2023 Annual Dam and Dike Inspection Report

Bottom Ash Pond Complex

John E. Amos Plant Appalachian Power Co. **Putnam County, West Virginia**

October 2023

Prepared for: Appalachian Power Co. 1530 Winfield Rd Winfield, West Virginia 25213

Prepared by: American Electric Power Service Corporation 1 Riverside Plaza Columbus, OH 43215



GERS-23-040

2023 Annual Dam and Dike Inspection Report

John E. Amos Plant

Bottom Ash Pond Complex

Document Number: GERS-23-040

Inspection Date: September 27, 2023

PREPARED BY

Br & Palmer

DATE Octo

October 27, 2023

Brian G. Palmer, P.E.(OH)

Principal Civil Engineer

REVIEWED BY

Shah Baig, PE

Principal Civil Engineer

DATE 11-01-2023

DATE 11/08/2023

APPROVED BY _

Bryan W. Brunton, P.E.

Manager – Geotechnical Engineering Section

26073
STATE OF
VIRG

I certify to the best of my knowledge, information, and belief the information contained in this report meets the requirements of 40 CFR § 257.83(b).

ENGINEER'S INSPECTION VERIFICATION STATEMENT

For Compliance with Dam Safety Rules §47-34-15.4.c

I hereby verify that I supervised the visual inspection of the <u>Amos Bottom Ash Complex</u> (ID# 07918) and its appurtenances on <u>September 27, 2023</u>. The attached signed and sealed inspection report documents:

- 1) the current conditions as observed;
- 2) any maintenance items necessary to prolong safe functioning of the dam;
- 3) any conditions observed during the inspection which indicate that the dam has a serious problem⁽¹⁾;
- 4) any conditions that will not allow proper functioning of the dam during normal or maximum reservoir water level conditions.

Signature

Bryan W. Brunton, P.E.

Manager

Geotechnical Engineering Services

American Electric Power Service Corporation

11/08/2023

Date

26073
STATE OF
VIRGINIAN
V

SEAL

(1) As defined in Section 2.47 of the Dam Safety Rules

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1.0 INTRODUCTION

This report was prepared by AEP- Geotechnical Engineering Services (GES) section, in part, to fulfill the US EPA requirements of 40 CFR 257.83 and the West Virginia Dept. of Environmental Protection, Division of Water Dam Inspection Section and to provide Appalachian Power Co. and John E. Amos (JEA) plant personnel with an evaluation of the facility.

The 2023 dam and dike inspection at the JEA bottom ash complex was conducted by Mr. Brian Palmer on September 27, 2023 with Mr. Derrick Brumfield and Mr. Jack Smith who served as the facility contact. Weather conditions were cloudy, with temperatures ranged from upper 50° F to upper 60° F during the inspection. There was no precipitation during the seven day period prior to the inspection.

2.0 DESCRIPTIONS OF COAL COMBUSTION RESIDUALS (CCR) IMPOUNDMENTS

The bottom ash pond complex is located in Putnam County, West Virginia immediately northwest of the John E. Amos (JEA) Power Plant between State Route 817 and the Kanawha River (Figure 1). The JEA pond complex was used for sedimentation and storage of bottom ash produced as a waste product in burning pulverized coal at the JEA Power Plant. The bottom ash ponds are comprised of Ponds 1A and 1B within the pond complex (Figure 2).

The Bottom Ash Pond, Reclaim Water Pond and Treatment Pond were generally formed by the construction of a dike at the confluence of Bill's Creek with the Kanawha River. The primary dike is on the north side of the Reclaim Water pond and the Treatment Pond. Additional dikes were constructed at the northwest corner of Bottom Ash Pond 1B to redirect Bills's Creek.

The north dike of the Reclaim Water Pond and Treatment (Clearwater) Pond is approximately 800 feet long. The height of the dam is about 29 feet and the design crest width is 10 feet using concrete block face filled with compacted cohesive soil. 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. Field measurements indicate that dam side slopes are 2.5:H to 1:V (Figure 3).

