

**From:** [Gray, Michael T](#)  
**To:** [Water Permits](#)  
**Cc:** [Angela Adams](#); [Caleb Nelson](#); [Rob Burnette](#); [James Ozment](#); [James Clark](#); [Beth Rowan](#); [Britton Dotson](#); [Robert S. Wilkinson](#); [Pat Flood](#); [Gray, Michael T](#)  
**Subject:** [EXTERNAL] TVA Gallatin (TN0005428) - Facility ELG Annual Compliance Update CY2022  
**Date:** Friday, January 27, 2023 10:17:17 AM  
**Attachments:** [image001.png](#)

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Please find the attached update required by the facility's NPDES permit (TN0005428).

**Michael T. Gray**  
Environmental Scientist (Compliance)  
Environmental Operations – Northwest Region (Gallatin)



**W.** 615-230-4066 **M.** 615-566-1360 **E.** [mgray@tva.gov](mailto:mgray@tva.gov)  
1499 Steam Plant Road, Gallatin, TN 37066-8714; GFP 1A-GLT

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1101 Market Street, Chattanooga, Tennessee 37402

**Sent Via Electronic Transmittal**

January 27, 2023

Mr. Vojin Janjić (water.permits@tn.gov)  
Division of Water Resources  
Tennessee Department of Environment  
and Conservation  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 11th Floor  
Nashville, TN 37243

Dear Mr. Janjić

TENNESSEE VALLEY AUTHORITY (TVA) – GALLATIN FOSSIL PLANT (GAF) – NPDES  
PERMIT NO. TN0005428 – WASTEWATER TREATMENT UPGRADES TO COMPLY WITH  
EFFLUENT LIMITATION GUIDELINES (ELG) – 2022 ANNUAL REPORT

In accordance with Part I.F. of the subject permit, please find enclosed an annual report detailing TVA's progress toward installing the necessary equipment to meet the bottom ash transport water ELG.

If you have questions or need any additional information, please contact Michael Gray at (615) 230-4066 or by e-mail at mgray@tva.gov.

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael K. Bottorff", is written over a blue horizontal line. The signature is stylized and somewhat abstract.

Michael K. Bottorff  
Plant Manager  
Gallatin Fossil Plant

Enclosure

Mr. Vojin Janjić  
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(Electronic Distribution w/ Enclosure):

Ms. Angela Adams (Angela.Adams@tn.gov)  
Coal Combustion Residuals  
Environmental Consultant  
Tennessee Department of Environment  
and Conservation  
Division of Water Resources  
761 Emory Valley Road  
Oak Ridge, Tennessee 37830

Mr. Rob Burnette (Rob.Burnette@tn.gov)  
Solid Waste Program Manager  
Tennessee Department of Environment  
and Conservation  
1301 Riverfront Parkway, Suite 206  
Chattanooga, Tennessee 37402

Mr. James Clark (James.Clark@tn.gov)  
Chief Geologist  
Tennessee Department of Environment  
and Conservation  
Columbia Field Office  
1421 Hampshire Road  
Columbia, Tennessee 38401

Mr. Britton Dotson (Britton.Dotson@tn.gov)  
Environmental Fellow  
Tennessee Department of Environment  
and Conservation  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 11th Floor  
Nashville, Tennessee 37243-1548

Mr. Pat Flood (Pat.Flood@tn.gov)  
Senior Advisor for Technical Assistance  
and Special Projects within the Bureau of  
Environment  
Tennessee Department of Environment  
and Conservation  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 11th Floor  
Nashville, Tennessee 37243-1548

Mr. Caleb Nelson (Caleb.Nelson@tn.gov)  
Environmental Protections Specialist  
Tennessee Department of Environment  
and Conservation  
Columbia Field Office  
1421 Hampshire Road  
Columbia, Tennessee 38401

Mr. Jim Ozment (James.Ozment@tn.gov)  
Coal Combustion Residual  
Environmental Consultant  
Tennessee Department of Environment  
and Conservation  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 2nd Floor  
Nashville, Tennessee 37243-1548

Ms. Beth Rowan (Beth.Rowan@tn.gov)  
Environmental Consultant  
Tennessee Division of Remediation  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 11th Floor  
Nashville, Tennessee 37243-1548

