



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Solid Waste Management
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 14th Floor
Nashville, Tennessee 37243

August 16, 2022

Ms. Anna Fisher
Ash and Groundwater Manager
Tennessee Valley Authority
1101 Market Street, BR2
Chattanooga, TN 37402

CERTIFIED MAIL
#7021 0950 0001 7916 1616
RETURN RECEIPT REQUESTED

**RE: Final Permit Decision – New Class II Facility – Tennessee Valley Authority (TVA)
Cumberland Fossil Plant Coal Combustion Residuals (CCR) Disposal Facility –
IDL810000222**

Dear Ms. Fisher:

The Tennessee Department of Environment and Conservation (TDEC), Division of Solid Waste Management (DSWM) is hereby issuing the enclosed permit to you for the above-referenced disposal facility. A copy of the final permit decision summary and response to public comments received are also enclosed.

I appreciate your interest in complying with State statutes and look forward to working with you again. If you have any questions, please contact Brianna Rives of this office by email at Brianna.Rives@tn.gov or call 615-308-0104.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Lisa A. Hughey'.

Lisa A. Hughey, CHMM
Director

Enclosures – (3)

cc: Kent Evetts, TVA via email: kbevetts@tva.gov
Caleb Nelson, DSWM, CCR Program Manager
Tara Pedraza, TDEC Regional Director for External Affairs, Nashville Environmental Field Office
Breanna Couey, DSWM, Public Participation Officer, Nashville Central Office
Records.SWM@tn.gov

State of Tennessee
Department of Environment and Conservation
Division of Solid Waste Management

Solid Waste Management Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 14th Floor
Nashville, Tennessee 37243
615-532-0780

**REGISTRATION AUTHORIZING SOLID WASTE
DISPOSAL ACTIVITIES IN
TENNESSEE**

Registration Number: IDL810000222

Date Issued: August 16, 2023

Issued to: **Tennessee Valley Authority (TVA)**

Activities Authorized: Construction, operation, closure, and post-closure care of a Class II disposal facility located in Stewart County at the Cumberland Fossil Plant (CUF), Cumberland City, Tennessee, for the disposal of coal combustion residuals (CCR) generated as a result of power generation operations at CUF in addition to legacy CCR materials from existing CUF impoundments and minor quantities of other associated industrial materials resulting from operations ancillary to power generation which are non-putrescible and non-hazardous solid wastes.

By my signature this registration is issued in compliance with the provisions of the Tennessee Solid Waste Disposal Act (Tennessee Code Annotated, Section 68-211-101, et seq.), and applicable regulations developed pursuant to this law and in effect; and in accordance with the conditions and other terms set forth in this registration document and attached Registration Conditions.



Lisa A. Hughey, CHMM, Director
Division of Solid Waste Management

PERMIT TERMS AND CONDITIONS

1. Re-certification by Permittee for Facilities Whose Initial Operation is Delayed - If the facility does not initiate construction and/or operation within one year of the date of this permit, the permittee must re-certify the application in accordance with Rule 0400-11-01-.02(3)(d).
2. Duty to Comply - The permittee must comply with all conditions of this permit, unless otherwise authorized by the Department. Any permit noncompliance, except as otherwise authorized by the Department, constitutes a violation of the Act and is grounds for enforcement action, or for permit termination, revocation and re-issuance, or modification.
3. Need to Halt or Reduce Activity Not a Defense - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. Duty to Mitigate - In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent adverse impacts on human health or the environment.
5. Proper Operation and Maintenance - The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.
6. Permit Actions - This permit may be modified, revoked and re-issued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any existing permit condition.
7. Property Rights - This permit does not convey any property rights of any sort, or any exclusive privilege.
8. Duty to Provide Information - The permittee shall furnish to the Commissioner, within a reasonable time, any relevant information which the Commissioner may request to determine whether cause exists for modifying, revoking and re-issuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to the Commissioner, upon request, copies required to be kept by this permit. All records, including a copy of this permit and the approved Part I and Part II application, must be maintained at the facility or other locations as approved by the Commissioner.

