS concludes that capping a coal ash unit in place is a reasonable alternative where coal ash is buried in and contaminating groundwater.<sup>97</sup> However, that conclusion is directly contrary to the federal Coal Ash Rule.

The PEIS also fails to include meaningful, site-specific analysis of a reasonable range of clean closure alternatives, such as:

- Excavation and recycling;
- Excavation and removal by rail; and
- Excavation and removal by barge.

The PEIS includes a site-specific Environmental Assessment for the West Pond at the Allen Coal Plant (“West Pond EA”).<sup>98</sup> In the West Pond EA, TVA determined that closure in place was its preferred alternative.<sup>99</sup> In the Scoping Notice, TVA does not indicate whether or how it plans to incorporate its analysis from the West Pond EA into this EIS; however, like the

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<sup>94</sup> RI Report, 7.7-7.10 and Appendix J.

<sup>95</sup> Letter Demanding EIS, 37-41.

<sup>96</sup> Scoping Notice, 83 Fed. Reg. at 61708.

<sup>97</sup> TVA, Final Ash Impoundment Closure EIS Part I-Programmatic NEPA Review 65 (June 2016); *see also id.* at Part I, Chapter A.2 Response to Comments at 27 (admitting coal ash is submerged in groundwater at seven of the ten impoundments considered in Part II of the PEIS); TVA, Record of Decision, Ash Impoundment Closure Final Environmental Impact Statement Part I Programmatic Review and Part II Site Specific Review of 10 Impoundments 10 (July 28, 2016) (selecting closure in place at all ten impoundments notwithstanding having admitted ash is buried in groundwater at seven of them).

<sup>98</sup> TVA, Final Ash Impoundment Closure EIS Part II, Allen Fossil Plant (June 2016)[hereinafter West Pond EA].

<sup>99</sup> *Id.* at 15.

programmatic component of the PEIS, the West Pond EA similarly provides inadequate site-specific analysis of groundwater and surface water impacts, particularly in light of the new information regarding groundwater contamination and hydrogeology available for the Allen Coal Plant.<sup>100</sup> The West Pond EA similarly does not include meaningful, site-specific analysis of a reasonable range of clean closure alternatives.<sup>101</sup>

For all of these reasons, in addition to the reasons set forth in Environmental Groups' comments on the PEIS, TVA cannot permissibly tier to the PEIS or rely on the West Pond EA to comply with its NEPA obligations.

**E. The EIS must provide a site-specific analysis of whether and how each alternative will comply with *all* state and federal laws governing coal ash disposal.**

In the Scoping Notice, TVA states that the purpose of the EIS is “to support the implementation of TVA’s goal to eliminate all wet CCR storage at its coal plants by closing CCR surface impoundments across the TVA system, and to assist TVA is complying with the [federal Coal Ash Rule].”<sup>102</sup>

With respect to the federal Coal Ash Rule, EPA has made clear that closure of surface impoundments in place is not a permissible option if the owner/operator cannot demonstrate compliance with the performance standards that apply to closure in place under the Rule.<sup>103</sup> These standards include, among other things: a closure plan proposing to cap a coal ash unit in place must, among other requirements, “discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.”<sup>104</sup> Paragraph (d), in turn, includes three sets of performance standards relevant to closure in place: (1) environmental and public health standards; (2) drainage and stabilization standards; and (3) final cover standards.<sup>105</sup>

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<sup>100</sup> Comments on Draft PEIS, 50-58.

<sup>101</sup> *See id.*

<sup>102</sup> Scoping Notice, 83 Fed. Reg. at 61,708.

<sup>103</sup> EPA, Relationship Between the Resource Conservation and Recovery Act’s Coal Combustion Residuals Rule and the Clean Water Act’s National Pollutant Discharge Elimination System Permit Requirements, “Closure Requirements,” <https://www.epa.gov/coalash/relationship-between-resource-conservation-and-recovery-acts-coal-combustion-residuals-rule#Closure> (accessed January 29, 2019) [hereinafter EPA Closure Requirements].

<sup>104</sup> 40 C.F.R. § 257.102(b).

<sup>105</sup> *Id.* § 257.102(d).

If a unit cannot satisfy the performance standards, the operator must “clean close” the unit, which means removing the coal ash and decontaminating the area.<sup>106</sup>

A discussion of how the closure of a particular impoundment will meet these standards must necessarily be site-specific. Indeed, EPA counsels:

Whether any particular unit or facility can meet the performance standards is a fact and site-specific determination that will depend on a number of factual and engineering considerations, such as the hydrogeology of the site, the engineering of the unit, and the kinds of engineering measures available.<sup>107</sup>

Such a discussion must be site-specific because the conditions at each impoundment vary, in terms of the underlying geology and hydrogeology, the history of construction of the dikes, and other features of the impoundment. The closure plan should reference and incorporate the site-specific information provided in the accompanying stability assessments and history of construction, along with any other site-specific technical analyses required to define the features of the site and demonstrate how the closure will meet the performance standards in light of those features. A technically thorough discussion of these site-specific conditions, and how they will affect issues such as releases to ground and surface water, the potential impoundment of water, and stability, is crucial to enable citizens and decisionmakers to evaluate whether an owner/operator’s plan satisfies the performance standards in the Rule, and therefore, whether the alternative is reasonable for purposes of NEPA compliance.

In contrast to TVA’s recent statements to the Securities Exchange Commission, TVA’s CCR Rule closure plan for the East Pond indicates that its preferred alternative for the East Pond is closure in place, “pending further environmental review [under NEPA].”<sup>108</sup> Thus, to the extent

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<sup>106</sup> EPA Closure Requirements; *see also* 40 C.F.R. § 257.102(c) (describing performance standard for closure by removal of coal ash).

<sup>107</sup> EPA Closure Requirements.

<sup>108</sup> Stantec, Closure and Post-Closure Plan, East Ash Disposal Area, EPA Final Coal Combustion Residuals Rule, Tennessee Valley Authority, Memphis Tennessee (October 12, 2016), [https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Closure%20-%20Post-Closure%20Plan/Closure%20Plan/257-102\(b\)\\_Written%20Closure%20Plan\\_ALF\\_East%20Ash%20Disposal%20Area.pdf](https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Closure%20-%20Post-Closure%20Plan/Closure%20Plan/257-102(b)_Written%20Closure%20Plan_ALF_East%20Ash%20Disposal%20Area.pdf). We note that this statement in TVA’s CCR Rule closure plan appears to be inconsistent with a statement that TVA has made to the Securities Exchange Commission that it “would identify closure by removal as the preferred alternative for the Allen Fossil Plant east impoundment.” Tennessee Valley Authority, Form 10-K, Annual Report Pursuant to Section 13, 15(d), or 37 of the Securities Exchange Act of 1934 (September 30, 2018), available at <http://www.snl.com/Cache/396387482.PDF?O=PDF&T=&Y=&D=&FID=396387482&iid=4063363>.

that TVA intends its EIS “to assist TVA is complying with the [federal Coal Ash Rule],” the EIS must include the robust, site-specific analysis required by the CCR Rule. This analysis must be informed by the significant new information TVA has obtained through the ongoing state and federal investigations and the USGS-CAESER report.

In a letter dated October 18, 2016, EPA informed TVA of the utility’s obligation to provide the site-specific analysis required by the Coal Ash Rule in order to comply with NEPA:

If the TVA is unable to meet the requirements of the CCR Rule or any requirements from the states for the preferred alternative [closure in place], the EPA recommends that the TVA consider re-opening the NEPA process and potentially re-evaluating its preferred and selected alternatives for any of the specific impoundments that may be in question.<sup>109</sup>

Further, as discussed in comments on the PEIS, TVA must select an alternative that complies with *all* of the laws and regulations that apply to its coal ash ponds and disposal areas, not just the Coal Ash Rule. These laws and regulations include the federal Clean Water Act and state water pollution and solid waste disposal laws in addition to the federal Coal Ash Rule.<sup>110</sup> TVA’s acknowledgement of its obligation to comply with *all* of these applicable laws and regulations is particularly important here, because TVA has taken the position that the Coal Ash Rule does not apply to the West Ash Pond or the Metal Cleaning Pond.<sup>111</sup>

**F. The EIS must disclose and analyze any cumulative actions and cumulative impacts associated with future economic development projects on the Allen Coal Plant property.**

In the Scoping Notice, TVA states that an additional purpose of the proposed action is to “make the ALF closure area land available for future economic development projects in the greater Memphis area.”<sup>112</sup> NEPA requires TVA to include within the scope of the EIS any cumulative actions, as well as cumulative impacts associated with the proposed action.<sup>113</sup>

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<sup>109</sup> Letter from G. Alan Farmer, Director, Resource Conservation and Recovery Division, EPA Region 4, to Amy Henry, TVA, re: Letter of Clarification on Ash Impoundment Closures (October 18, 2016) (attached to this letter via Sharefile).

<sup>110</sup> See Section II, Legal Framework, above.

<sup>111</sup> TVA, Allen Coal Combustion Residuals, <https://www.tva.gov/Environment/Environmental-Stewardship/Coal-Combustion-Residuals/Allen>.

<sup>112</sup> Scoping Notice, 83 Fed. Reg. at 61708.

<sup>113</sup> 40 C.F.R. § 1508.25(a)(2); (c).

Publicly-available information indicates that TVA may be aware of specific economic development plans for the Coal Plant property. A newspaper article published in 2017 indicated interest from the Memphis-Shelby County Port Commission in developing a transloading facility on the Coal Plant site.<sup>114</sup> To the extent TVA is aware of “future economic development projects” planned for the Coal Plant site, such cumulative actions and cumulative impacts must be disclosed and analyzed in the EIS.

Thank you for the opportunity to comment on this Scoping Notice.

Sincerely,



Amanda Garcia  
Senior Attorney  
Southern Environmental Law Center

/s with permission  
Ward Archer  
President  
Protect Our Aquifer

/s with permission  
Scott Banbury  
Conservation Program Coordinator  
Tennessee Chapter Sierra Club

CC via email to:

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Joe Sanders, Senior Counsel, TDEC, Joseph.Sanders@tn.gov

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<sup>114</sup> Wayne Risher, *Coal-burning plant site could unlock harbor access for Port of Memphis industrial park*, Commercial Appeal (November 21, 2017), <https://www.commercialappeal.com/story/money/industries/logistics/2017/11/21/coal-burning-plant-site-could-unlock-harbor-access-memphion-mckellar-lake-eyed-memphis-port-expansio/880200001/>.