Mr. Robert S. Wilkinson (Robert.S.Wilkinson@tn.gov)  
Coal Combustion Residual Technical Manager  
Tennessee Department of Environment  
and Conservation (TDEC)  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 2nd Floor  
Nashville, Tennessee 37243-1548

# **Bottom Ash ELG Project Updates**

## TVA Gallatin Fossil Plant – NPDES permit no. TN0005428

### 2022 Annual Report

#### **Introduction**

##### Effluent Limitations Guidelines NPDES Permit Requirement and Regulations

Part I.F. of the NPDES permit for Gallatin Fossil (GAF) requires the Tennessee Valley Authority (TVA) to provide the Tennessee Department of Environment and Conservation (TDEC) with an annual report detailing progress achieved during the preceding calendar year as well as identification of upcoming projects needed to attain compliance with EPA's Effluent Limitations Guidelines (ELGs). These update reports are due by January 31 of the following year.

On October 13, 2020, the United States Environmental Protection Agency published revisions to the ELGs in 40 CFR Part 423. The revised rule modifies technology-based effluent limitations for FGD wastewater and BATW. (GAF has a dry scrubber; therefore, the ELGs for FGD wastewater are not applicable.) The rule also establishes several new subcategories that provide separate compliance pathways based on unit operation and asset operating plans.

TVA applied for an NPDES permit modification on January 8, 2021, pursuant to the revised ELGs, to incorporate revised limitations based on multiple asset operating scenarios. On August 3, 2021, EPA published in the Federal Register its notice of rulemaking initiative that proposes a revision to the ELG rule. As part of this initiative, EPA will determine whether more stringent limitations and standards are appropriate and consistent with the goals of the Clean Water Act including the limitations for BATW. Therefore, on December 15, 2021, TVA submitted a request to TDEC to remove the commissioning date for a high cycle BATW system from the permit modification. To be clear, if EPA's rule evaluation results in no change to the BATW requirements, TVA still intends to commission a system with sufficient remaining time for TVA to engage with TDEC through the completion of the Best Professional Judgment (BPJ) process for BATW ahead of TVA's previously requested applicability date of December 31, 2025. However, it is imperative that TVA understand EPA's rulemaking path to ensure that the wastewater treatment system improvements we make will be compliant with any new rule. The cost and schedule information for projects to design and install a high recycle BATW system according to the 2020 ELG Rule included in the January 8, 2021, permit modification submittal remain the same. This information may need to be revised depending on the contents of EPA's forthcoming ELG rule.

EPA is expected to issue a proposed rulemaking for public comment in 2023. When EPA completes the ELG rulemaking initiative, TVA would request a permit modification to incorporate the requirements found in the new ELG rule as applicable.

#### **Bottom Ash Transport Water Related Projects**

TVA anticipated issues complying with the no-discharge of BATW ELG that was included in EPA's 2015 ELG rule. Based on TVA's experiences at Bull Run in operating a recirculating system, some amount of blowdown discharge needs to be allowed in order to maintain system chemistry and balance flow volumes in a closed loop. Certain constituents (e.g., chlorides) present in BATW that are not removed by the planned physical-chemical treatment for BATW may "cycle up" or become more concentrated leading to a degradation or failure of the materials

of construction. While EPA allows for use of BATW in FGDs or for no discharge uses, flows may still not “balance”, depending upon how much flow can be used without impacting scrubber performance. In the 2020 ELGs, EPA replaced the 2015 BATW no-discharge requirement with a requirement that allows the discharge of up to ten percent of the wetted system by volume in certain prescribed situations.

### 2022 Bottom Ash Activities Summary

TVA completed the detailed design of the BATW recirculation system and initiated construction activities of this system in February 2022. During 2022, the major activities completed include installation of the various equipment foundations, erection of the recirculation tanks, installation of conveyance piping, and several tie-in’s to the existing plant systems. In addition, receipt and installation of the recirculation pumps and the power distribution center occurred.

TVA completed the detailed design of the GAF fire pump upgrades in 2022. TVA initiated construction activities of this system in December 2022. During 2022, the major activities completed include installation of electrical conduit and some tie-in’s to the existing plant systems. The new fire pumps were received and stored onsite.

As EPA moves forward with their new ELG rulemaking, TVA will monitor any updated and/or new requirements, coordinate with state regulators, and respond accordingly for compliance.