9. Inspection and Entry - The permittee shall allow the Commissioner, or an authorized representative, to:
- (i) Enter at any reasonable time the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - (ii) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - (iii) Inspect at any reasonable time any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit (Note: If requested by the permittee at the time of sampling, the Commissioner shall split with the permittee any samples taken.);
 - (iv) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act any substances or parameters at any location; and
 - (v) Make photographs for the purpose of documenting items of compliance or noncompliance at waste management units, or where appropriate to protect legitimate proprietary interests, require the permittee to make such photos for the Commissioner.
10. Monitoring and Records
- (i) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (ii) The permittee shall retain records of all required monitoring information. The permittee shall maintain records for all groundwater monitoring wells and associated ground-water surface elevations, for the active life of the facility, and for the post-closure care period as well. This period may be extended by request of the Commissioner at any time.
 - (iii) Records of monitoring information shall include:
 - (I) The date, exact place, and time of sampling or measurements;
 - (II) The individual(s) who performed the sampling or measurements;
 - (III) The date(s) analyses were performed;
 - (IV) The individual(s) who performed the analyses;
 - (V) The analytical techniques or methods used (including equipment used); and

(VI) The results of such analyses.

11. Reporting Requirements

- (i) The permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility.
- (ii) Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (iii) The permittee shall report orally within 24 hours from the time the permittee becomes aware of the circumstances of any release, discharge, fire, or explosion from the permitted solid waste facility which could threaten the environment or human health outside the facility. Such report shall be made to the Tennessee Emergency Management Agency, using the 24-hour toll-free number (800) 262-3300.
- (iv) Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Commissioner, it shall promptly submit such facts or information.

12. Periodic Survey

- (i) Within 60 days of his receipt of the written request of the Commissioner to do so, the permittee shall cause to be conducted a survey of active and/or closed portions of this facility in order to determine if operations (e.g., cut and fill boundaries, grades) are being conducted in accordance with the approved design and operational plans. The permittee must report the results of such survey to the Commissioner within 90 days of his receipt of the Commissioner's request.
- (ii) The Commissioner may request such a survey:
 - (I) If he has reason to believe that operations are being conducted in a manner that significantly deviates from the approved plans; and/or
 - (II) As a periodic verification (but no more than annually) that operations are being conducted in accordance with the approved plans.
- (iii) Any survey performed pursuant to this part must be performed by a qualified land surveyor duly authorized under Tennessee law to conduct such activities.

13. Duration of Permits - This permit shall be effective for the operating life of the facility.

14. Effect of Permit - The issuance of this permit does not authorize the permittee to injure persons or property or to invade other private rights, or to violate any local law or regulations.

15. Transfer, Modification, Revocation and Re-issuance, and Termination of Permits - This permit may be transferred, modified, revoked or reissued, or terminated as set forth in 0400-11-01-.02(6).
16. Applicable Standards - All applicable facility standards of Rule Chapter 0400-11-01, Solid Waste Processing and Disposal Amendments shall be considered conditions of this registration.
17. Penalties - Any violation of the conditions or other terms of this registration may subject the registrant to the penalties set forth in Tennessee Code Annotated Sections 68-211-114 and 68-211-117.
18. Hazardous Waste Restriction - No hazardous waste, as regulated by the Tennessee Hazardous Waste Management Act (T.C.A. Section 68-212-101, et seq.), and the Rules adopted pursuant to that Act, shall be accepted at this facility.
19. Construction and Operation - The permittee shall construct and operate the facility in accordance with the approved engineering plans and operations manual which becomes a condition of this permit as Attachment I.
20. Special Waste - Except as specifically provided for in the Facility-Specific Conditions of this permit, the permittee may not accept for disposal any special waste unless approved to do so in writing by this Department.

VARIANCES AND WAIVERS

The following variances or waivers from standards or requirements in Rule Chapter 0400-11-01, Solid Waste Processing and Disposal Amendments, are hereby granted in accordance with Rule 0400-11-01-.01(5):

