Closure Completion Notification for Closure by Removal

September 26, 2024
Closure Completion Notification
John E. Amos Plant
Bottom Ash Pond Complex

On September 4, 2024, the John E. Amos Plant Bottom Ash Pond Complex was transitioned to closure status in accordance with 40 CFR 257.102. This notice of completion of closure is being placed in the operating record in accordance with 40 CFR 257.102(h).

Effective with the Closure Completion Notification, the former ash storage site is no longer a CCR unit. The following operating record documents are no longer required going forward:

- Hazard Potential Classification
- Emergency Action Plan
- Face to Face Meeting Documentation for EAP
- History of Construction and Revisions for Surface Impoundments
- Structural Stability Assessments
- Safety Factor Assessments
- Fugitive Dust Plan
- Inflow Design Flood System Control Plan

CLOSURE CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

I certify that the John E. Amos Bottom Ash Pond Complex has been closed in accordance with the most recent written closure plan specified by paragraph §257.102(b) and the requirements of section §257.102.

David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

22663	West Virginia	09.26.2024
License Number	Licensing State	Date

gai consultants

Charleston Office
500 Lee Street, East, Suite 700
Charleston, West Virginia 25301

T 304.926.8100
F 304.926.8180

August 5, 2024

Project No. R210487.00

Mr. Brian G Palmer, PE
Principal Engineer
AEP
1 Riverside Plaza
Columbus, Ohio 43215

AEP – John E. Amos
Bottom Ash Complex
Pond Closure - Completion
Putnam County, West Virginia

Dear Mr. Palmer:

GAI Consultants, Inc. (GAI) appreciates the opportunity to provide American Electric Power Service Corporation (AEP) with the Quality Assurance / Quality Control and certification services for the closure of the Bottom Ash Complex at the John E. Amos Plant located in Putnam County, West Virginia.

This letter documents that removal of the coal combustion residual material from the bottom ash complex was completed in substantial compliance with the Construction Documents completed by Worley, the Closure Plan and 40 CFR 257.102(c).

The areas of the bottom ash complex were certified as they were completed. The following presents the areas and certification date:

- Pond 1B – April 21, 2023
- Clearwater and Reclaim Ponds – July 24, 2023
- Pond 1A – August 5, 2024

If you have any questions or require additional information, please contact me at 681.245.8866 (c.straley@gaiconsultants.com).

Respectfully submitted.,

GAI Consultants, Inc.

Charles F. Straley, PE

Digitally signed by Charles F. Straley, PE
DN: C=US, E=c.straley@gaiconsultants.com, O="GAI Consultants, Inc.", CN="Charles F. Straley, PE"
Date: 2024.08.05 15:16:48-04'00'

Charles F. Straley, PE, PLS
Quality Assurance Officer / Certifying Engineer
Engineering Director / Senior Associate

CFS

5.0 PE Certification

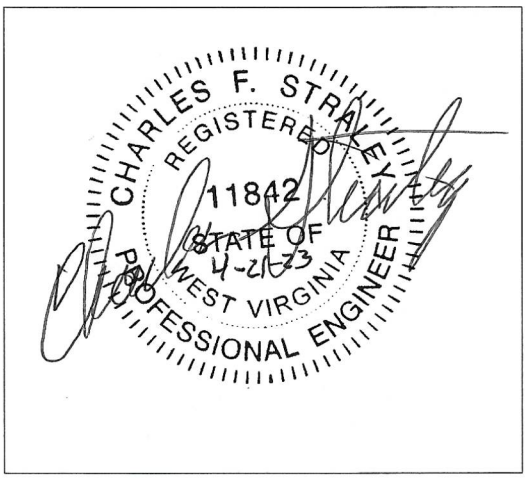
Based on the observations performed by GAI Consultants, Inc. personnel, I hereby certify that the removal of CCR material to be visually removed and one-foot additional undercut within Pond 1B and along the southern edge of Pond 1A of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project at the John E. Amos Plant near Winfield, West Virginia (WV), as shown on the Worley Construction Drawings has been completed in substantial compliance with the Construction Documents, the Closure Plan and 40 CFR 257.102(c).

This document clarifies "certification" for the excavation of CCR material to be visually removed and an additional one-foot of undercut within Pond 1B and along the southern edge of Pond 1A of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project. This certification is strictly limited to CQA observations of CCR removal and does not include the groundwater monitoring and compliance aspect of the CCR Unit closure by removal criteria, as required by 40 CFR 257.102(c).

The definition of certify as used herein is: Certify means to state or declare a professional opinion of conditions whose true properties cannot be known at the time such certification was made, despite appropriate professional evaluation. A design professional's certification in no way relieves any other party from meeting requirements imposed by contract or other means, including commonly accepted industry practices.

