

CLOSURE PLAN

CFR 257.102(b)

Bottom Ash Complex

Gavin Plant
Cheshire, Ohio

October, 2016

Prepared for: AEP Generation Resources – Gavin Plant

Cheshire, Ohio

Prepared by: American Electric Power Service Corporation

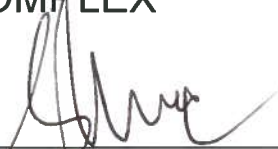
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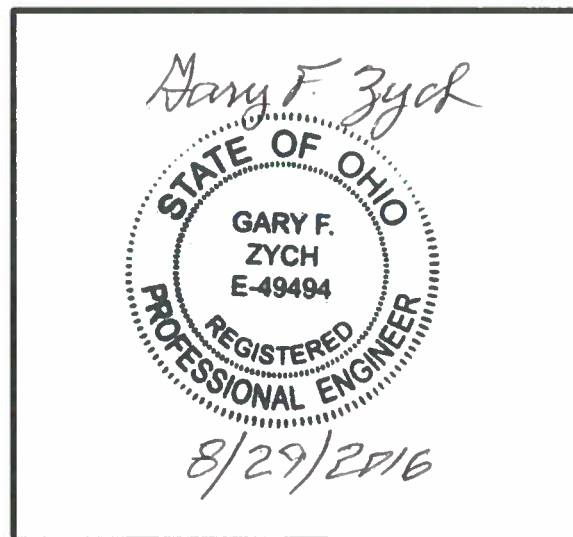
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CFR 257.102(b)
GAVIN PLANT
BOTTOM ASH COMPLEX

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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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1.0 OBJECTIVE

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

2.0 DESCRIPTION OF THE CCR UNIT

The bottom ash pond complex is located adjacent to the Ohio River and Ohio SR 7, immediately downstream from the plant. Access to the bottom ash complex is via plant roads. It is owned and operated by AEP Generation Resources (GENCO). The facility manages two surface impoundments for storing CCR; the Bottom Ash Pond and Stingy Run Flyash Pond.

The Gavin plant is currently operated by AEP Generation Resources Inc. In September 2016, AEP announced the sale of the Gavin assets including the Bottom Ash Pond. Pursuant to the sales agreement, the Gavin plant will be transferred to LightStone Generation (a joint venture between Blackstone and ArcLight Capital Partners, LLC) in 2017 after necessary regularity approvals. During this interim period, AEP is doing project management and engineering support work and also providing transitioning support to LightStone Generation.

The bottom ash pond complex consists of the bottom ash pond and the reclaim pond which are up ground reservoirs consisting of continuous earthen dikes on four sides. The height of the dikes varies from 22 to 36 feet with the lowest crest elevation at 586 feet. The bottom ash pond and reclaim pond pool levels are operated at approximately Elevations 578 feet and 576 feet, respectively.

Bottom ash slurry is pumped into the bottom ash pond and the water is decanted through a drop inlet structure into a reclaim pond within the diked area and is pumped to the plant for reuse or discharge to the Ohio River via an overflow structure.

List of Main Ponds within the Bottom Ash Complex

Bottom Ash Pond

Reclaim Pond

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 Bottom Ash Complex will be capped and closed in place. The closure will consist of re-grading the existing onsite materials and the installation of an impermeable cap with a vegetative cover. The existing surface will be graded to achieve a positive drainage to promote surface water runoff. The regraded surface will be covered with a flexible geomembrane liner and 2-feet of soil fill consisting of an 18” soil infiltration layer and 6” of earthen material that is capable of sustaining native plant growth. The surface soil will be seeded and mulched to promote the growth of a vegetative cover.

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.]

The final cover system will consist of a liner system (flexible geomembrane, soil cover, and vegetative layer) that will have a permeability less than or equal to the permeability of the natural subsoils and is no greater than 1×10^{-5} cm/sec. The geomembrane will be installed directly over the graded CCR material. Over the geomembrane will be installed an infiltration layer consisting of 18” of earthen material and an erosion layer consisting of 6” of earthen material that is capable of sustaining native plant growth. The final cover will be seeded and mulched to promote growth of a vegetative cover. The final cover slope will be a minimum of 2% and will convey water to a NPDES permitted outfall.

Prior to installation of the final cover system the impoundment will be drained of the free water and soil material will be regraded to provide a stable subgrade.

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 will cover the CCR material and will have a permeability that is less than or equal to the permeability of the natural subsoils and is no greater than 1×10^{-5} cm/sec.

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

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

The impoundment will consist of a gentle grade to a minimum slope of 2% to prevent the ponding of water sediment or slurry.

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 impoundment 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 impoundment 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. There is currently no schedule for closure of this CCR unit.

4.2 DRAINING AND STABILIZING OF THE SURFACE IMPOUNDMENT

257.102(d)(2)

[The owner or operator of a CCR surface impoundment must meet the requirements of paragraph (d)(2)(i) and (ii) of this section prior to installing the final cover system required under paragraph (d)(3) of this section.]

4.2.1 SECTION 257.102(d)(2)(i)

[Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residue.]

As part of closure of the CCR unit, all free water will be removed.

4.2.2 SECTION 257.102(d)(2)(ii)

[Remaining waste must be stabilized sufficient to support the final cover system.]

The remaining waste that make up the subgrade of the final cover system will be stabilized by removal of free liquids and providing bridging as necessary.

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 final cover system will consist of a flexible geomembrane that will have a permeability that is less than or equal to the permeability of the natural subsoils and is no greater than 1×10^{-5} cm/sec. The geomembrane will be installed directly over the graded CCR material. Over the geomembrane will be installed an infiltration layer consisting of 18" of earthen material and an erosion layer consisting of 6" of earthen material that is capable of sustaining native plant growth. The final cover will be seeded and mulched to promote growth of a vegetative cover. The final cover slope will be a minimum of 2% and will convey water to a NPDES permitted outfall. The final cover slope will be a minimum of 2% to accommodate settling and subsidence.

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 the maximum CCR inventory in the Ash Pond Complex would be approximately 1,122 acre-ft at the top of the dikes. Current CCR material in place is approximately 561 acre-ft.

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 requiring a final cover is 84 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 there are currently no plans to close this CCR unit. Once the CCR unit requires closure a schedule to satisfy this section will be prepared.