Both the bottom ash ponds discharge sluice water through 36 inch diameter pipes to the Reclaim Water Pond. A portion of the flow into the Reclaim Water Pond is pumped backed to the JEA Power Plant for reuse. The remaining portion flows through a 36 inch diameter pipe to the Treatment (Clearwater) Pond. From the Treatment(Clearwater) Pond the water flows through a 24 in x 38 inch elliptical reinforced concrete pipe that transitions to a 36 inch diameter steel pipe. There is a flange connection from the steel pipe to the 36 inch diameter HDPE pipe that conveys the effluent to six diffuser ports submerged along the bottom of the Kanawha River.

Overflow spillway pipes, 36 inch diameter, are located along the Reclaim Pond and Pond 1B that discharge to Bill's Creek.

During 2022 the CCR material in BAP 1B was removed and the pond repurposed as a Wastewater Pond. In October 2022 all sluicing of CCR material to the pond complex had stopped. During 2023 CCR material was

removed from the Reclaim Pond and Clearwater Pond and the ponds lined for use as the part of the wastewater treatment process. The unlined historical Bottom Ash Pond cease receipt of non-CCR wastewaters in September 2023. CCR removal and final repurposing will continue in BAP 1A until 2024.

3.0 REVIEW OF AVAILABLE INFORMATION (257.83(b)(1)(i))

A review has been conducted of available information regarding the status and condition of the JEA Bottom Ash Pond Complex that includes files available in the operating record such as previous 7-day inspection reports, piezometric measurements and previous annual inspections.

4.0 INSPECTION (257.83(b)(1)(ii))

4.1 Definitions of Visual Observations and Deficiencies

This summary of the visual observations uses terms to describe the general appearance or condition of an observed item, activity, or structure. The meaning of these terms is as follows:

Good: A condition or activity that is generally better or slightly better than what is minimally

expected or anticipated from a design or maintenance point of view.

Fair or A condition or activity that generally meets what is minimally Satisfactory:

expected or anticipated from a design or maintenance point of view.

Poor: A condition or activity that is generally below what is minimally expected or

anticipated from a design or maintenance point of view.

Minor: A reference to an observed item (e.g., erosion, seepage, vegetation, etc.) where the

current maintenance condition is below what is normal or desired, but which is not

currently causing concern from a structure safety or stability point of view.

Significant: A reference to an observed item (e.g. erosion, seepage, vegetation, etc.) where the

current maintenance program has neglected to improve the condition. Usually, conditions that have been previously identified in the previous inspections, but have

not been corrected.

Excessive: A reference to an observed item (e.g., erosion, seepage, vegetation, etc.) where the

current maintenance condition is above or worse than what is normal or desired, and which may have affected the ability of the observer to properly evaluate the structure or particular area being observed or which may be a concern from a structure safety or

stability point of view.

This document also uses the definition of a "deficiency" as referenced in the CCR rule section §257.83(b)(5) Inspection Requirements for CCR Surface Impoundments. This definition has been assembled using the CCR rule Preamble as well as guidance from MSHA, "Qualifications for Impoundment Inspection" CI-31, 2004. These guidance documents further elaborate on the definition of deficiency. Items not defined by deficiency are considered maintenance or items to be monitored.

A "deficiency" is some evidence that a dam has developed a problem that could impact the structural integrity of the dam. There are four general categories of deficiencies. These four categories are described below:

1. Uncontrolled Seepage

a. Uncontrolled seepage is seepage that is not behaving as the design engineer has intended. An example of uncontrolled seepage is seepage that comes through or around the embankment and is not picked up and safely carried off by a drain. Seepage that is collected by a drain can still be uncontrolled if it is not safely collected and transported, such as seepage that is not clear. Seepage that is unable to be measured and/or observe it is considered uncontrolled seepage. [Wet or soft areas are not considered as uncontrolled seepage, but can lead to this type of deficiency. These areas should monitored my frequently.]