### Attachments

Att. 1, Tennessee Valley Authority, Form 10-K, Annual Report Pursuant to Section 13, 15(d), or 37 of the Securities Exchange Act of 1934 (September 30, 2018), available at <http://www.snl.com/Cache/396387482.PDF?O=PDF&T=&Y=&D=&FID=396387482&iid=4063363>.

Att. 2, Letter from Protect Our Aquifer and Sierra Club to Ashley Farless, Re: Notice of Intent re: Environmental Impact Statement for Allen Fossil Plant Ash Impoundment Closures: Request for Public Meeting re: Scoping, Extension of Public Comment Period, and Revision of Notice of Intent to Correct Deficiencies (December 4, 2018).

Att. 3, Letter from Amanda Garcia, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club to [TDECorder@tva.gov](mailto:TDECorder@tva.gov), re: Tennessee Department of Environment and Conservation Commissioner's Order: Environmental Investigation Plan, Revision 2, Allen Fossil Plant (November 28, 2018), submitted together with Douglas J. Cosler, Risk of Contamination of the Memphis Sand Aquifer, Allen Fossil and Combined-Cycle Combustion Turbine Plants: Review and Analysis of the Environmental Investigation Plan, Remedial Investigation, and Interim Remedial Action (November 26, 2018).

Att. 4, Letter from Amanda Garcia and Anne Passino, Southern Environmental Law Center, on behalf of Protect Our Aquifer and Sierra Club, to Ashley Farless, TVA, re: TVA Must Prepare an Environmental Impact Statement for the Allen Fossil Plant Emission Control Project (Project Nos. 2013-33 & 2015-28) to Consider New and Omitted Information Regarding Risk of Arsenic Contamination to Memphis Sand Aquifer 41 (February 21, 2018).

Att. 5, SELC et al., Comments on Draft Ash Impoundment Closure Environmental Impact Statement (Mar. 9, 2016).

Att. 6, Letter from SELC, et al., to Ashley Farless, TVA, re: TVA's Obligation to Prepare a Supplemental Environmental Impact Statement for Draft Ash Impoundment Closure Environmental Impact Statement, Part I-Programmatic NEPA Review, and Part II, Site-Specific NEPA Review ("DEIS") (Originally published December 2015); TVA's Continuing Refusal to Disclose and Properly Analyze Key Environmental Impacts in the DEIS (May 23, 2016).

Att. 7, SELC, et al., Comments on Final Ash Impoundment Closure Environmental Impact Statement (July 8, 2016).

Att. 8, TVA, Allen Fossil Plant Emission Control Project Final Environmental Assessment, 1 (Aug. 2014).

Att. 9, TVA, Finding of No Significant Impact, Allen Fossil Plant Emission Control Project-Groundwater Wells (Apr. 29, 2016).

Allen Fossil Plant Coal Ash Closure EIS  
Protect Our Aquifer and Sierra Club Comments on Scoping  
January 31, 2019  
Page 25

Att. 10, TVA, Allen Fossil Plant Emission Control Project Supplemental Environmental Assessment, 11 (Apr. 2016).

Att. 11, Wayne Risher, *Coal-burning plant site could unlock harbor access for Port of Memphis industrial park*, Commercial Appeal (November 21, 2017).



**Name:** Robert Banbury

**Comments:** Move that ash! Don't let it sit on top of any aquifer! TN doesn't have a CCR recycling center, so you better figure out how to make some asphalt! If it is sealed off or moved to a landfill it will continue to contaminate the area.

close window

**From:** [Thomas Blevins](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Allen Ash Impoundment Closure  
**Date:** Friday, December 21, 2018 9:22:01 PM

---

TVA External Message. Please use caution when opening.

Ashley,

I am a member of Memphis TN Ornithological Society and would very much like to see the ash ponds maintained for bird and wildlife use. Any option that would allow that would be highly beneficial to the wildlife and to those of us who enjoy viewing them, which also includes visitors to Shelby County. So if the only option that would support that is no action, then that's the option that I would support. Greatly appreciate your consideration of any option that would allow us to maintain this unique wildlife habitat.

Best Regards,  
Thomas Blevins  
Collierville, TN

**From:** [Jacquelyn M. Butler](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Comments on Ash  
**Date:** Monday, December 03, 2018 1:26:09 PM

---

**TVA External Message. Please use caution when opening.**

Ash could be sold for beneficial uses like making shingles and many other things.

Thanks,  
Jackie Butler  
901.634.4362

**From:** [Diane B. Callahan](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Allen Fossil Coal Ash Disposal  
**Date:** Tuesday, January 01, 2019 2:45:16 PM

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**TVA External Message. Please use caution when opening.**

Dear Ms. Farless:

I am a Chemical Engineer who worked at one of DuPont's oldest chemical plants, the Chambers Works in Deepwater, NJ. While there, I implemented RCRA and PCB regulations, got approval from the State to accept hazardous waste from offsite for treatment, and worked on the disposal of coal ash. Our power plant was converting to low sulfur coal, and the environmental impact was substantial.

My first question is what type of coal the Allen Fossil Plant burned. High sulfur coal, as you know, has problems with sulfuric acid, but ANY coal has heavy metals that are harmful to groundwater.

Though I have been away from this business a long time, I do understand that the closure of the East and West Ash Pond Complexes and Metal Cleaning Pond have far-reaching dangerous implications to our aquifer and drinking water. So does the new power plant as it draws millions of gallons from the Memphis Sands Aquifer. It puts this fragile ecosystem at risk. What metals are in the cleaning pond? Arsenic? Sulfur?

If you can market and transport the coal ash safely, for shingles, asphalt, ceramic or other products, then that sounds like the best option. I did not have any luck with that when I was with DuPont. But I hope that the groundwater around these "Ponds" are being carefully monitored for heavy metals. Most likely the ash would need to be moved to a heavily lined hazardous waste landfill with pumps to ensure run off does not contaminate the surrounding area.

What is the next step after this comment period? Please include me in any updates or notices.

Highest regards,

Diane B. Callahan  
901 262-1478

**From:** [LizBS](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** EXTENSION OF TIME FIR COMMENT  
**Date:** Friday, December 07, 2018 8:45:54 AM

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**TVA External Message. Please use caution when opening.**

Please extend the time period for Citizen comment on the disposition of coal ash in the Memphis area. We, as undereducated and ill-informed private citizens need time to educate ourselves through objective seminars, research, and advisers. This is important, not a "Survey Monkey" opinion poll!

Thank you, Elizabeth Carrozza  
Memphis, TN

Sent from my iPhone

**Name:** Kristy Crawford

**Comments:** I think the ash should be sold to industries to make something from it. Making some money from it is better than nothing!

close window

**From:** [Anne Engstrom](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Coal ash solution  
**Date:** Sunday, December 02, 2018 8:22:36 AM

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TVA External Message. Please use caution when opening.

Good morning! After reading the article in the Commercial Appeal, I wanted to lend my voice. I am in favor of the reuse proposal. The pros and cons of each solution were not listed, but I can think of no reason to not remove the ash to a reuse facility. I think that solution is a win-win.

Anne Engstrom  
901-218-5960

Sent from my iPad

**Name:** Glenna Gonzales

**Comments:** The article in the Commercial Appeal listed selling the coal ash for industrial purposes such as making shingles or counter tops as an option for the disposal of the coal ash from the Allen Steam Plant. I don't see that option listed on your web page. Is selling it not possible anymore? Is there a company that would take it and use it without having to pay for it? Removal to a landfill is a horrible idea. Leaving it in place, hoping that the efforts to contain it work, seems like a waste.

close window



January 27, 2019

Attn: Ashley Farless  
NEPA Compliance Specialist  
1101 Market Street, BR4A-C  
Chattanooga, TN 37402

Robert Gurley  
761 Ranger Ave.  
Memphis, TN 38109

Dear MS Farless:

This letter is part of the public comment for the Allen Fossil Plant. The Alternatives considered in the EIS that I would favor would be Alternative B. The landfill need to be in an isolated area and constructed with the proper liner so it wouldn't be hazardous to the public or the environment.

Sincerely,

  
Robert Gurley

Comments on the **Environmental Impact Statement** can be submitted...

In writing at:

Attn: Ashley Farless  
NEPA Compliance Specialist  
1101 Market Street, BR4A-C  
Chattanooga, TN 37402

Via email at: [arfarless@tva.gov](mailto:arfarless@tva.gov)

Online at:

<https://www.tva.gov/nepa>

All comments received by January 31, 2019 will become part of the EIS record.

Comments:

Please contact ALL city officials  
and we get a tour bus or something  
and take community members to the  
different sites and explain each situation  
in details. And please connect with area

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_



(flip over)

Comments on the **Environmental Investigation Plan** can be submitted...

In writing at:  
**TN Commissioner's Order Comment**  
**Tennessee Valley Authority**  
1101 Market St. BR 4A, Chattanooga, TN 37402

Via email at: **TDECorder@tva.gov**

Online at:  
<https://www.tva.com/AllenEIP>

Comments must be received by the end of the comment period, January 31, 2019.

Comments:

churches to make sure all parties  
and community stakeholders are involved.  
If help is needed for this feel free  
to contact me and I will assist.

Name: Anthony Hardaway Email: \_\_\_\_\_

Address: 3435 Outlet Rd. 38109



**EAST ASH POND COMPLEX, WEST ASH POND  
AND THE METAL CLEANING POND**

WITH THE ALTERNATIVES AVAILABLE (ALTERNATIVES, A, B, C AND D),  
I PREFER THE USE OF ALTERNATIVE 'C'.

THE REASONS FOR THE USE OF ALTERNATIVE "C" IS THE RE-USE PROCESS:

- IF THE COAL COMBUSTION RESIDUALS (CCR), IN COMPLIANCE WITH TENNESSEE SOLID WASTE MANAGEMENT, CAN BE USED IN ANOTHER PROCESS, THEN IT MAY BE BENEFICIAL TO THE EPA ENVIRONMENT AS WELL AS THE AFFECTED CITIZENS IN MEMPHIS AND SHELBY COUNTY.
- ONE CONCERN IS SINCE THE COAL ASH IS A "DUST", HOW CAN IT BE PROPERLY REMOVED WITHOUT CREATING A LOCAL HEALTH HAZARD.
- TEMPORARY RE-MODIFY THE ALLEN STEAM PLANT FOR REMOVAL OF THE EXISTING ASH PROPERLY WHICH WILL OR MAY HAVE A BENEFICIAL EFFECT BY CREATING JOBS FOR THE REMOVAL OF THE ASH.
- ORGANIZE A PARTNERSHIP BETWEEN TVA AND MEMPHIS LIGHT GAS AND WATER TO MONITOR THE WATER WELLS IN THE AREA.