1. Alternate Bottom Liner System: 0400-11-01-.04(4)(a)1 - TVA has proposed an alternate bottom liner system as described in Section 2.8 of the Operations Manual. TVA requests the Department issue a variance for use of this alternate liner system for the new Class II Landfill. The liner system consists of a minimum of ten (10) feet soil with a maximum of 1×10^{-5} cm/sec permeability, overlain by two (2) feet of soil with a maximum of 1×10^{-6} cm/sec permeability. Layers of geosynthetics, which consists of: a geosynthetic clay liner (GCL), a 60-mil HDPE textured flexible membrane liner, and a cushion geotextile fabric, will be installed above the clay liner. A drainage layer that consists of one (1) foot minimum of washed granular material or bottom ash and two (2) feet minimum of protective cover will be placed above the geosynthetics.
2. Alternate Final Cover System: 0400-11-01-.04(8)(c)3 - TVA has proposed an alternate final cover system as described in Section 2.8 of the Operations Manual TVA requests the Department issue a variance for use of this alternate final cover system for the new Class II Landfill. The final cover consists of one (1) foot of intermediate cover soil with a maximum 1×10^{-5} cm/sec permeability, overlain by geosynthetics layers that consist of: 40-mil LLDPE and a geocomposite drainage layer. Above the drainage layer will be, 1 foot of cap cover soil, and 1 foot of vegetative cover soil.
3. Gas Migration Control Standards: 0400-11-01-.04(5) - No gas migration control system will be required. CCR materials are inert and non-putrescible. No measures to control or monitor for the presence of explosive gas are necessary and are not part of the design of the facility.
4. Random Inspection Program: 0400-11-01-.04(9)(c)24 - No random inspection program will be required. The Cumberland New Class II Landfill is a captive facility owned and operated by TVA and is not open to the public. All waste is monitored by TVA personnel; therefore, this program is not applicable for this facility.

FACILITY-SPECIFIC PERMIT CONDITIONS

The following conditions of this permit are established pursuant to Rule 0400-11-01-.02(5)(b):

1. Before waste may be disposed in any new cell, the Construction Quality Assurance (CQA) Report including record drawings for the liner and leachate collection system for that cell or portion thereof must have been submitted to the Division of Solid Waste Management (DSWM) for review, and a written acceptance of that report must have been issued by the DSWM.
2. Before waste may be disposed in the landfill, the CQA Report including record drawings for the liner system of the sediment basin, associated with the waste disposal area, must have been submitted to the DSWM for review, and a written acceptance of that report must have been issued by the DSWM.
3. The Permittee must provide at least five (5) working days advance notice to the DSWM staff prior to initial placement of waste into the waste disposal area.
4. The Permittee shall conduct a pre-construction meeting and shall notify the DSWM at least five (5) working days in advance of that meeting.
5. The Permittee shall provide a site-specific blasting plan for review in the event blasting activities will be conducted. In addition, once a blasting plan is submitted and approved, TVA will notify the DSWM at least five (5) working days in advance prior to blasting activities.
6. All onsite transfers of waste materials bound for disposal into the TVA Cumberland New Class II landfill unit will be performed in a manner which ensures that all waste materials are contained to minimize the generation of dust.
7. A registered professional geologist or geotechnical engineer shall be on-site to inspect the excavation of each phase as the base elevations are approached, but prior to re-establishment of finished grade. Wet zones, porous zones, voids (6 inches or larger), and/or channels encountered during the excavation must be immediately reported to the DSWM. When base grades of excavation for a phase are reached, DSWM must inspect the site prior to further site preparation.
8. The discharge point of the construction drains shall be incorporated into the groundwater monitoring plan and shall be monitored routinely during implementation of the routine groundwater monitoring activities. The samples from this point shall be for the same parameters as the other groundwater monitoring points, and the analytical results shall be included in the routine groundwater monitoring reports submitted to the DSWM.

New TVA Cumberland Fossil Plant CCR Disposal Facility Approved

The Tennessee Department of Environment and Conservation (TDEC), Division of Solid Waste Management (DSWM), has issued a solid waste disposal facility permit to Tennessee Valley Authority (TVA) for a new Class II Landfill. The facility, identified as IDL810000222, is located in Stewart County at 815 Cumberland City Road, Cumberland City, Tennessee at the TVA Cumberland Fossil Plant (CUF).

This permit allows construction, operation, closure, and post-closure care of the Class II disposal facility for the disposal of coal combustion residuals (CCR) generated as a result of power generation operations at CUF in addition to legacy CCR materials from existing CUF impoundments and minor quantities of other associated industrial materials resulting from operations ancillary to power generation which are non-putrescible and non-hazardous solid wastes. No hazardous wastes, as regulated by the Tennessee Hazardous Waste Management Act (Tennessee Code Annotated, Section 68-212-101, et. seq.) and the Rules adopted pursuant to the Act, shall be accepted for disposal at this facility.