Bearing the above in mind and based on the results of monitoring of construction efforts during the project and review of the survey points; GAI's professional opinion is that the CCR material within Pond 1B and along the southern edge of Pond 1A and additional one-foot undercut of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project meets the requirements as set forth by the project documents and the CCR Rule.

Charles F. Straley, PE
West Virginia Number 11842



5.0 PE Certification

Based on the observations performed by GAI Consultants, Inc. personnel, I hereby certify that the removal of CCR material to be visually removed and one-foot additional undercut within Clearwater & Reclaim Ponds of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project at the John E. Amos Plant near Winfield, West Virginia (WV), as shown on the Worley Construction Drawings has been completed in substantial compliance with the Construction Documents, the Closure Plan and 40 CFR 257.102(c).

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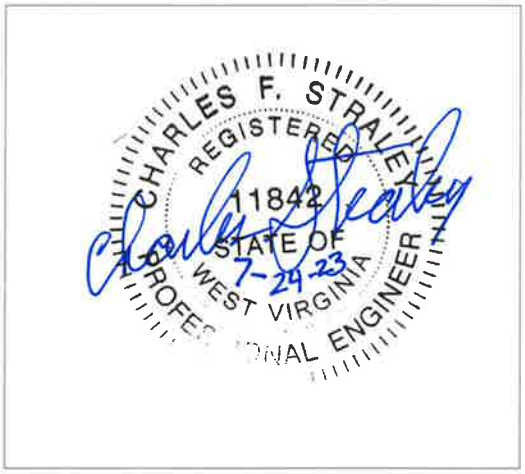

5.0 PE Certification

Based on the observations performed by GAI Consultants, Inc. personnel, I hereby certify that the removal of CCR material to be visually removed and one-foot additional undercut within Pond 1A of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project at the John E. Amos Plant near Winfield, West Virginia (WV), as shown on the Worley Construction Drawings has been completed in substantial compliance with the Construction Documents, the Closure Plan and 40 CFR 257.102(c).

This document clarifies "certification" for the excavation of CCR material to be visually removed and an additional one-foot of undercut within Pond 1A of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project. This certification is strictly limited to CQA observations of CCR removal and does not include the groundwater monitoring and compliance aspect of the CCR Unit closure by removal criteria, as required by 40 CFR 257.102(c).

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Bearing the above in mind and based on the results of monitoring of construction efforts during the project and review of the survey points; GAI's professional opinion is that the CCR material within Pond 1A and additional one-foot undercut of the CCR/ELG Project Bottom Ash Pond Closure and Repurposing Project meets the requirements as set forth by the project documents and the CCR Rule.

Charles F. Straley, PE
West Virginia Number 11842

STRUCTURAL STABILITY ASSESSMENT
PERIODIC 5-YR REVIEW

CFR 257.73(d)

Bottom Ash Complex

John E. Amos Plant

October, 2021

Prepared for : Appalachian Power Company – John E. Amos Plant

1530 Winfield Rd,

Winfield, West Virginia 25213

Prepared by: American Electric Power Service Corporation

1 Riverside Plaza

Columbus, OH 43215

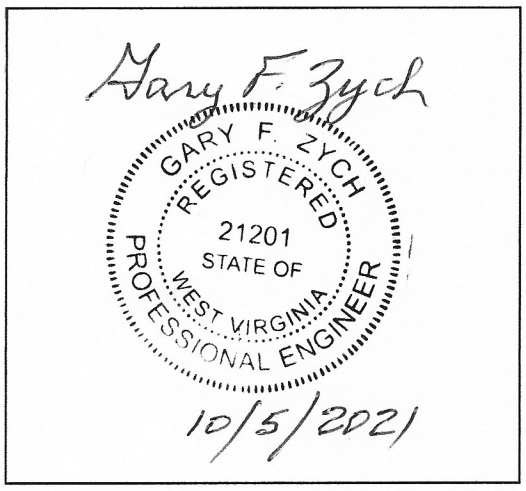
Document ID: GERS-21-55

Structural Stability Assessment
Periodic 5-Yr Review
CFR 257.73(d)
JOHN E. AMOS PLANT
BOTTOM ASH COMPLEX

PREPARED BY _____ DATE 10/04/2021
Brian G. Palmer, P.E.

REVIEWED BY _____ DATE 10-05-2021
Shahriyar S. Baig, P.E.

APPROVED BY _____ DATE 10/5/2021
Gary F. Zych, P.E.
Section Manager – AEP Geotechnical Engineering



I certify to the best of my knowledge, information and belief that the information contained in this structural stability assessment meets the requirements of 40 CFR 257.73(d)

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1.0 OBJECTIVE 257.73(d)

This report was prepared by AEP- Geotechnical Engineering Services (GES) section to fulfill requirements of CFR 257.73(d) and document whether the design, construction, operations, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices. This is the first periodic 5-year review of the initial assessment as per the Rule.