2. Displacement of the Embankment

a. Displacement of the embankment is large scale movement of part of the dam. Common signs of displacement are cracks, scraps, bulges, depressions, sinkholes and slides.

3. Blockage of Control Features

a. Blockage of Control Features is the restriction of flow at spillways, decant or pipe spillways, or drains.

4. Erosion

a. Erosion is the gradual movement of surface material by water, wind or ice. Erosion is considered a deficiency when it is more than a minor routine maintenance item.

4.2 Changes in Geometry Since Last Inspection (257.83(b)(2)(i))

Since the 2022 inspection changes have occurred to geometry of the pond complex in the Reclaim and Clearwater Ponds. As part of the closure and repurposing, the Reclaim and Clearwater Ponds had all CCR material removed, the splitter dike between the Reclaim and Clearwater Ponds that was constructed of bottom ash was removed and reconstructed with soils, the common interior slope of the Main Dam was backfilled to flatten the slope and fill in the bench for liner installation, the splitter dike that separates the Reclaim Pond from BAP 1A was raised to Elev 588 as the new waste water complex will not include the BAP 1A area, the slope around the Reclaim and Clearwater Pond has been lined with a dual liner system. The geometry of the remaining areas of the pond complex are generally unchanged.

4.3 Instrumentation (257.83(b)(2)(ii))

The location and type of instrumentation is shown on Figure 2 and select piezometers are depicted in cross section along the perimeter dike embankment in Figure 3. The maximum recorded readings of each instrument since the previous annual inspection is shown in the table below.

Table 1 INSTRUMENTATION DATA Bottom Ash Pond Complex									
Instrument	Туре	Maximum Reading since last annual inspection	Date of reading						
PZ-1	Piezometer	568.04	February 10, 2023						
PZ-3	Piezometer	566.23	December 22, 2022 & February 10, 2023						
PZ-6	Piezometer	566.61	July 10, 2023						
PZ-7	Piezometer	567.89	January 16, 2023						

4.4 Impoundment Characteristics (257.83(b)(2)(iii, iv, v))

Below is a summary of the minimum, maximum, and present depth and elevation of the impounded water & CCR since the previous annual inspection; the storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water and CCR at the time of the inspection.

IMPOUNDMENT CHARACTERISTICS								
Bottom Ash Pond Complex								
	Bottom Ash Pond 1A	Bottom Ash Pond 1B						
Water Surface Elevation at time of the inspection	~581 ft.	NA.						
Approximate Minimum,								
Maximum, and Present	0 ft./559 ft. elev.	NA						
depth/elevation of	22 ft./581-ft. elev.	NA						
impounded water since last	No pool, pockets of water	NA						
annual inspection								
Approximate Minimum Maximum and Present depth/elevation of CCR since last annual inspection	~0 ft./559 ft. elev. ~26 ft./585 ft. elev. Both min and max	None None None						
Storage Capacity of impounding structure at the time of the inspection	~195 AC-Ft	NA						
Approximate volume of impounded water at the time of the inspection	~0 AC-Ft.	NA						
Approximate volume of CCR at the time of the inspection	~20 AC-Ft	None						

Notes:

- 1. Assumes base of impoundment to be at an elevation of 559 ft. based on design drawings.
- 2. All CCR material has been removed from 1B and the area repurposed as a Wastewater Pond
- 3. CCR material was in the process of being removed from BAP 1A at the time of inspection as such the Minimum and maximum height existed at the same time with the stockpiling of CCR material for removal and areas that have had material removed.