DSWM made the draft of this permit available for review during a 45-day public comment period which ended August 4, 2023. DSWM has prepared a Response to Comments document, which summarizes the comments received during the public comment period.

The final permit is posted online. Visit tn.gov/environment/notices/tvacumberland to access the facility information in the Dataviewer. The following location also has a paper copy available for review:

TDEC DSWM Central Office
Tennessee Tower, 14th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243
615-532-0780

For questions, contact the facility's official responsible for operation or DSWM's Solid Waste Permitting Manager:

Ms. Anna Fisher
TVA, Ash and Groundwater Manager
1101 Market Street, BR 2
Chattanooga, TN 37402
423-751-3357

Mr. Nickolaus Lytle
TDEC DSWM, Tennessee Tower, 14th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243
615-854-4581
Nickolaus.Lytle@tn.gov

TDEC is an Equal Employment Opportunity/Affirmative Action (EEO/AA) employer. TDEC does not unlawfully discriminate on any basis prohibited by applicable law in any of its programs, services, or activities.

EEO/AA/ADAAA inquiries or complaints may be directed to the ADAAA Coordinator, TDEC HR Division, at 615-532-0200. Hearing-impaired callers may use the Tennessee Relay Service (800-848-0298).

If it is hard for you to read, speak, or understand English, TDEC may be able to provide translation or interpretation services free of charge. Please contact Janelle Starke at 615-906-2950 for more information.

If you would like to receive notices like this directly, contact the DSWM's Central Office for a Mailing List Request Form. Email Solid.Waste@tn.gov or call 615-532-0780.

RESPONSE TO PUBLIC COMMENTS

TVA CUMBERLAND FOSSIL PLANT CCR DISPOSAL FACILITY

New Class II Disposal Facility

IDL810000222

815 Cumberland City Road
Cumberland City, Tennessee

August 16, 2023

Prepared by the Division of Solid Waste Management



Preface

This document contains the comments received during the public comment period, both written and oral, for the proposed Class II Landfill Permit for the Tennessee Valley Authority (TVA) Cumberland Fossil Plant CCR Disposal Facility and the response to comments from the Tennessee Department of Environment and Conservation (TDEC) Division of Solid Waste Management (DSWM). Comments received in written format were shortened to take out content not relevant to the permit. It should be noted that DSWM is only required to address and respond to technical and regulatory specific comments. Comments made in either support or opposition to the permit modification will have no significant impact on the final decision unless they also present relevant factual information to substantiate their position, Rule 0400-11-01-.02(4)(j)1(ii).

When a permit application meets all the requirements/standards of Rule Chapter 0400-11-01, Solid Waste Processing and Disposal (referred hereafter as the Regulations), the DSWM is required to issue the permit. Therefore, when a concern/issue is addressed by a requirement/standard of the Regulations, then the regulatory rule citation is provided along with a summary of how the TVA Cumberland Fossil Plant CCR Disposal Facility application addressed the requirement/standard. Further, the response will note the location in the application where this information can be found. When a concern/issue is not addressed by a requirement/standard of the DSWM Regulations but is addressed by other TDEC Division Regulations/Permit, then information is provided concerning the other TDEC Division Regulations/Permit. After careful consideration/evaluation of all comments received, the DSWM is issuing the permit because the TVA Cumberland Fossil Plant CCR Disposal Facility permit application has been found to meet all requirements and standards of the DSWM Regulations.

Comment 1: Please see the attached list (*Attachment 1*) of worker safety recommendations as you consider the permit application for a new coal ash landfill in Stewart County. Handling coal ash is dangerous work, and the serious health conditions and dozens of deaths that befell workers who were exposed to the Kingston coal ash is a tragic reminder of how unsafe working conditions have enormous consequences for coal ash workers. The worker safety provisions included in TVA's landfill permit application for the Stewart County landfill include a facility shelter, safe drinking water, hand-washing facilities, toilet facilities, two-way radio/telephone, and first aid kits. These measures alone will not protect workers who will be handling and working in toxic coal ash on a daily basis.

TDEC should ensure that the landfill permit requires TVA to establish clear and enforceable project-specific requirements, such as safety training, proper personal protective equipment, air monitoring, and emergency planning to protect workers prior to the start of any coal ash relocation. TDEC must also ensure TVA's removal/relocation of coal ash complies with Tennessee state waste and remediation laws to protect air and water quality. More recommendations for protecting workers who are handling coal ash can be found in the attached document (*Attachment 1*). Please include these safety provisions in the permit.

