

# CLOSURE PLAN

**CCR 257.102(b)**

Conesville Residual Waste Landfill

Conesville Plant  
Conesville, Ohio

October, 2016

Prepared for: AEP Generation Resources – Conesville Plant

Conesville, Ohio

Prepared by: American Electric Power Service Corporation

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Columbus, OH 43215



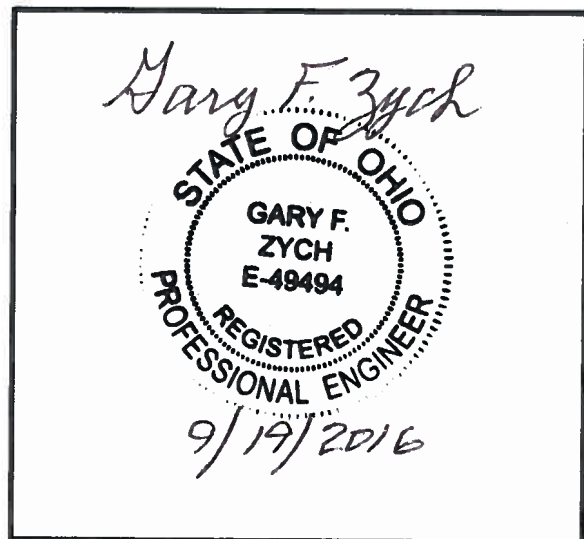
GERS-16-049

CLOSURE PLAN  
CCR 257.102(b)  
CONESVILLE PLANT  
RESIDUAL WASTE LANDFILL

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I certify to the best of my knowledge, information, and belief that the information contained in this closure plan meets the requirements of 40 CFR § 257.102

I certify to the best of my knowledge, information and belief that design of the final cover system as described in this closure plan meets the requirements of 40 CFR § 257.102.

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**Attachment A: Closure Plan from approved landfill permit**

## **1.0 OBJECTIVE**

This report was prepared by AEP- Geotechnical Engineering Services (GES) section to fulfill requirements of CCR 257.102(b) for Closure Plans of Existing CCR Units.

## **2.0 DESCRIPTION OF THE CCR UNIT**

The Conesville Generating Station is located near the Village of Conesville, Coshocton County, Ohio. It is owned and operated by AEP Generation Resources. The facility operates a landfill for the disposal of CCR materials. The Conesville Residual Waste Landfill is located approximately 2.5 miles east of the Conesville Generation Station near the intersection of State Route 83 and County Road 275.

The landfill is permitted by the Ohio Environmental Protection Agency (Ohio EPA) as a residual solid waste landfill, Permit-to-Install Number: 06-08442.

## **3.0 DESCRIPTION OF CLOSURE PLAN 257.102(b)(1)(i)**

*[A narrative description of how the CCR unit will be closed in accordance with this section]*

The Conesville Residual landfill will be closed periodically during the life capacity of the facility. The closure activities are further discussed in the Ohio EPA-approved Closure Plan in Attachment A. This Plan in Attachment A contains all of the pertinent information and requirements of Section 257.102 (b).

## **4.0 CLOSURE IN PLACE 257.102 (b)(1)(iii)**

*[If closure of the CCR unit will be accomplished by leaving the CCR in place, a description of the final cover system, designed in accordance with paragraph(d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.]*

## **4.1 CLOSURE PERFORMANCE STANDARDS 257.102 (d)(1)**

### **4.1.1 SECTION 257.102(d)(1)(i)**

*[Control, minimize or eliminate, the maximum extent possible extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere.]*

The final cover system is designed to minimize infiltration into the landfill.

### **4.1.2 SECTION 257.102(d)(1)(ii)**

*[Preclude the probability of future impoundment of water, sediment, or slurry.]*

The final surface areas will be graded to a minimum slope of 2% to prevent the ponding of surface water runoff. Drainage features will be designed to have positive drainage.

#### **4.1.3 SECTION 257.102(d)(1)(iii)**

***[Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period.]***

The final cover system will be gently graded with a minimum of 2% slope. The final configuration of the facility will meet the stability requirements to prevent the sloughing or movement of the final cover system during the closure and post-closure care period.

#### **4.1.4 SECTION 257.102(d)(1)(iv)**

***[Minimize the need for further maintenance of the CCR unit.]***

The facility will be vegetated to prevent erosion. Maintenance of the final cover system will include mowing.

#### **4.1.5 SECTION 257.102(d)(1)(v)**

***[Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.]***

The CCR unit will be closed in a timeframe consistent with recognized and generally accepted good engineering practices. As the fill reaches the approved final grades, periodic closure activities may occur.

### **4.2 DRAINING AND STABILIZING OF THE SURFACE IMPOUNDMENT**

#### **257.102(d)(2)**

This section is not applicable to a landfill.