**SAMUEL D. HARDAWAY**

[TDECORDER@TVA.GOV](mailto:TDECORDER@TVA.GOV)

**Name:** Michael Harwood

**Comments:** If I had a vote I would vote for "closure of the Metal Cleaning Pond and closure-by-removal of the East Ash Pond Complex, the West Ash Pond and the CCR surrounding the Metal Cleaning Pond to a beneficial re-use facility & offsite landfill location." Might as well try to recycle the waste instead of leaving it all in the ground above the Memphis aquifers.

close window

Jan 2, 1980

TN. Valley Authority

Chattanooga TN

1101 Market St

ATT: Ms Ashley Farless

Re: Coal Ash.

Grind, Pulverise, or use as is, Mixing w/ cement for  
Concrete Blocks, Paving, or what<sup>where</sup>ever cement is used. Or, mix  
with clay to make Bricks.

Sincerely

Gerald Henson

1386 Howling Dr

Collierville TN 38017

Ph. 901 854 4242

Attn: Ashley Farless

NEPA Compliance Specialist

1101 Market Street, BR4A-C

Chattanooga, TN 37402

E-mail: [arfarless@tva.gov](mailto:arfarless@tva.gov)

I Edgar Hunt Jr a member of the West Junction/ Walker Holmes Coalition concerning the TVA Allen fossil plant investigation Order No. OGC15-0177 by TDEC. I would like these questions to be addressed:

- When did TDEC discover the spill (improper disposal of CCR)?
- When did the arsenic leak or seek into the ground water? \*
- When did the arsenic leak or seek into the soil?
- When did the arsenic leak or seek into surface water?
- Name the chemicals that are in the arsenic that affect the human body?
- What is the environmental effect that the chemicals have?
- What are the health effects of the residents living in the community?
- How long will it take to clean the spill up?
- When did the contamination take place?

- How many spills were discovered? <sup>into</sup>
- \* Did the contamination spill <sup>into</sup> the upper drinking water?
- \* Did the contamination spill <sup>into</sup> lower drinking water?

We no longer want a facility on the Allen fossil plant to process the CCR material.

Name Edgar Hunt Sr. Date 1/25/2019

Address 792 Hazekwood Rd Cty/St/Zip Memphis, TN 38109

Cell 901-314-0957 E-mail \_\_\_\_\_

\* Can you give a timeline on ground water (second aquifer) contaminants in interval of 10 yrs. starting in 1975?

**From:** [william kelly](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Public Comment on Aquifer  
**Date:** Wednesday, December 12, 2018 8:14:08 PM

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**TVA External Message. Please use caution when opening.**

I would have to suggest complete removal of all coal Ash and a complete cleanup of both sites. Also since arsenic is a metalloid. Common sense tells me it has also settled to the bottom of the Aquifer and when they pump the water out there will still be arsenic left on the ground below. How will they make sure all arsenic is removed? Then once they put the water back in the Aquifer once it has been purified it will then mix back with arsenic that was left on the ground below. How will they make sure they remove all the arsenic? Again for the coal Ash sites I recommend complete removal and total clean up of both sites.

Thank you,

William David Kelly  
1094 Breezy Valley Dr.  
Cordova, TN. 38018



**To: Ashley Farless, NEPA Compliance Specialist**  
**From: Jim Kovarik, Protect Our Aquifer and Memphis resident**  
**RE: Allen Ash Impoundment Closure (TVA)**  
**30 January 2019**

I have lived in Memphis for almost 40 years. I have come to understand the Memphis Sand Aquifer as one of the treasures of living here. I am firmly committed to ensuring that nothing harms or depletes the Aquifer, especially when alternative solutions can be found.

For this reason, I am now a member of Protect Our Aquifer. As a local group concerned with the aquifer below Shelby County, we are dedicated to a complete site cleanup at the TVA power plant site. The lethal coal ash remains generated over 50 years of coal power production must be removed, and all adjacent land and surface water affected by this ash must be remediated.

Even more, TVA must commit itself—as a good neighbor and cooperating industry—to find solutions that partner with ongoing efforts at the site to use Aquifer water judiciously and to use other surface, groundwater, or greywater solutions for cooling its new gas plant. TVA must be sensitive to and work with local residents who have endured coal power production for decades.

*A clean up of coal ash ponds and surrounding areas*

- TVA must solve the problem of contaminants from its coal ash piles (such as arsenic, lead, boron, sulfate, fluoride, and others). The only way to really clean up the contamination is to remove the coal ash from the leaking, unlined pits.
- TVA must dispose of lethal coal ash in accord with regulations and sensitive to the movement of so much material through neighborhoods or waterways that could be harmed by such remedies. (I note that at your recent public meeting [17 January 2019] no one could answer the simple question of where is the closest permitted landfill to the site.)
- TVA must clean contaminated water in contiguous areas and contaminated soil beneath the coal ash ponds.
- As the major contributor to other ground and water pollution, TVA must assist in fixing problems adjacent to—and in some way affected by—the contaminants at this site.

*A grey water solution for cooling the new power plant*

- TVA must consider returning to its original plan of using greywater (a source other than the deep aquifer) to cool their new gas power plant (such as wastewater, surface water, river water or shallow aquifer water).
- The City of Memphis is making upgrades at the Maxson wastewater treatment plant that may address some of TVA's concerns about the quality of the recycled water. Given the risks that even using MLGW water pose to the Memphis Sand Aquifer, TVA should return

to its original plan, work with existing efforts at the site, and consider use of recycled water.

- TVA must conduct research and share findings of its investigation and research of the Memphis Sand Aquifer system and its connection to other sources of groundwater and potential contamination.

*The health and well-being of neighbors living near the site*

- TVA must ensure that the surrounding neighborhoods are clean, safe, and free of pollution generated by 50 years of power production.
- TVA must invest in surrounding neighborhoods (38109) to test for and repair any adverse effects of their coal power production.
- TVA must inform local residents of major activities and proposed actions.
- TVA must consider training or hiring residents from the area for safe jobs.
- TVA must provide education to local residents on subjects such as safety.

*A new approach: a major power plant as good neighbor*

Ever the optimist, I am waiting for the moment when the leadership at TVA wakes up to Memphis/Shelby County as a neighbor. Too often the relationship seems to be a mere market enterprise. We miss the founding idea of TVA as a federal agency dedicated to the "development of the Tennessee valley region."

So instead of wrangling over "mitigation required in remediation under the regulations," we could talk about actions all good neighbors know to be true:

- Clean up your mess, especially if your tree falls on someone else's yard.
- Inform your neighbor (honestly and fully) if you are going to make noise, spread toxins, or cause chaos.
- Look out for your neighbor, protect them when the situation calls for it.
- Go above and beyond what's required because a good faith effort/investment reaps good faith and effort.

Here's what I would like TVA to be talking about:

- The use of greywater, surface waters, and upper alluvial aquifers for cooling, watering or other non-drinking uses.
- The plan to convert to renewable energy resources by an agreed upon date.
- The Frank C. Pidgeon Industrial Park Research and Resource Institute as a case study and community education in industrial responsibility and action.
- A training program for interested and able Memphians to learn the industrial skills of the future at the FCPIP R&RI.

**From:** [Ari S. Lewis](#)  
**To:** [Farless, Ashley Robin](#); [Aiken, Anne M](#)  
**Cc:** [Andy Bittner](#)  
**Subject:** EIS and Framework  
**Date:** Wednesday, December 05, 2018 2:08:28 PM

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**TVA External Message. Please use caution when opening.**

Hello Ashely and Anne-

My colleague and I came across the Federal Register Notice regarding the EIS for the Allen site. As you may recall, a few years ago, Gradient worked on a preliminary assessment comparing the risks and benefits of close-in-place vs. excavate and redispense for the Allen Plant. That assessment relied on EPRI's Surface Impoundment Closure Framework and surveyed multiple TVA sites. If you think you might need a more refined and focused assessment of closure options in support of the Allen EIS, please feel free to contact us.

Hope all is well.

Best,

Ari

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**Ari S. Lewis, M.S.** | Principal

617-395-5526 | [alewis@gradientcorp.com](mailto:alewis@gradientcorp.com)

**Gradient** | 20 University Road | Cambridge, MA 02138 | 617-395-5000 | [www.gradientcorp.com](http://www.gradientcorp.com)

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**From:** [Cynthia Lomack](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Allen Ash Impoundment Closure public information session  
**Date:** Monday, January 21, 2019 2:29:59 PM

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**TVA External Message. Please use caution when opening.**

Good afternoon,

I was unable to attend the meeting on January 17, 2019 at Mitchell Community Center. Is there a summary of the meeting available? Or will any updates be mailed to the community regarding the meeting?

Thank you.

- Cynthia Lomack  
Memphis, TN 38109  
[clomack@inwk.com](mailto:clomack@inwk.com)

**From:** [Ed Lyon](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** COAL ASH ...SELL IT  
**Date:** Friday, December 07, 2018 7:20:58 PM

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**TVA External Message. Please use caution when opening.**  
VOTE FOR THE THIRD OPTION....SELL IT !!

**Name:** Elizabeth Madden

**Comments:** I am reading in the Commercial Appeal that coal ash can be sold for use in shingles or other products. Please explore this option, as it serves the purposes of re-cycling those materials and bringing in money as well. Thank you. Elizabeth Madden

close window

**Name:** James MADDEN

**Comments:** Among the options I have read about, selling the coal ash for industrial use sounds like the best way to go. James Madden

close window

ASHLEY FARLESS

NEPA Compliance Specialist

1101 Market Street, BR4-C

Chattanooga, TN. 37402

EMAIL: [arfless@tva.gov](mailto:arfless@tva.gov)

I Danny Mitchell a member of WEST JUNCTION/WALKER HOMES COALITION. I have concerns and questions about the health and environmental issues of TVA ALLEN FOSSIL PLANT investigation of the disposal of CCR and arsenic groundwater remedial investigation and contamination. I am requesting a meeting, as soon as possible with the WEST JUNCTION /WALKER HOMES COALITION.