Note: There has not been any change to the diking structure or discharge structure through the dike system since the initial assessment.

2.0 NAME AND DESCRIPTION OF CCR SURFACE IMPOUNDMENT

The John E. Amos Power Plant is located near Winfield, Putnam County, West Virginia.
It is owned and operated by Appalachian Power Company (APCO). The facility operates one surface impoundment for storing CCR called the Bottom Ash Complex.

The Bottom Ash Complex is comprised of diked embankments on the north, east, and west sides. The south side of the Bottom Ash Complex is incised. There are four main ponds within the Bottom Ash Complex as listed below.

List of Main Ponds within the Bottom Ash Complex
Bottom Ash Pond 1A
Bottom Ash Pond 1B
Reclaim Pond
Treatment/Clearwater Pond

The north dike is approximately 800 feet long and is the highest dike at about 29 feet with a design crest width of 10 feet. The dike is comprised of concrete blocks back-filled with compacted soil that transitions to an earthen embankment. The top of the dike is at elevation 588.0 feet with the natural ground surface beneath the dikes is at about elevation 559 feet.

The north dike is located across a small tributary to Bill's Creek. This portion of Bill's Creek is controlled by the backwaters of the Kanawha River. The side slopes of embankment fill are designed to be 3:H to 1:V that transition to design side slopes 2:H to 1:V.

3.0 STABLE FOUNDATION AND ABUTMENTS 257.73(d)(1)(i)

[Was the facility designed for and constructed on stable foundations and abutments? Describe any foundation improvements required as part of construction.]

Based on the design drawings, a portion of the foundation was constructed on random rock fill within the former channel of Bill's Creek to form a working base for placement of a compacted shale/soil fill. A crushed limestone filter blanket was placed over the upstream face of the rock fill and capped with a clay soil. At a later date, an asphalt stabilization blanket was constructed along the upstream face.

The dike was raised in 2010 using a concrete block wall that transitions to an earthen embankment which in turn transitions to existing ground along the southern portion of the pond complex.

Based on historical subsurface investigations, the relative density and description of the foundation materials are adequate for this CCR unit.

4.0 SLOPE PROTECTION 257.73(d)(1)(ii)

[Describe the slope protection measures on the upstream and downstream slopes.]

The downstream slope of the north dike that parallels Bill's Creek is protected with a layer of riprap and transitions to a grass covered slope to the crest of the dike or to the base of the concrete block wall. The remaining downstream and upstream dike slopes are protected with a vegetative cover.

The current condition of the riprap layer is adequate. The remaining sections of the slopes above the riprap is vegetated and maintained. Any erosion that may occur is repaired within a timely period.

5.0 EMBANKMENT CONSTRUCTION 257.73 (d)(1)(iii)

[Describe the specifications for compaction and/or recent boring to give a relative comparison of density.]

Construction specifications for the 2010 dike raising required a QA/QC construction certification plan to ensure that the cohesive soils were placed and compacted in accordance with the design specifications.

Recent borings through the embankment indicate that the material is stiff and representative of compacted earthen materials.

6.0 VEGETATION CONTROL 257.73 (d)(1)(iv)

[Describe the maintenance plan for vegetative cover.]

The vegetative areas are mowed to facilitate inspections and maintain the growth of the vegetative layer; and prevent the growth of woody vegetation.

7.0 SPILLWAY SYSTEM 257.73(d)(1)(v)

[Describe the spillway system and its capacity to pass the Inflow Design Flood as per its Hazard Classification.]

The spillway system consists of a primary weir box and pipe for normal operations and two 36 inch diameter spillway pipes located along the north dike to pass flood events. The CCR unit has a Significant Hazard rating and is designed to safely pass ½ the probable maximum precipitation (PMP) in accordance with the WV DEP dam safety regulations. The ½ PMP is greater than the 1,000 year precipitation event required under 40 CFR 257.73(d)(1)(v).

8.0 BURIED HYDRAULIC STRUCTURES 257.73 (d)(1)(vi)

[Describe the condition of the sections of any hydraulic structure that in buried beneath and/or in the embankment.]

The two 36 inch diameter spillway pipes are constructed through the concrete block wall and extend downslope such that the discharge is directed to the protective rip rap layer. The pipes are encased within a concrete fill as part of the wall construction.

These pipes are corrugated plastic pipes and no deteriotation or shape changes have been observed since the initial assessment.

9.0 SUDDEN DRAWDOWN 257.73 (d)(1)(vii)

[If the downstream slope is susceptible to inundation, discuss the stability due to a sudden drawdown.]

The north downstream slope may be partially inundated by the Kanawha River during extreme flood events. The condition for a sudden drawdown depends on the rate and duration of any given event.

A sudden drawdown scenario was not modeled for the embankment since flooding from the Kanawha River would not create the conditions necessary to be considered as a rapid drawdown event.