#### **4.3 FINAL COVER SYSTEM 257.102 (d)(3)**

***[If a CCR unit is closed by leaving CCR in place, the owner or operator must install a final cover system that is designed to minimize infiltration and erosion , and at a minimum, meets the requirements of paragraph (d)(3)(i) of this section, or the requirements of the alternative final cover system specified in paragraph (d)(3)(ii) of this section.***

***The final cover system must be designed and constructed to meet the criteria in paragraphs (d)(3)(i)(A) through (D) of this section. The design of the final cover system must be included in the written closure plan.]***

The current approved permit and closure plan calls for the the final cover system to consist of a recompacted soil barrier layer and protective soil cover. AEP will be submitting an alternation to Ohio EPA to incorporate a flexible geomembrane liner into the final cover system in compliance with the CFR 257.102(d)(3)

#### **5.0 ESTIMATE OF MAXIMUM CCR VOLUME 257.102 (b)(1)(iv)**

***[An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.]***

The maximum CCR volume permitted for this facility is approximately 20.5 million Cubic Yards.

## **6.0 ESTIMATE OF LARGEST AREA OF CCR REQUIRING COVER 257.102 (b)(1)(v)**

*[An estimate of the largest area of CCR unit ever requiring a final cover*

The largest area of the CCR unit ever requiring a final cover at any time is 44 acres.

## **7.0 CLOSURE SCHEDULE 257.102(b)(1)(vi)**

*[A schedule for completing all activities necessary to satisfy the closure criteria in the section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of the CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of the CCR unit closure.*

At this time, the facility will close upon retirement of the power plant. Once the CCR unit requires closure a schedule to satisfy this section will be prepared and the Plan amended.

ATTACHMENT A

Closure Plan from Existing Landfill Permit

Section 9d  
**Final Closure/Post Closure Care Plan**  
OAC 3745-30-05 (C)(9)(d)

**PERMIT-TO-INSTALL APPLICATION  
CONESVILLE GENERATION STATION  
RESIDUAL WASTE LANDFILL  
COSHOCOTON COUNTY, OHIO**

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Revised: January 2009



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### Appendix A: Financial Assurance Information

## **I. INTRODUCTION**

This Final Closure/Post Closure Care Plan was prepared to incorporate revisions associated with the proposed Lateral Expansion to the Conesville Residual Waste Landfill. The final closure/post-closure plan has been prepared in accordance with OAC 3745-30-09 and OAC 3745-30-10.

## **II. FINAL CLOSURE**

### **A. APPLICABILITY**

#### **1. Facility Location**

The Conesville Residual Waste Landfill is located approximately 2.5 miles east of the Conesville Generating Station in Section 12 of Franklin Township, Coshocton County, Ohio. More specifically, the landfill is located approximately 1000 feet southeast of the intersection of State Route 83 and County Road 275.

#### **2. Variances/Exemptions**

No variances or exemptions from OAC 3745-30-9 or OAC 3745-30-10 have been requested in this PTI Application.

#### **3. Facility Contacts**

Any questions regarding the landfill during the final closure and post-closure care period should be directed to:

American Electric Power  
Land Environment & Remediation Services Manager  
1 Riverside Plaza  
Columbus, Ohio 43215  
Ph. (614) 716-1266

or

Conesville Generating Station  
Landfill Supervisor  
47201 County Road 273  
Conesville, Ohio 43811  
Ph. (740) 829-4083

#### **4. Plan and Detail Drawings**

The OEPA Series 4 drawings included with this PTI Application depict the final closed configuration of the landfill and include:

- horizontal limits and top elevations of waste and the cap system
- surface water control structures; and,
- sediment ponds.

Details of the cap system and sediment pond are presented in the OEPA Series 7 drawings included as part of this PTI Application.

The static and seismic stability analyses for Phase G of the closed landfill is presented in the Stability Analysis Report included as Section 5 of this PTI Application.

The Groundwater Detection Monitoring Plan for the landfill is included as Section 9a of this PTI Application.

AEP annually reviews, adjusts, and submits final closure and post-closure care cost estimates for the Conesville Residual Waste landfill in accordance with OAC 3745-27-15 and 16. The financial test mechanism is used annually to demonstrate financial assurance for final closure and post-closure care. A copy of the most recently submitted financial assurance document for the Conesville Residual Waste Landfill is included in Appendix A of this document.

The proposed Lateral Expansion required adjustments to prior submitted final closure and post-closure cost estimates. The largest adjustment results from increasing the thickness of the soil cover. The closure costs are based on closing the facility at a point in time when the largest area of waste would be exposed. Currently, the largest exposed acreage is estimated to be 44 acres and would occur at the start of Phase F operations. During the operation of the lateral expansion area (Phase G) the largest exposed area of waste will be maintained below the 44 acres. The entire footprint of Phase G is less than 40 acres; thus, 44 acres will continue to be used for the purposes of estimating final closure and post-closure care costs.

Revised final closure cost estimates for are presented in Section 6h of this PTI Application. Revised post-closure care cost estimates are presented in Section 6i of this PTI Application. The estimates will be adjusted in accordance with OAC 3745-17-15 and 16 upon issuance of the Permit to Install.