Thank you

name Danny Mitchell date 1/25/2019

address 793 Hazelwood Rd cty/st/zip 38109

cell 901-834-7630 email dlee@icloud.com



**From:** [raymond morning](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Future of Coal Ash at Allen Fossil Plant - comment  
**Date:** Monday, December 03, 2018 8:52:52 AM

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TVA External Message. Please use caution when opening.

Hey guys I love input because of the hope it can bring to the future. My input for TVA would be dream. For example, I look at how the city added to the old streets with a bike lane now. Maybe you guys should consider them. Not only have they placed our city streets with bike lanes, but they also added the transportation with the BIRD scooter. So now people have access to scooters thanks to the added BIRD scooter. This city needs that kind of input. So if TVA has replaced the coal with fire based plants all you can do is accommodate that. The city should ask that same question I think for BIRD scooter, like we now have new scooters, ok what do we do now where do we go from here, where we gone go to the same old places on the new scooters? Ok, cool, but don't put new wine in old wine skin so to speak. They should build new places downtown to visit, like a water park or something. That's the only vision I've seen from me for this city is a water park. We need some more adventure. He'll build a mountain or something. That's all I can recommend for y'all is to build a water park there. Remove the old ash coals, use it for scrap metal and re-invest the money. Use it for schooling education, facilitate for your future employees or just build a water park. Since y'all are into fire coal, how about facilitating education in the Fire Arts?? What about schooling and education for future workers. What's the scope on employment for the future. Who gives a damn what y'all put new up or tear old down if you not gone hire anyone or facilitate. Hey this city needs the bike lanes and BIRD scooter, but hell where they going??? To the same nasty attitude workers and some McDonald's??? Come on give the people something. Hey BIRD and bike lane is a good idea. Now what? Tear it down and put a school up or something. Enhance that area. Build a water park or something (I got a great idea) Survey for inventions and invest.

♂

Sent from my iPhone

**From:** [raymond morning](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Future of Coal Ash at Allen Fossil Plant - comment  
**Date:** Monday, December 03, 2018 8:55:08 AM

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TVA External Message. Please use caution when opening.

Consider its history too..can I have a copy of the history at TVA site??? What was there before? What are those buildings or etc doing so far??? What are they doing, the ones before TVA?

Sent from my iPhone

**From:** [raymond morning](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Re: Future of Coal Ash at Allen Fossil Plant - comment  
**Date:** Monday, December 03, 2018 4:49:33 PM

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TVA External Message. Please use caution when opening.

Bring me in to talk more about it

Sent from my iPhone

> On Dec 3, 2018, at 7:54 AM, raymond morning <raymondmorning@yahoo.com> wrote:

>

> Consider its history too..can I have a copy of the history at TVA site??? What was there before? What are those buildings or etc doing so far??? What are they doing, the ones before TVA?

>

> Sent from my iPhone

**From:** [Hazel Ogdon](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** public comment on coal ash storage I feel strongly that the coal ash should be sold for beneficial use  
**Date:** Sunday, December 02, 2018 10:22:38 PM

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**TVA External Message. Please use caution when opening.**

thank you Hazel Ogdon 1636 Poplar Estates Parkway, Germantown TN 38138

**Name:** Karen Parker

**Comments:** I would like to recommend closure of the Metal Cleaning Pond and closure-by-removal of the East Ash Pond Complex, the West Ash Pond and the CCR surrounding the Metal Cleaning Pond to a BENEFICIAL RE-USE FACILITY & , if necessary, an offsite landfill location. Let's do the best we can to get rid of this stuff in the cleanest manner possible.

Thanks for your attention to my opinion!

Karen Parker

close window

**From:** RamRock  
**To:** Farless, Ashley Robin  
**Subject:** Allen Fossil Plant  
**Date:** Monday, December 03, 2018 11:36:23 AM  
**Attachments:** PastedGraphic-2.pdf  
ATT00001.htm  
Screen Shot 2018-12-03 at 9:26:36 AM.png  
ATT00002.htm

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TVA External Message. Please use caution when opening.

Ms. Farless:

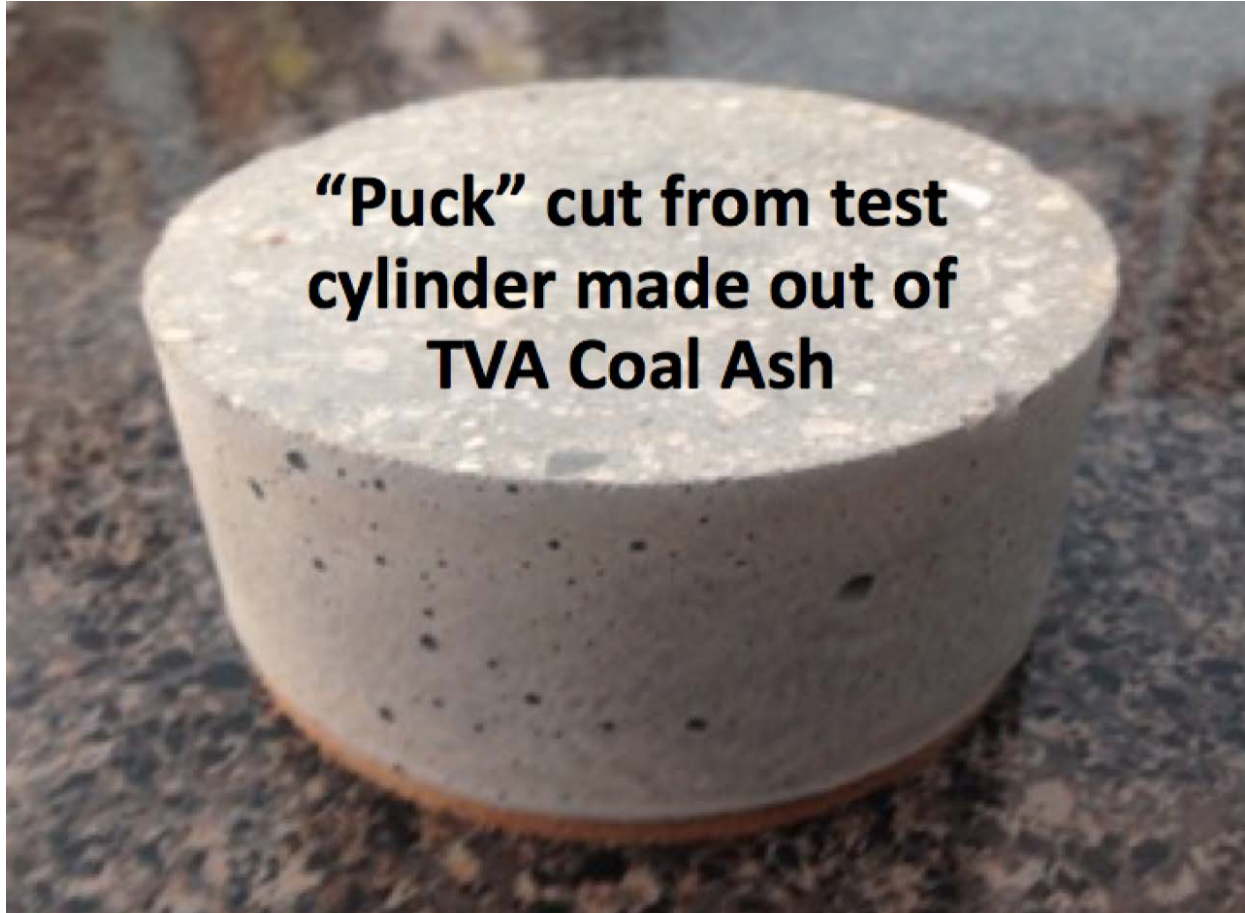
With regard to TVA's [public notice](#) about the Allen Fossil Plant's coal ash, RamRock has worked with TVA ash for some time now (see attached from 2015) but has made breakthroughs since then indicating that we can make commercial-grade concrete and related products in sufficient quantities to address the entirety of this and related CCR disposal problems.

I recently discussed this with your sustainability chief Brenda Brickhouse, who suggested I call Scott Turnbow and/or Alan Cassaday to discuss further. I hadn't yet done so (we are in discussions with several other electric utilities), but the public notice prompted me to follow up.

If interested, I'd like to arrange a Skype (or other) video conference with your people and mine (specifically, our chief chemist) to discuss the matter.

Feel free to call as needed.

David



**Name:** Virginia Reynolds

**Comments:** As an ardent birdwatcher for over 35 years in the Memphis area, I have visited the ponds adjacent to the Allen Fossil Plant almost weekly during that time. Over the years it has provided habitat for many species of birds. Today, I observed 20 Double-crested Cormorants, 8 feeding Ring-billed Gulls, 10 feeding Hooded Mergansers, 10 Lesser Scaups, 1 Greater Scaup and 1 Great Blue Heron at the ponds. Although, the ponds are no doubt polluted, there has always been abundant fauna present. Interestingly, I have never observed fish or turtle kills or even excessive numbers of dead birds in all the years I have been visiting the area. If possible, I would hope the ponds could somehow be preserved in a state which would continue to provide as varied a venue for wildlife as it has for all the years I have been enjoying them. An interesting side note. Soon after holding ponds were constructed at the new gas fueled plant, shorebirds began visiting them. Today there were 6 Killdeer. "Build it and they will come."

close window

**From:** [Harry Rike](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** FW: Allen Fossil Plant  
**Date:** Friday, January 04, 2019 8:45:50 PM

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**TVA External Message. Please use caution when opening.**

Sent from [Mail](#) for Windows 10

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**From:** Harry Rike  
**Sent:** Thursday, January 3, 2019 11:46:32 PM  
**To:** afarless@tva.gov  
**Subject:** Allen Fossil Plant

Ms. Farless,

This is in response to TVA's Request for Comments to address the future management of materials at the Allen Fossil Plant (ALF).

There are two reasons to clean up the ALF property. First, it represents a threat to the Memphis aquifers. Second, it offers the promise of becoming the most attractive industrial site on the lower Mississippi River.

Three clean up options have been offered for consideration - closure in place, beneficial reuse, and removal to a permitted landfill. Clearly, the third option is the frontrunner.

Identifying a preferred disposal site will become a major consideration. There are existing offsite permitted landfills that can be used. Landfill fees and transportation will govern the economic analysis. On the downside, sharing a disposal site with others carries the risk of future regulatory complications if the monitoring system detects violations.