Response 1: While worker health and safety is important to the Department, TDEC does not have the ability to exercise general regulatory authority over worker safety. The Tennessee Occupational Safety and Health Administration (TOSHA), the state entity with regulatory authority for worker safety, is responsible for the enforcement of Tennessee's Occupational Safety and Health Act of 1972. However, because TVA is a federal entity, the specific authority for worker safety at the Cumberland facility is TOSHA's federal counterpart, OSHA. This comment has been shared with TVA. Please contact the Permittee for any additional information regarding their Worker Safety Plan.

Attachment 1

PROTECTING WORKERS DURING COAL ASH HANDLING AND CLEAN UP

The following coal ash worker safety proposals have been developed by community members and worker families in East Tennessee. While we believe these policies and practices are critical for worker protection when handling coal ash, this list is not comprehensive.

Proposals:

1. Pre-Procurement Screenings

- Develop a process by which TVA screens potential coal-ash contractors for their capacity and commitment to handle coal ash in a safe and healthy manner under circumstances such as: (a) orderly transfer as part of planned closure, or (b) massive emergency moving of material after an unplanned spill.

2. Coal Ash Safety Training

- Develop in consultation with the affected trades that contractors and subcontractors are using.
- Should adequately communicate the risks involved, the safety procedures required, the right to refuse dangerous work, and the legal protections that workers can call upon if they need to lodge a complaint or seek assistance from someone higher up their immediate supervisory chain or from TVA itself.
- Should follow the apprenticeship model: must be conducted in person by people with relevant experience and should include interactive hands-on components.
- Should be ongoing - including training follow-up, assessment(s) of how well each trainee understood and absorbed the material, a period of active supervision by someone with more experience and preparation, and refresher events.
- Unions should be asked for their active assistance in training programs, including support from international health and safety staff, and should be paid for providing their expertise.
- Include support from the [Center for Construction Research & Training](#).
- TVA and federal OSHA should provide oversight of safety training programs.

3. Protective Equipment & Procedures

Require:

- Onsite decontamination facilities with showers.
- Company-provided work clothing and laundering service.
- Personal Protective Equipment (PPE) for workers, including Tyvek protective suits when appropriate and respirators.
 - Abide by existing standards for PPE requiring medical assessment, proper fit testing, and safe procedures for timely replacement and/or cleaning.
- Baseline medical examinations for workers.

- Onsite medical personnel.
- Continuous air monitoring capability – PM10, PM2.5, toxic metals, and transuranic elements.
- Trucks, and Heavy Equipment:
 - Properly equip and consistently maintain trucks and heavy equipment used to excavate or transport coal ash so that ash is kept out of the cabs.
 - Daily truck (and worker vehicle) decontamination and changing of cabin filters
- Implement effective tools and procedures to eliminate/minimize fugitive dust generation.
- Require contractors to have a site-specific Safety and Health Plan
 - Approved and signed off by a certified industrial hygienist (ABIH certification) and then re-evaluated and re-approved by a CIH every 6 months or year.
 - Includes provisions for union and worker involvement.
 - Make the plan available to the public (i.e., opportunity for public oversight).

4. Anti - Retaliation

- Include in the Safety and Health plan specific whistleblower protections and procedures.

5. Enforcement and Regulation

- Establish a coal ash worker safety Hotline for worker complaints.
- Safety and Health Plans must be submitted to OSHA who could provide monitoring & oversight and enforce when it's not being followed.
- Include trigger (e.g., stop work order) when/if there's evidence that the Safety and Health Plan is not being followed.
- Monitor contractor work more closely:
 - Require repeated, unannounced TVA and OSHA safety visits at the site of any significant coal-ash handling, whether that be at a spill site during clean-up, or on another kind of site where coal ash in significant quantities is being shipped out or moved from one site to another.
 - Consider providing that TVA inspectors will not sign off on interim payments to the contractor without first confirming compliance with the Safety and Health plan.
 - No completion bonuses should be paid to a contractor unless worker safety has been adequately protected across the life of the contract.
 - Consider using video to record safety equipment and decontamination stations being distributed and made available to workers on a regular basis.