4.5 Visual Inspection (257.83(b)(2)(i))

A visual inspection of the Bottom Ash Pond Complex was conducted to identify any signs of distress or malfunction of the impoundment and appurtenant structures. The inspection also included hydraulic structures. Specific items inspected included all structural elements of the dam such as inboard and outboard slopes, crest, and toe; as well as appurtenances such as the outlet structure at the Wastewater Pond, Reclaim Pond and the primary decant structure located within the Treatment (Clearwater) Pond. Photographs of the inspection are in Attachment A with photograph locations shown in Figure 4.

The following summarizes the visual inspection of each element:

- The stone wall along the crest of the Main Dam along the Clearwater and Reclaim Ponds appeared in good condition except for the displaced block at the tie-in to the raised berm due to the contractor temporary piping.
- The reconstructed interior splitter dike between the Reclaim and Clearwater pond appeared in good condition.
- The inboard slope of the Main Dam along the Wastewater Pond exhibited a good vegetative cover. There were no visual signs of misalignment, settlement, sloughing, erosion, or bulging that would indicate any instability within the dike. The Wastewater Pond decant structures were observed to be in an excellent condition.
- The geosynthetic lined interior slope of the Northwest Dike that was reconstructed in 2022 appeared in good condition. The exterior slope construction was completed since the last inspection and appeared in good condition.
- The downstream slope of the Main Dam was observed to be in good condition. No significant settlement, misalignment, erosion, or seepage were observed.
- The riprap revetment on the downstream toe of the Main Dam appeared in good condition. Woody vegetation continues to exist along the toe area and Bills Creek but is being maintained as possible.
- The 36-inch diameter HDPE overflow pipe at the Wastewater Pond was observed to be in good condition. The inlet and outlet to the overflow pipe were observed to be in satisfactory condition.
- The concrete from the former emergency spillway on the downstream slope of the Main Dam appeared in good condition with no erosion noted.
- No erosion or seepage was noted along the pipe that extends out from downstream slope of the Main Dam at the Reclaim Pond. This pipe was permanently abandoned by welding a steel plate at the discharge end of the pipe.
- The reclaim pond's 36 inch diameter HDPE emergency overflow pipe was observed to be in good condition from the block wall and no erosion was noted along the pipe. The outlet to the 36 inch diameter overflow pipe was free of vegetation and could flow unobstructed to Bills Creek.
- The Stone wall along the East side of the Clearwater pond appeared in good condition with no observed signs of settlement or movement.
- The South Dike (former BAP 1A/Reclaim splitter dike) has been raised as part of the repurposing of the
 Reclaim Pond. The Reclaim Pond slope is in good condition with vegetation starting to appear. The
 crest generally appears in satisfactory condition with final grading to be completed with the closure
 of BAP 1A. The BAP 1A slope appears stable with final grading to be completed with the BAP 1A
 closure.
- The splitter dike between BAP 1A/1B has been removed as part of the CCR removal activities in BAP 1A
- The Southeast Dike located at the south end of the east side of the Wastewater Pond appeared in good condition. The exterior side (towards BAP 1A) has stable vegetation with additional fill and grading to be completed with the BAP 1A closure. The interior slope is stable with the liner and revetment in the forebay area of the Wastewater Pond.
- The forebay berm in the Wastewater Pond appeared in good condition.

- The Wastewater Pond is in operation with a temporary bypass system used as a temporary discharge while the Reclaim and Clearwater Ponds were repurposed.
- The primary decant structure in the Clearwater Pond (outfall 003) has been reconstructed and ready for regular discharge when the pond is placed in operation.
- The primary outfall (003) downstream headwall where the effluent discharges into the Kanawha River appeared to be in good condition. Flow from the pond complex is discharged through submerged diffuser ports.

4.6 Evaluation of Instrumentation Data

The instrumentation for the pond complex consists of staff gauges used to measure the pond water levels and four piezometers installed along the perimeter dike.