An adjacent permitted CCR landfill in Pidgeon Industrial Park could be constructed depending on site availability. This would offer the advantages of minimizing transportation issues, while keeping the CCR near its point of origin in an exclusive disposal site.

TVA may wish to examine the recently completed Permit by Rule structural fill site in Pidgeon Industrial Park. It has a footprint of 100 acres and was designed and permitted to accept 2.4 million cubic yards of CCR, the entire contents of the East Pond. TVA utilized only 1.2 million cubic yards before shutting down the ALF. If the finished height of the structural fill is raised moderately, the entire contents of the East Pond could be landfilled on the existing site. In order to do this, the addition would have to be designed and constructed to current CCR landfill standards.

In 1992 the Public Works Division of the City of Memphis designed and received a permit for a 200 acre municipal landfill in Pidgeon Industrial Park a short distance south of the East Pond. Although the landfill has never been developed, the permit is still active. It serves as leverage to prevent the private landfills from charging excessive fees for receiving solid waste from the Memphis community. Monthly sanitation fees are the most regressive of all fees and taxes paid by citizens and businesses. The Memphis municipal landfill site should not be considered for CCR disposal.

TVA should treat this project with a heightened sense of urgency not so much because of environmental concerns, but because of the potential of the site to attract a major industrial employer. It is not farfetched to envision a \$100,000,000 annual boost to the Memphis economy. Most owners, whether public or private, tend to slow walk regulatory projects and fast tract profit driven projects. It is unusual for a regulatory driven project, such as this one, to be accompanied by great economic promise.



This project will address much publicized environmental concerns, while offering the community a major economic stimulus. It will be refreshing to have a CCR project viewed in a positive light. Please put it on the fast tract.

Sincerely,

Harry Rike

9306 John Thomas Cove

Bartlett,Tn. 38133

**Name:** Bill Runyan

**Comments:** After going to the presentation on January 17th I think the best plan would be to dig up the coal ash and take it in covered trucks for reinterment in a Class 1 landfill. I must emphasize the importance of not moving the coal ash in open trucks, but to have them covered to prevent the release of coal ash during transport. In addition, it is most important that the pit or pits where the coal ash is interred be lined with a durable waterproof material to prevent potential seepage into our aquifer. Otherwise, we are just moving the problem from one place to another.

close window

**From:** [Kunigal Shivakumar](#)  
**To:** [Farless, Ashley Robin](#)  
**Cc:** [Kunigal Shivakumar](#); [Wade Brown](#)  
**Subject:** Public Opinion  
**Date:** Sunday, December 09, 2018 3:26:42 PM  
**Attachments:** [TVA-NCAT\\_suggestion10Dec18.pdf](#)  
[TVA-Slides-7Dec18.pdf](#)  
[ATT00001.txt](#)

---

TVA External Message. Please use caution when opening.

Dear TVA:

I am responding to your Public Opinion request in an article published in "Commercial Appeal" dated Nov 30, 2018. Of the three options you are considering:

1. Closure by removal, which would mean removing the ash to an approved dry storage landfill.
2. Leaving the ash in place, but removing most of the moisture and capping it to keep water from getting in.
3. 3rd option is the beneficial use, meaning selling the coal ash for industrial purposes (such as making shingles or counter tops).

Each of the options have impact on the Rate Payers, Societal and Environment.

Option 1 will be expensive to Rate Payers and potentially cause air pollution during and transportation and dumping in the newly created site.

Option 2, may appear simple and less expensive but in the long term it will be more dangerous the Community live around and the marine species, which has been documented. Any amount of liners on top and/or bottom will not stop water penetrating into the ash. Unlike clay, ash is porous this only postpones the problem. But in the end problem remains unsolved.

Option3: is possibly the best option but it would take little longer time.

We have worked on this problem for many years (because of Dan River problem created by Duke Energy storage pond), the attached document shows how we can safely reduce the leachate of hazardous materials like Sb, As and Se much below the EPA limit by converting the ash into Ash-Composite and the resulting composite could be used for many building and infrastructure products.

Please review the two attachment: a letter and .ppt slides converted into .pdf.

I appreciate the opportunity that you gave us to share our opinion.

Thanks

Kunigal Shivakumar  
Research Professor & Director  
Email: [kunigal@ncat.edu](mailto:kunigal@ncat.edu)  
P # 336-285-3203/F:336-256-0873  
Fort IRC Building, Room 205  
Center For Composite Materials Research  
North Carolina A&T State University  
Greensboro, NC 27411



## North Carolina Agricultural and Technical State University

Department of Mechanical Engineering  
1601 East Market Street  
Greensboro, NC 27411

December 10, 2018

TVA  
NEPA Compliance Specialist  
1101 Market St.  
BR4A-C  
Chattanooga, TN 37402

We are responding to the public input that the TVA has asked for concerning the options for the Allen Fossil Plant stored coal ash.

We are strongly in favor of finding beneficial uses (**Option 3**) for the coal ash, which permanently solves concerns about ash storage, such as leaching, pond liners, monitoring, transporting ash and the TVA's cost of long-term storage.

Our university has an entire department working on new uses for coal ash using polymers composites. Our goal is to find safe ways of using huge volumes of ash quickly, and in sustainable applications. The end-products we are making in our labs are all in huge volume applications, with multi-billion \$ markets per year. Our technology allows these products to contain up to 75% ash. Due to the high ash content, the material costs are very competitive, and the end-products are fire resistant, a great start for building and infrastructure products.

What we could do to assist you, is to find the process to use your particle ash, even if that ash is from a pond. We have found that each ash requires a particular polymer chemistry to get the optimum ash loading, and best mechanical properties in the composite.

There are ash handlers who are beginning to process pond or outdoor stored ash to make concrete-grade ash – and that is an excellent way of also getting rid of ash. We are not competing with the concrete uses – we are supplementing them by finding end-products that cannot be made with concrete, such as utility pole cross arms, residential decking, and pallets.

To use pond ash in concrete, the ash needs to be re-processed to remove carbon and organics. Our process does not need the organics or carbon removed, we just need to have the ash dried, which is lot lower in cost than totally re-processing the ash.

We would like to talk with someone at TVA and explain further how we can analyze your ash(es), determine how best to use it in these high-volume end-products, and what end-products are best suited for your particular ash – it may be all, or certain ones depending on the ash performance in the composite.



## North Carolina Agricultural and Technical State University

Department of Mechanical Engineering  
1601 East Market Street  
Greensboro, NC 27411

I have attached some overhead slides which give a visual idea of what I am talking about.

Vg 2: How a pond ash that is processed for concrete can be used for Ash-Composite by skipping the expensive de-carbonization process.

Vg 3: Leachates from ash-composite after 14 months of continuous immersion in a closed water circulating are less than 1/3 the EPA limits.

Vg 4: Different products of different density (foam to storage blocks)

Vg 5: Some of building and infrastructure products

Vg 6: Benefits of ash-composites

Vg 7 Material cost comparison

Vg 8: A win-win plan for all

We are not far away from your location, just across the Blue Ridge Mountains, in Greensboro, NC.

I look forward to hearing from you,

Kunigal Shivakumar, PhD, Director  
Center for Composite Materials Research  
Mechanical Engineering Dept.  
North Carolina A&T State University  
Greensboro, NC 27411

Phone 336 285-3203

Email: [kunigal@ncat.edu](mailto:kunigal@ncat.edu)



# Coal Ash Composites and its Products

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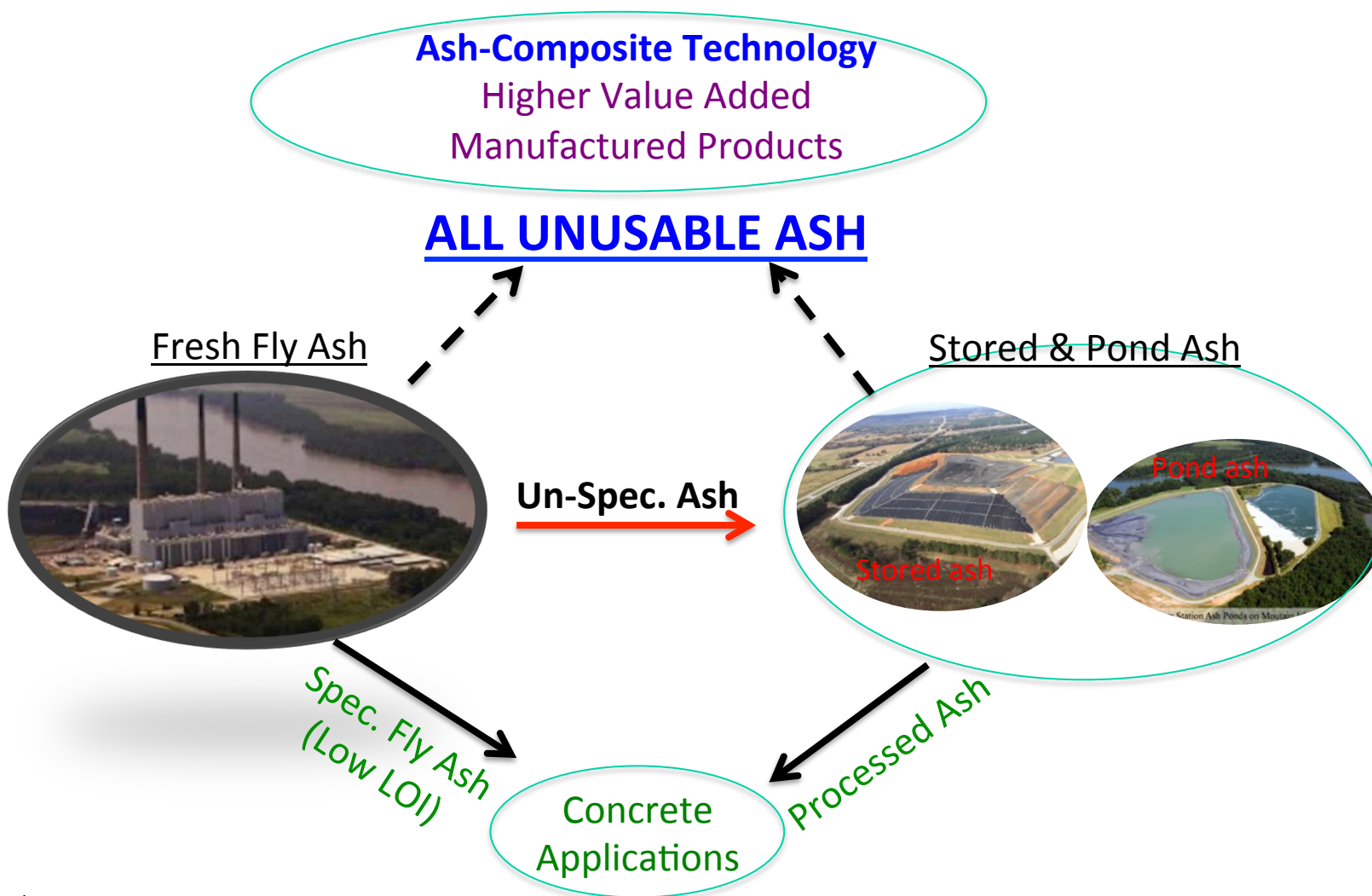
Kunigal Shivakumar and Wade Brown  
**Center for Composite Materials Research**  
Department of Mechanical Engineering  
**North Carolina A&T State University**  
Greensboro, North Carolina