#### **5. Clay Resources**

Clay and cover soil resources for the landfill are obtained from off-site borrow areas within a ten mile radius of the facility. It is anticipated that adequate resources will

continue to be available to satisfy the needs of the landfill through final closure and the post-closure care period. It is estimated that 142,000 cubic yards of clay and 177,500 cubic yards of cover soil would be required to construct a final cap system over the maximum permissible open area of 44 acres.

**6. Quality Assurance/Quality Control Plan**

The Quality Assurance/Quality Control Plan for the landfill, which addresses installation of the landfill cap system, is included as Section 9c of this PTI Application.

**7. Explosive Gas Monitoring**

Monitoring for explosive gasses is not required at the facility; see the Explosive Gas Monitoring Plan included as Section 9b of this PTI Application

**8. Explosive Gas Control Systems**

Explosive gas control systems are not proposed for the landfill; see the Explosive Gas Monitoring Plan included as Section 9b of this PTI Application.

**9. Erosion Control**

The final waste grades reflect the phased construction of erosion control benches and drainage conveyance systems. The final cap system will be constructed in a progressive manner as the landfill achieves final waste grades. Soil material that may erode during landfill closure will be intercepted and conveyed to one of two sediment pond complexes located on the east and west sides of the landfill. Eroded areas will be repaired as necessary.

**B. PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT**

The landfill will be closed in the manner depicted in the drawings included with this PTI Application and in accordance with the procedures described in the QA/QC Plan included as Section 9c of this PTI Application. The intent of the final grading plan and control structure design is to minimize the need for post-closure maintenance and to minimize the formation and release of leachate. Post-closure soil erosion calculations are included in Section 6j of this PTI Application, and estimates of post-closure leachate generation are included in Section 6c of this PTI Application.

**C. MANDATORY CLOSURE**

Final closure will be initiated when one of the following conditions has occurred:

- 1) AEP declares that no more residual waste will be accepted at the facility;
- 2) The facility's solid waste license has expired and another license has not been applied for;
- 3) All approved limits of waste placement have been reached;
- 4) The facility's solid waste license has expired and another license has been applied for and denied as a final action;
- 5) The facility's solid waste license has been revoked as a final action; or
- 6) The facility's solid waste license has been suspended as a final action.

#### **D. NOTIFICATION OF CLOSURE**

AEP shall provide written notice by certified mail to OEPA, the Coshocton County Health Department, and the Coshocton-Fairfield-Licking-Perry Solid Waste District at least 90 days in advance of commencing final closure if initiated by condition nos. 1, 2 or 3 described in Part II.C of this document. Any changes to the information that identifies the facility's contact person will be provided to OEPA in writing by certified mail at least 30 days prior to commencing final closure.

#### **E. ACTUAL DATE OF CLOSURE**

Within seven days of the date that the facility actually ceases to accept waste, written notice by certified mail will be provided to OEPA and the Coshocton County Health Department informing both agencies of the actual date.

#### **F. FINAL CLOSURE ACTIVITIES**

Final closure activities will begin within seven days of the date that the facility has ceased to accept waste. Final closure activities include:

- 1) Constructing the final cap system;
- 2) Establishing a vegetative cover;
- 3) Constructing and maintaining drainage and erosion/sediment controls;
- 4) Operating and maintaining treatment and monitoring systems;
- 5) Securing the facility;
- 6) Closure certification; and,
- 7) Making a deed notation as described in OAC 3745-30-09-(F)(6).

The items described above will be constructed in accordance with the Permit to Install, specifically the drawings, QA/QC Plan, Construction Information, and Operations Information sections of this PTI Application.

The landfill facility's security will be maintained (i.e., locked gates to prevent unauthorized access) during the closure and post-closure period unless the facility is to be used for other purposes as deemed acceptable by OEPA. Access shall be maintained to all active monitoring sites (i.e., monitoring wells, leachate lines, regulated outfalls) throughout the closure and post-closure care period.

#### **G. FINAL CLOSURE SCHEDULE**

All final closure activities will be completed within one year of the date that the facility ceased accepting waste unless an alternative schedule has been approved by OEPA.

#### **H. FINAL CLOSURE CERTIFICATION**

Within 90 days of completing final closure activities, the final closure certification report will be submitted to OEPA and the Coshocton County Health Department and will include:

- 1) Documentation on the construction of the final cap system;
- 2) A topographic map of the closed facility showing the information specified in OAC 3745-30-09(H)(1);
- 3) Documentation on the groundwater monitoring system;
- 4) A copy of the plat and deed notation filed with the County Recorder describing the acreage, exact location, depth, volume and nature of the wastes placed at the landfill facility; and
- 5) Documentation that the facility is protected from unauthorized access.

#### **I. FACILITY INSPECTION**

Access to the facility during final closure will be made to the OEPA and the Coshocton County Health Department during normal operating hours.