The elevations of pond water levels have varied as ponds of come in and out of service as part of the closure and repurposing project. The piezometer water levels have remained fairly constant with no adverse trends observed that would impair the structural stability of the perimeter dike. It is noted that PZ-1, PZ-3, and PZ-7 have reduce level that coincides with the lowering of the pool in the Reclaim and Clearwater Ponds as part of closure and repurposing activities. Piezometer hydrographs are shown in Figure 5.

4.7 Changes That Effect Stability or Operation (257.83(b)(2)(vii))

Based on interviews with plant personnel and field observations the only changes since last inspection that effect stability and operations was the CCR removal and repurposing of Reclaim and Clearwater Ponds. The reconstructed dikes appear stable and ready for operation. The stability of the new dike configurations was analyzed as part of the design of the repurposed non-CCR pond complex.

5.0 CORRECTIVE MEASURES TAKEN TO REMEDY DEFICIENCY OR RELEASE SINCE LAST INSPECTION

Based on the 7-day inspections, the 30-day instrumentation readings and interviews with plant personnel there have been no deficiencies or releases observed during any inspection since the last annual inspection.

6.0 SUMMARY OF FINDINGS

6.1 General Observations

Overall the facility is in good condition. The Main Dam appears to be is functioning as intended with no signs of potential structural weakness. The newly constructed Northwest and Southeast Dikes appear in good condition with final construction stabilization (final grading and seeding) needed as the construction project continues. The outfall structures appear to be functioning as intended.

6.2 Items to Monitor

Bottom Ash Pond Complex

- 1. Static water levels should continue to be measured on its current frequency for piezometers PZ-1, PZ-3, PZ-6, and PZ-7.
- 2. Monitor the Dam and dikes as during construction activities for movement or changes in conditions.
- 3. The pond pool stages should continue to be recorded on a periodic basis.
- 4. Monitor and remove animal burrows as they appear.

6.3 Maintenance Items

The following maintenance items were identified during the visual inspection:

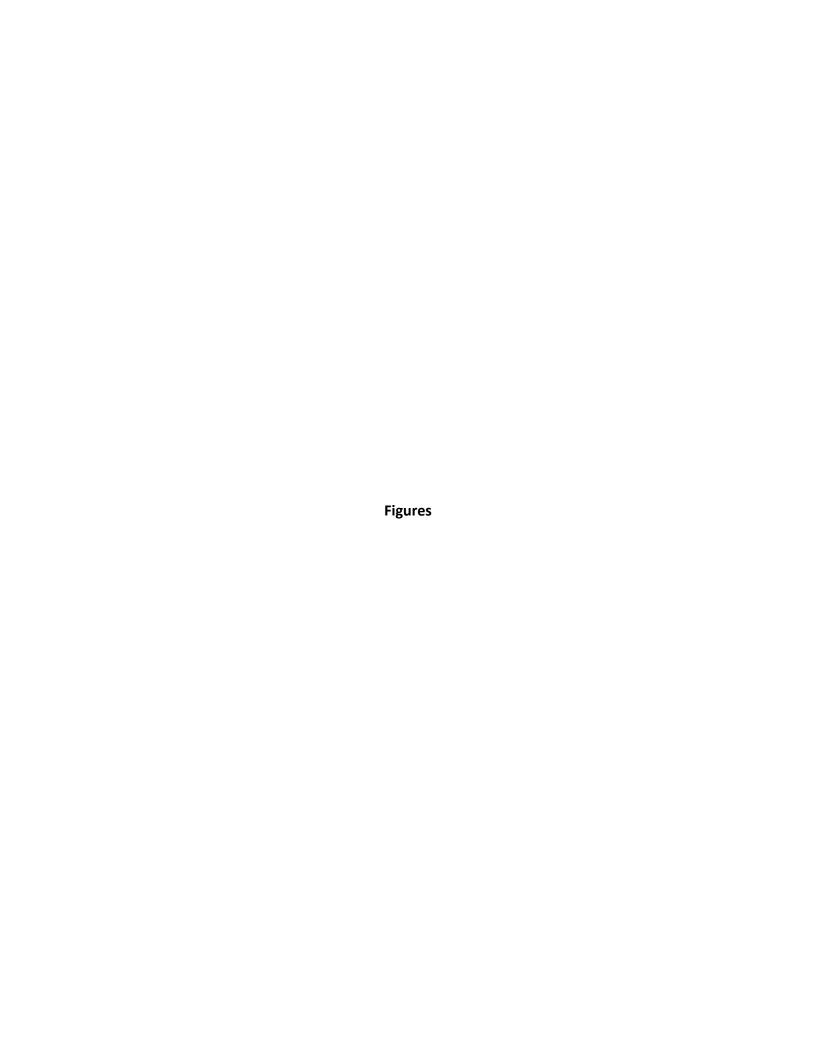
Bottom Ash Pond Complex

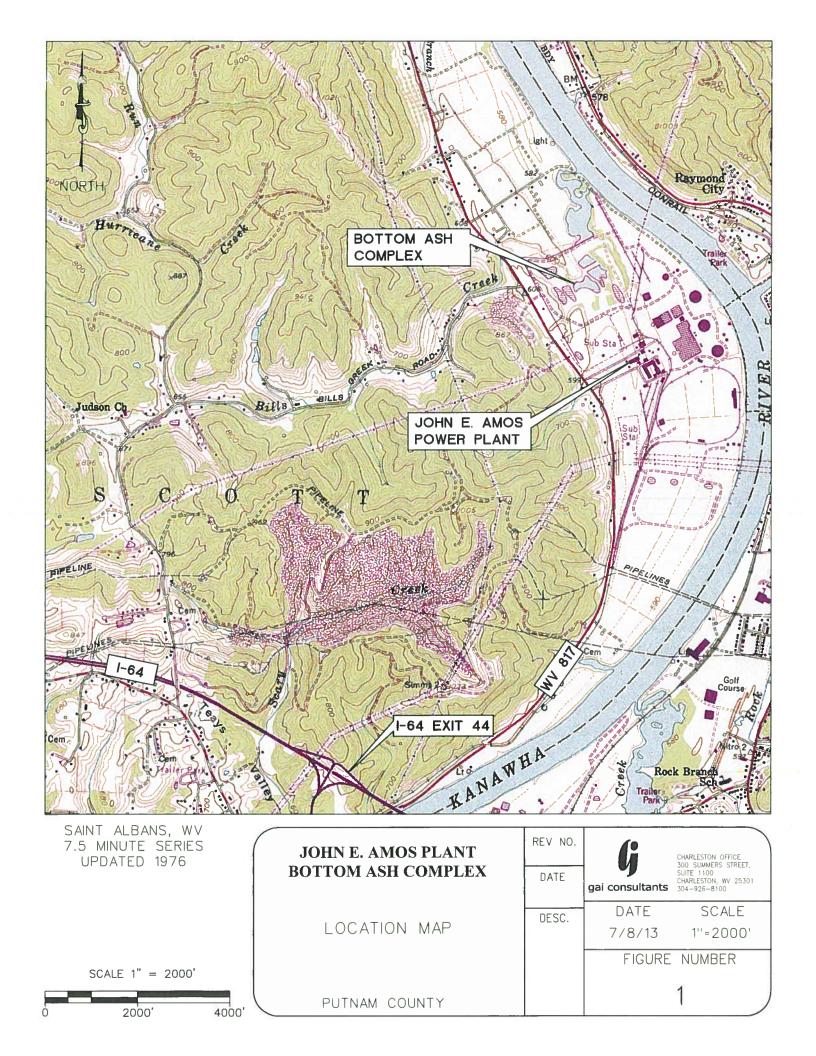
- 1. Control of the vegetation cover (i.e. mowing) should be continued on its current regularly scheduled basis.
- 2. Safely remove the woody vegetation that is growing in the riprap at the toe of the Main Dam and along Bills Creek.
- 3. Work with the construction team to repair the stone wall termination into the earthen dike on the Main Dam.