*email: [kunigal@ncat.edu](mailto:kunigal@ncat.edu); 336-285-3203*

10 December 2018



# Ash-Composite Technology



# Leachates from Fly Ash and Fly Ash-Composites, μg/L



Minerals	EPA MCL	EPA M1313 test	Ash-Composite Blocks, Circulating Tank		
		Fly ash Source 1	1-Month	6-Month	14-Month
Antimony	6	37	10 U	10U	10U
Arsenic	10	160	2.0 U	2U	3.7
Boron	7000*	3,800	460	900	1200
Barium	2,000	180	10 U	10U	10U
Beryllium	4	5U	5.0 U	5U	5U
Cadmium	5	1.3	0.5 U	0.5U	0.5U
Chromium	100	49	5.0 U	5U	5U
Copper	1,300	2U	9.2	2.4	4.3
Mercury	2	0.2U	0.2U	0.2U	NA
Manganese	50	10U	10 U	10U	16
Molybdenum	200*	300	NA	29	67
Lead	15	2U	2.3	2U	2U
Selenium	50	510	1.0	3.5	6.9
Thallium	2	2U	2.0 U	2U	2U
Vanadium	200	150	10 U	10U	21
Zinc	5,000	10U	690	570	130





# Ash Composite Products

Re-useable Ash-Composite Storage Blocks



Building Products



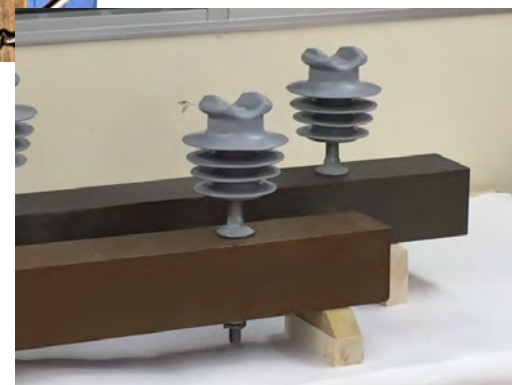
Fire Resistant Foam



Storage Blocks



# Application of Products



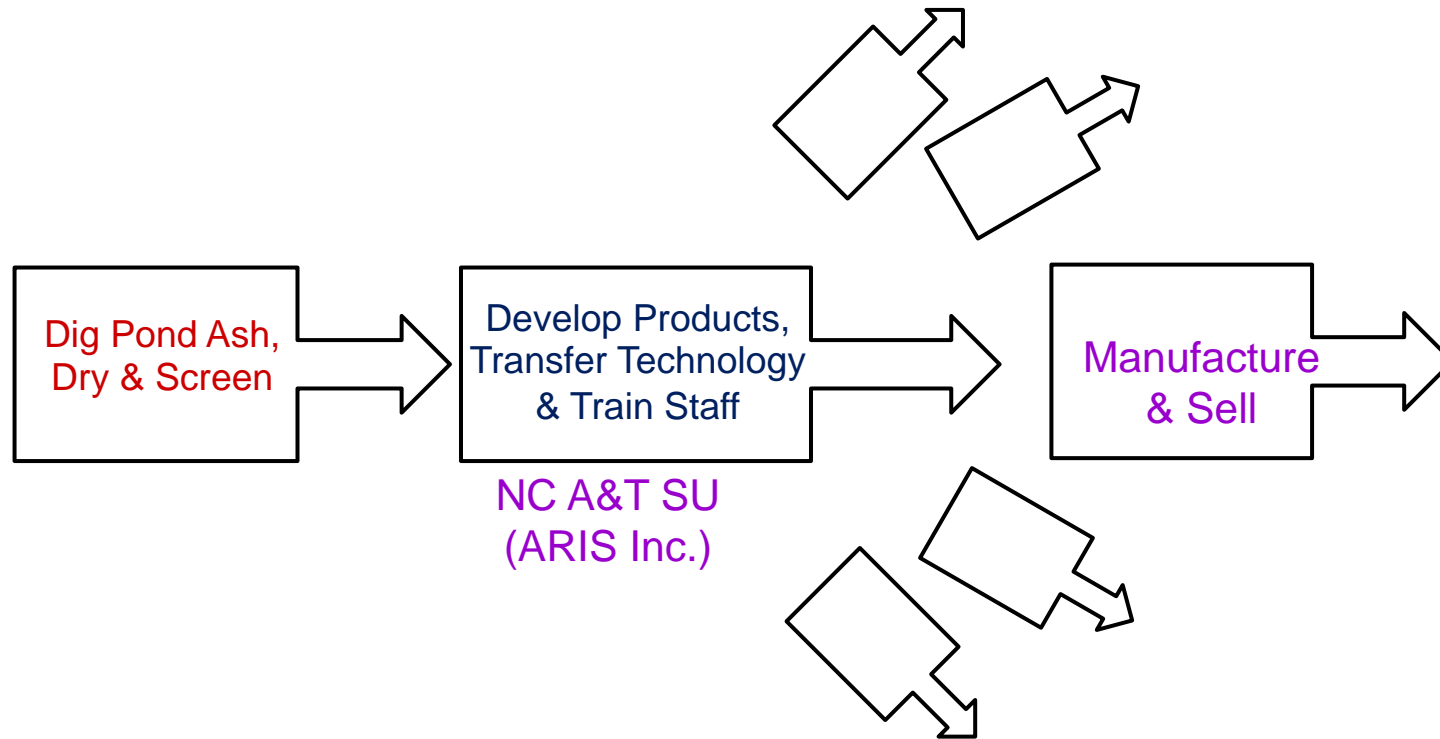


# Benefits of Coal Ash-Composites

- **Power Companies:**
  - Safe disposal/reuse of Coal Ash
  - Uses large volumes of Coal Ash ( $\geq 75\%$  Wt.)
  - New revenue stream
- **Society & Environment:**
  - Safe use of Coal Ash
  - No-Emissions, no-waste, any waste is recycled back, and end-of-life of the product can be recycled
  - Uses internal chemical energy to cure (Reduced carbon footprint)
- **Product Manufacturer:**
  - Energy efficient manufacturing (Uses internal chemical energy to cure, Reduced carbon footprint)
  - Lighter weight products (Density between 0.2 to 1.2 g/cc)
  - Resistant to fire, termite, pests, mold and fungus
  - Electrical and thermal insulator
  - Low thermal moisture absorption expansion coefficient
  - No special tools needed (Same or Similar tools as for wood products)
  - Suitable for continuous and batch production depending on the complexity of the product
  - Products could be manufactured near/on the ash site
- **Technology is patented**
  - Available for technology transfer, training and product development for clients



# A Win-Win Plan



**Ash Producer: Sell Pond Ash and/or Take Ownership in any of the Entities**

# Material Cost Comparison and A Value Proposition



- PVC \$0.87/lb.
- PVC filled \$0.65/lb.
- HDPE \$0.77/lb.
- LDPE \$0.78/lb.
- PP \$0.77/lb.
- Ash-Composite \$0.37/lb.

Current Market Value of Products: \$90 Billion

- Building Products
- Energy/Utility Products
- Transportation Products

*Based on 4% growth, the market value in 10 Yrs. is \$130 Billion.*

*Based on 10% market penetration, ash usage about 10 mT/Yr.*



**From:** [Rick Sorak](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** TVA ASH PONDS in Memphis  
**Date:** Friday, December 07, 2018 1:14:28 PM

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**TVA External Message. Please use caution when opening.**

I support this...

The Sierra Club, Protect Our Aquifer and the Southern Environmental Law Center have requested that TVA extend this comment ON TVA ASH PONDS in Memphis period for an additional 45 days to allow the public adequate time to assess the potential impacts, and hold a public hearing where the people of Memphis can better understand and respond to the serious implications of any final decision.

<https://www.sierraclub.org/.../2018-12-04%20SC%20and%20POA%20...>

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Take Care,  
Rick

**Name:** Edwin Thomas

**Comments:** The water-filled TVA pond farthest to the east from the Allen Plant has become remarkably attractive and productive for wildlife, especially birds. The pond is frequented by herons and other fish-eating birds, indicating that it contains much aquatic life. Many other birds frequent the pond including Black-bellied Whistling Ducks, which were unknown in Memphis, but which have recently established a strong breeding population at the nearby T.E. Maxson Wastewater Treatment Facility. The pond has become an often-visited site for birders from Memphis and the tri-state area, although only one side is accessible for viewing. The pond has been said to be contaminated, but there is no observable harmful effect for the birds that frequent the pond farthest from the Allen Plant. If the pond has to be eliminated, it would be good to first do a study as to why it is so attractive and productive. Is it the water temperature, the depth of the pond compared to nearby shallow ponds, the elevated position of the pond behind a levee, or other factors? And it would be good to mitigate the loss of the pond by creating a similarly attractive and productive pond on uncontaminated land close to the Wastewater Treatment Facility, which is an important stopover for migratory waterfowl and shorebirds and a breeding site for Black-necked Stilts and other wading birds. One possible site might be the former T.O. Fuller State Park which is being converted to a nature preserve and educational center. Or there may be other sites nearby that would hold water at a depth comparable to the TVA pond.

close window

**From:** [Mike Thompson](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Coal Ash  
**Date:** Sunday, December 02, 2018 10:21:42 AM

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**TVA External Message. Please use caution when opening.**

Ms. Farless:

I recently retired from the FAA as a project manager for the funding of airport improvements thru the Airport Improvement Program. One of my airports was Asheville, NC that recently used coal ash as fill material on a runway construction project. This project was designed such that the coal ash was completely enveloped in impermeable barriers with permanent monitor wells that would indicate any leaching. The quantity of coal ash used was in excess of 4,000,000 cubic yards, in places exceeding 60 feet of vertical fill. To my knowledge, there have been no adverse effects in the use of coal ash nor are any anticipated. For specifics on the project, it is suggested that you contact Michel Reisman, Deputy Director of Development and Operations at the airport. He was my primary contact as this project proceeded.