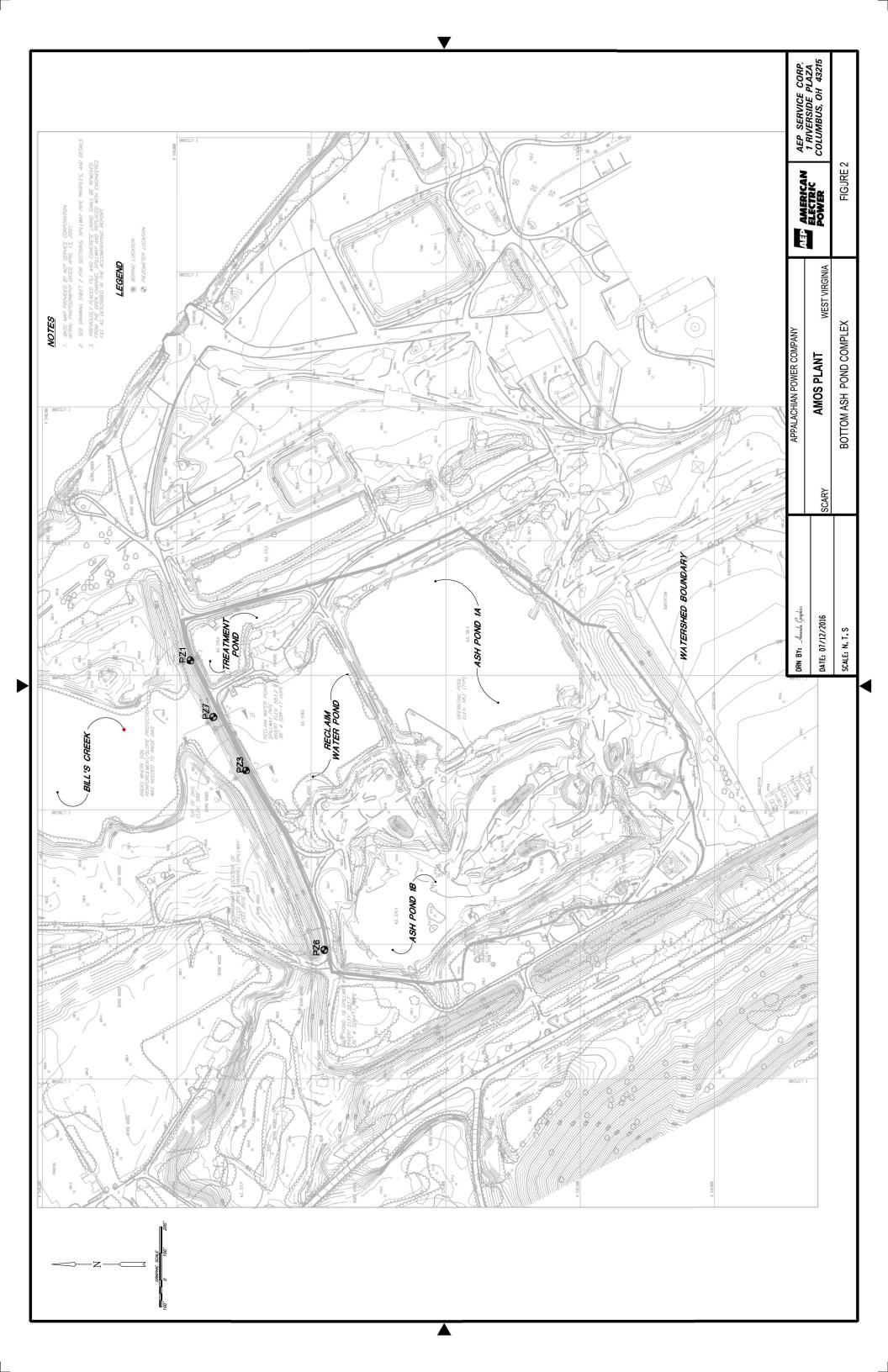
6.4 Deficiencies (257.83(b)(2)(vi))