I would recommend that Option Number 3, selling the coal ash, be the selected use of the material at the Allen Fossil Plant.

Michael Thompson  
4100 Squire Cove  
Southaven, MS 38672  
901-634-4806



**ATTN: ASHLEY FARLESS**  
**NEPA Compliance Specialist**  
**1101 Market Street, BR4A-C**  
**Chattanooga, TN 37402**  
**E-mail: arfarless@tva.gov**

I Desma Turner is requesting a meeting for  
WEST JUNCTION/WALKER HOMES COALITION RESIDENTS  
OF WEST JUNCTION COMMUNITY, as soon as possible. We have  
concerns for the health and environmental safety of our  
communities. We want a meeting for TVA Allen fossil plant  
Order No. OGC15-0177 for the CCR by TDEC.

**THANK YOU**

**YOU CAN CONTACT ME AT:**

Name Desma Turner Date 11/24/2019

Address 792 Hazelwood Cty/St/Zip 38109

Cell 901-785-7376 E-mail desmaturner20@live.com

**From:** [mohammad.s.yassin](mailto:mohammad.s.yassin)  
**To:** [Farless.Ashley.Robin](mailto:Farless.Ashley.Robin)  
**Subject:** Coal Ash Closure at Allen Fossil Plant  
**Date:** Monday, December 03, 2018 12:14:49 PM

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**TVA External Message. Please use caution when opening.**

Hello Ashley,

I am interested in reviewing and possibly commenting on your draft proposal for the closure of coal ash impoundment at Allen Fossil Plant. In order to submit appropriate comments, I would like to review your draft. Can you email me a copy or provide a link?

Regards,

--

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Mohammad Yassin, Ph.D., P.E., BCEE  
Department of Civil/Environmental Engineering  
Jackson State University  
1400 Lynch Street  
P. O. Box 17068  
Jackson, MS 39217-0168  
Phone: 601-398-8228  
Email: [Mohammad.S.Yassin@jsums.edu](mailto:Mohammad.S.Yassin@jsums.edu)

**From:** [mohammad.s.yassin](mailto:mohammad.s.yassin)  
**To:** [Farless, Ashley Robin](mailto:Farless.Ashley.Robin)  
**Subject:** Re: TVA - Allen EIS NOI - Extension of Public Scoping Period & Public Information Session  
**Date:** Friday, December 21, 2018 10:41:23 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)

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**TVA External Message. Please use caution when opening.**

Mrs. Farless,

Among other traditional options, TVA should evaluate closing the surface impoundments in place, with a vertical containment wall around them. There are many options to consider for the vertical wall materials such as; soil-bentonite slurry, cement-bentonite, composite, and composite and grout.

Please let me know if you have any questions.

Regrades,

On Thu, Dec 20, 2018 at 3:15 PM Farless, Ashley Robin <[arfarless@tva.gov](mailto:arfarless@tva.gov)> wrote:

**TENNESSEE VALLEY AUTHORITY (TVA) - NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT (EIS)**

**ALLEN FOSSIL PLANT (ALF) ASH IMPOUNDMENT CLOSURES – EXTENSION OF PUBLIC COMMENT PERIOD AND PUBLIC INFORMATION SESSION**

The Tennessee Valley Authority (TVA) is announcing an extension of the public comment period and a public information session for the Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) to address the potential environmental effects associated with the future management of coal combustion residual (CCR) material at the Allen Fossil Plant (ALF) located in Shelby County, Tennessee, southwest of the City of Memphis. The NOI was published in the *Federal Register* (83 FR 61708) on Friday, November 30, 2018. Please see the attached letter.

The public comment period for the NOI was originally scheduled to close January 4, 2019. TVA is extending the public comment period by 27 days and will now consider comments received through **January 31, 2019**. In addition, TVA will host a public information session in Memphis on January 17, 2019, from 5:00 to 8:00 p.m. CST at the Mitchell Community Center located at 602 W. Mitchell Road, Memphis, TN 38109.

Comments are invited concerning both the scope of the review and environmental issues that should be addressed in the EIS.

Comments on are welcome through the following:

Mail: Ashley Farless, NEPA Compliance Specialist, 1101 Market Street, BR4A-C, Chattanooga, TN, 37402

Online comment form: [www.tva.com/nepa](http://www.tva.com/nepa)

Email: [arfarless@tva.gov](mailto:arfarless@tva.gov)

Written comments will be accepted at the public information session on January 17, 2019, in Memphis (mentioned above).

Thank you,

**Ashley Farless, PE, AICP**

NEPA Specialist

Environmental Compliance and Operations

Tennessee Valley Authority

1101 Market Street, BR4A

Chattanooga, TN 37402

[arfarless@tva.gov](mailto:arfarless@tva.gov)



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Mohammad Yassin, Ph.D., P.E., BCEE  
Department of Civil/Environmental Engineering  
Jackson State University  
1400 Lynch Street  
P. O. Box 17068  
Jackson, MS 39217-0168  
Phone: 601-398-8228  
Email: [Mohammad.S.Yassin@jsums.edu](mailto:Mohammad.S.Yassin@jsums.edu)

**From:** [Rehim Babaoglu \(raybabaoglu@juno.com\)](mailto:raybabaoglu@juno.com) Sent You a Personal Message  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Tuesday, January 15, 2019 10:24:25 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA and its board are so far removed from consumers and the public, so much so that they cannot hear us when we say there must be more transparency and full disclosure. TVA should return to its original plan of using greywater from the sewage treatment plant next door to cool its new gas fired power plant.

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

TVA's history with the Kingston coal ash spill raises concerns about the safety of clean-up workers and the communities where the coal ash is recycled or disposed of. In November 2018, a jury found that TVA's contractor for the Kingston clean up failed to adequately protect workers from exposure to coal ash contamination. More than 30 workers have died and more than 300 are sick.

In 2016, the United States Commission on Civil Rights found that environmental justice concerns were not adequately taken into account when EPA approved TVA's decision to dispose of coal ash from the Kingston spill in Uniontown, Alabama. Residents have alleged that they have suffered health and quality of life impacts as a result. This EIS must consider the environmental impact to any community where reinterment may occur.

TVA must commit to following all laws, regulations, and best practices for worker safety and require its contractors to do the same. TVA must consider several different alternatives for closure-by-removal, including removing the coal ash by barge and/or train, a range of different truck routes, and a range of different disposal or recycling facilities. TVA must consider and weigh the environmental justice concerns associated with each alternative. Finally, TVA must provide sufficient information regarding its recycling (or beneficial use) alternative or alternatives in order for the community to understand what the risks are and which communities are likely to be affected.

TVA replaced its coal plant with a gas plant next door. To operate, the gas plant requires millions of gallons of water each day. TVA originally told the community it would use recycled water from the nearby Maxson wastewater treatment plant. Later, TVA decided to drill wells at the gas plant directly into the Memphis Sand. After groundwater with high levels of arsenic contamination under TVA's leaking, unlined ash ponds was discovered to be connected to the Memphis Sand, TVA decided to buy water from Memphis, Light, Gas and Water (MLGW). This water comes from the Memphis Sand from well fields just a few miles away. Over time, TVA's use of Memphis Sand groundwater purchased from MLGW will likely pull the contaminated groundwater from TVA's ash ponds down toward the Memphis Sand Aquifer. This EIS should fully consider the potential impacts of continued use of the Memphis Sand Aquifer and revisit the use of grey water from the T.E. Maxson Wastewater Treatment Plant to cool its new plant, as originally adopted in TVA's 2014 Environmental Assessment.

Sincerely,

Rehim Babaoglu  
1741 North Parkway Blvd.  
Memphis, TN 38112  
[raybabaoglu@juno.com](mailto:raybabaoglu@juno.com)  
(901) 577-6157

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Scott Banbury \(smbanbury@gmail.com\) Sent You a Personal Message](mailto:smbanbury@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 11:14:01 AM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Scott Banbury  
1051 Stonewall St  
Memphis, TN 38107  
[smbanbury@gmail.com](mailto:smbanbury@gmail.com)  
(901) 619-8567

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Christ Barthold \(solarhypocrisy@hotmail.com\) Sent You a Personal Message](mailto:Christ.Barthold@solarhypocrisy@hotmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 7:18:24 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

Why not invest in the future of energy and move towards renewable solar panels placed in solar farms and the roofs of businesses/parking lots/parking garages throughout TN. the TVA is endangering a precious resource, without clean water, we all die.

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Christ Barthold  
244 S. Cleveland Street Apt. 10  
Memphis, TN 38104  
[solarhypocrisy@hotmail.com](mailto:solarhypocrisy@hotmail.com)  
(901) 487-0477



This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [David Bordenkircher \(david\\_alan\\_bordenkircher@yahoo.com\) Sent You a Personal Message](mailto:david_alan_bordenkircher@yahoo.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Friday, January 18, 2019 10:04:37 AM

---

TVA External Message. Please use caution when opening.

Dear Ashley Farless,

Very concerned with keeping ash out of our waters!

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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In 2016, the United States Commission on Civil Rights found that environmental justice concerns were not adequately taken into account when EPA approved TVA's decision to dispose of coal ash from the Kingston spill in Uniontown, Alabama. Residents have alleged that they have suffered health and quality of life impacts as a result. This EIS must consider the environmental impact to any community where reinterment may occur.

TVA must commit to following all laws, regulations, and best practices for worker safety and require its contractors to do the same. TVA must consider several different alternatives for closure-by-removal, including removing the coal ash by barge and/or train, a range of different truck routes, and a range of different disposal or recycling facilities. TVA must consider and weigh the environmental justice concerns associated with each alternative. Finally, TVA must provide sufficient information regarding its recycling (or beneficial use) alternative or alternatives in order for the community to understand what the risks are and which communities are likely to be affected.

TVA replaced its coal plant with a gas plant next door. To operate, the gas plant requires millions of gallons of water each day. TVA originally told the community it would use recycled water from the nearby Maxson wastewater treatment plant. Later, TVA decided to drill wells at the gas plant directly into the Memphis Sand. After groundwater with high levels of arsenic contamination under TVA's leaking, unlined ash ponds was discovered to be connected to the Memphis Sand, TVA decided to buy water from Memphis, Light, Gas and Water (MLGW). This water comes from the Memphis Sand from well fields just a few miles away. Over time, TVA's use of Memphis Sand groundwater purchased from MLGW will likely pull the contaminated groundwater from TVA's ash ponds down toward the Memphis Sand Aquifer. This EIS should fully consider the potential impacts of continued use of the Memphis Sand Aquifer and revisit the use of grey water from the T.E. Maxson Wastewater Treatment Plant to cool its new plant, as originally adopted in TVA's 2014 Environmental Assessment.

Sincerely,

David Bordenkircher  
500 Paragon Mills, G 6  
Nashville, TN 37211  
david\_alan\_bordenkircher@yahoo.com  
(615) 429-6927

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.



**From:** [Evan Comeaux \(evan.comeaux@gmail.com\) Sent You a Personal Message](mailto:evan.comeaux@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 12:44:37 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Evan Comeaux  
1060 Stonewall  
Memphis, TN 38107  
[evan.comeaux@gmail.com](mailto:evan.comeaux@gmail.com)  
(601) 807-4799

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Saj Crone \(sajcrone@gmail.com\) Sent You a Personal Message](mailto:sajcrone@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 11:59:51 AM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

Protect our aquifer! Protect our health!  
Protect the clean-up workers!  
Protect future generations! This is your moral obligation!

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Saj Crone  
770 Holly Street  
Memphis, TN 38112  
sajcrone@gmail.com  
(901) 210-8400

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Lorraine Garrett \(garrettstaircompany3@gmail.com\) Sent You a Personal Message](mailto:garrettstaircompany3@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 1:09:14 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

I live near the Kingston coal ash dump. TVA has lost a class-action suit by over 80 'dead and dying' clean-up workers. It is time for them to clean up.

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Lorraine Garrett  
1027 Amerine Road  
Maryville, TN 37804  
garrettstaircompany3@gmail.com  
(865) 567-4349

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.



**From:** [Emily Graves \(emilyctaylor@hotmail.com\) Sent You a Personal Message](mailto:emilyctaylor@hotmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 1:24:06 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Emily Graves  
1412 Carr Ave  
Memphis, TN 38104  
emilyctaylor@hotmail.com  
(901) 258-4614

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Robin Happel \(rhappel@fordham.edu\) Sent You a Personal Message](mailto:rhappel@fordham.edu)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 3:44:20 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Robin Happel  
1735 W St of Franklin Rd, Suite 5 #241  
Johnson City, TN 37604  
rhappel@fordham.edu  
(425) 281-5405

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Rita Harris \(rita2600@gmail.com\) Sent You a Personal Message](mailto:rita2600@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 7:43:21 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Rita Harris  
9488 E. Broadway Road  
Olive Branch, MS 38654  
rita2600@gmail.com  
(901) 497-5798

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [J.E. Holmes \(thebigeholmes@hotmail.com\) Sent You a Personal Message](mailto:thebigeholmes@hotmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 11:32:12 AM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

J.E. Holmes  
2541 Broad Ave  
Memphis, TN 38112  
[thebigeholmes@hotmail.com](mailto:thebigeholmes@hotmail.com)  
(901) 289-5378

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Mark King \(kingmark1999@yahoo.com\) Sent You a Personal Message](mailto:kingmark1999@yahoo.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Tuesday, January 15, 2019 12:31:19 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Mark King  
2127 Thomas RD  
Memphis, TN 38134  
kingmark1999@yahoo.com  
(901) 458-6826

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Barry Markowitz \(barrymarkowitz@yahoo.com\) Sent You a Personal Message](mailto:barrymarkowitz@yahoo.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Thursday, January 17, 2019 1:07:04 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

You have no greater responsibility than protecting the Memphis Sand Aquifer!

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Barry Markowitz  
5305 N. Clover Dr.  
Memphis, TN 38120  
barrymarkowitz@yahoo.com  
(901) 849-6137

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Sara Oaks \(sacoaks@att.net\)](mailto:sacoaks@att.net) [Sent You a Personal Message](#)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 11:09:20 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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TVA must commit to following all laws, regulations, and best practices for worker safety and require its contractors to do the same. TVA must consider several different alternatives for closure-by-removal, including removing the coal ash by barge and/or train, a range of different truck routes, and a range of different disposal or recycling facilities. TVA must consider and weigh the environmental justice concerns associated with each alternative. Finally, TVA must provide sufficient information regarding its recycling (or beneficial use) alternative or alternatives in order for the community to understand what the risks are and which communities are likely to be affected.

TVA replaced its coal plant with a gas plant next door. To operate, the gas plant requires millions of gallons of water each day. TVA originally told the community it would use recycled water from the nearby Maxson wastewater treatment plant. Later, TVA decided to drill wells at the gas plant directly into the Memphis Sand. After groundwater with high levels of arsenic contamination under TVA's leaking, unlined ash ponds was discovered to be connected to the Memphis Sand, TVA decided to buy water from Memphis, Light, Gas and Water (MLGW). This water comes from the Memphis Sand from well fields just a few miles away. Over time, TVA's use of Memphis Sand groundwater purchased from MLGW will likely pull the contaminated groundwater from TVA's ash ponds down toward the Memphis Sand Aquifer. This EIS should fully consider the potential impacts of continued use of the Memphis Sand Aquifer and revisit the use of grey water from the T.E. Maxson Wastewater Treatment Plant to cool its new plant, as originally adopted in TVA's 2014 Environmental Assessment.

Sincerely,

Sara Oaks  
73 Viking Cv  
Cordova, TN 38018  
sacoaks@att.net  
(901) 758-9075

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Mary Ogle \(mogle1@comcast.net\) Sent You a Personal Message](mailto:mogle1@comcast.net)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Tuesday, January 15, 2019 3:48:20 AM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

Completely clean up the coal ash, and remove it to a properly constructed landfill where there is no possibility of it migrating into groundwater or aquifer, using the methods and route least likely to expose anyone (including workers) to the toxic ash.

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

TVA's history with the Kingston coal ash spill raises concerns about the safety of clean-up workers and the communities where the coal ash is recycled or disposed of. In November 2018, a jury found that TVA's contractor for the Kingston clean up failed to adequately protect workers from exposure to coal ash contamination. More than 30 workers have died and more than 300 are sick.

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Sincerely,

Mary Ogle  
3776 Carnes  
Memphis, TN 38111  
mogle1@comcast.net  
(901) 326-7036



This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Linda Raiteri \(lraiteri@bellsouth.net\)](mailto:lraiteri@bellsouth.net) Sent You a Personal Message  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 1:02:09 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

TVA's history with the Kingston coal ash spill raises concerns about the safety of clean-up workers and the communities where the coal ash is recycled or disposed of. In November 2018, a jury found that TVA's contractor for the Kingston clean up failed to adequately protect workers from exposure to coal ash contamination. More than 30 workers have died and more than 300 are sick.

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Sincerely,

Linda Raiteri  
3817 Allandale Lane  
Memphis, TN 38111  
lraiteri@bellsouth.net  
(901) 324-9469

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Terry Ryan \(terry44ryan@gmail.com\) Sent You a Personal Message](mailto:terry44ryan@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 11:38:47 AM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

TVA's history with the Kingston coal ash spill raises concerns about the safety of clean-up workers and the communities where the coal ash is recycled or disposed of. In November 2018, a jury found that TVA's contractor for the Kingston clean up failed to adequately protect workers from exposure to coal ash contamination. More than 30 workers have died and more than 300 are sick.

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Sincerely,

Terry Ryan  
2015 Harbert Ave  
Memphis, TN 38104  
terry44ryan@gmail.com  
(901) 775-5747

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Alma SPAGNOLA \(wildirishrose49@yahoo.com\)](mailto:wildirishrose49@yahoo.com) Sent You a Personal Message  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Tuesday, January 15, 2019 12:01:08 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

Please protect our water

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Alma SPAGNOLA  
1403 Stacey St  
Memphis, TN 38108  
[wildirishrose49@yahoo.com](mailto:wildirishrose49@yahoo.com)  
(901) 230-6541

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Amy Stewart-Banbury \(luckyme103@gmail.com\) Sent You a Personal Message](mailto:luckyme103@gmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Wednesday, January 16, 2019 7:55:58 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

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Sincerely,

Amy Stewart-Banbury  
1051 stonewall st  
Memphis, TN 38107  
luckyme103@gmail.com  
(901) 292-5354

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Emily Vlahos \(emilyv22@hotmail.com\) Sent You a Personal Message](mailto:emilyv22@hotmail.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Monday, January 14, 2019 9:57:35 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

TVA should clean up, not cover up, the coal ash ponds at the Allen Fossil Plant. The contaminated groundwater beneath the subject impoundments is directly connected to the city's drinking water source, the Memphis Sand Aquifer. This EIS should fully investigate all threats associated with the continued presence of coal combustion residuals in proximity to known connections to the Memphis Sand Aquifer.

TVA's history with the Kingston coal ash spill raises concerns about the safety of clean-up workers and the communities where the coal ash is recycled or disposed of. In November 2018, a jury found that TVA's contractor for the Kingston clean up failed to adequately protect workers from exposure to coal ash contamination. More than 30 workers have died and more than 300 are sick.

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Sincerely,

Emily Vlahos  
8285 Sturbridge Way #101  
Memphis, TN 38018  
emilyv22@hotmail.com  
(901) 832-4868

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

**From:** [Joey Yopp \(joeyyopp@yahoo.com\) Sent You a Personal Message](mailto:joeyyopp@yahoo.com)  
**To:** [Farless, Ashley Robin](#)  
**Subject:** Scoping Comments on Allen Ash Impoundment Closure EIS  
**Date:** Tuesday, January 15, 2019 2:52:45 PM

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TVA External Message. Please use caution when opening.

Dear Ashley Farless,

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Sincerely,

Joey Yopp  
1034 Wingfield Road  
Memphis, TN 38122  
joeyyopp@yahoo.com  
(901) 218-1061

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.