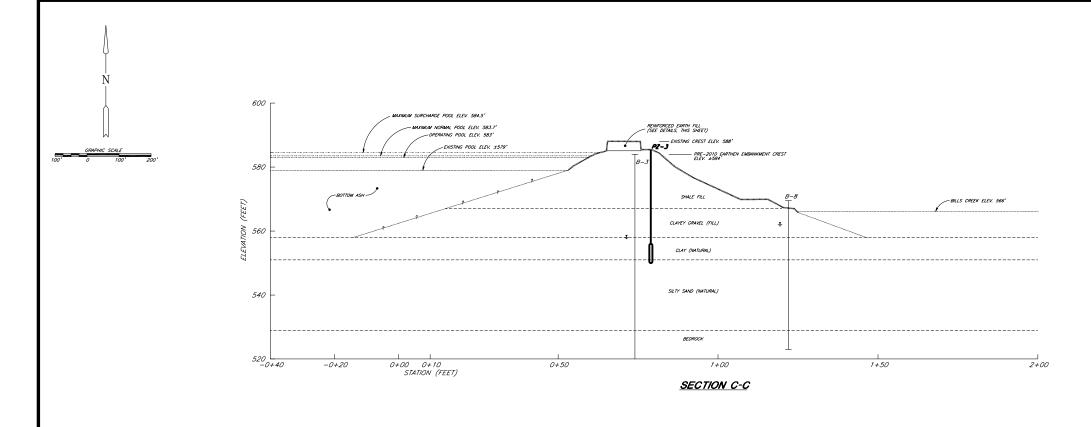
There were no signs of structural weakness or disruptive conditions that were observed at the time of the inspection that would require additional investigation or remedial action. There were no deficiencies noted during this inspection or during any of the periodic inspections. A deficiency is defined as either 1) uncontrolled seepage, 2) displacement of the embankment, 3) blockage of control features, or 4) erosion, more than minor maintenance. If any of these conditions occur before the next annual inspection contact AEP Geotechnical Engineering immediately

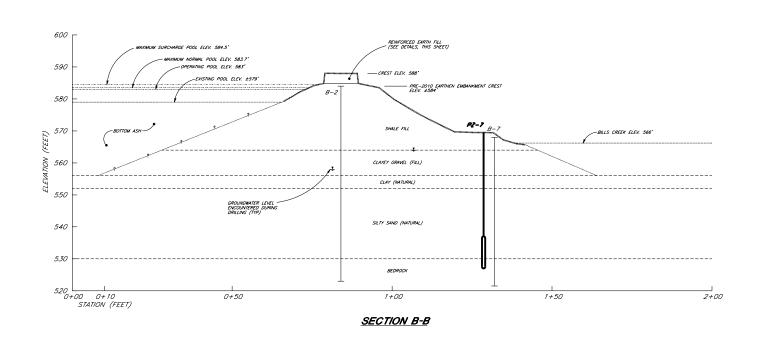
If you have any questions with regard to this report, please contact Brian Palmer at 614-716-3382 (Audinet: 200-3382) or Bryan Brunton at 614-716-3090 (Audinet: 200-3090).

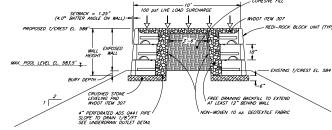












<u>NOTE:</u> WALL IS DESIGNED FOR A HEIGHT OF NO MORE THAN (3) BLOCKS. OWNER MUST BE NOTIFIED IF ACTUAL GRADE IS LOWER THAN ANTICIPATED EXISTING GRADE

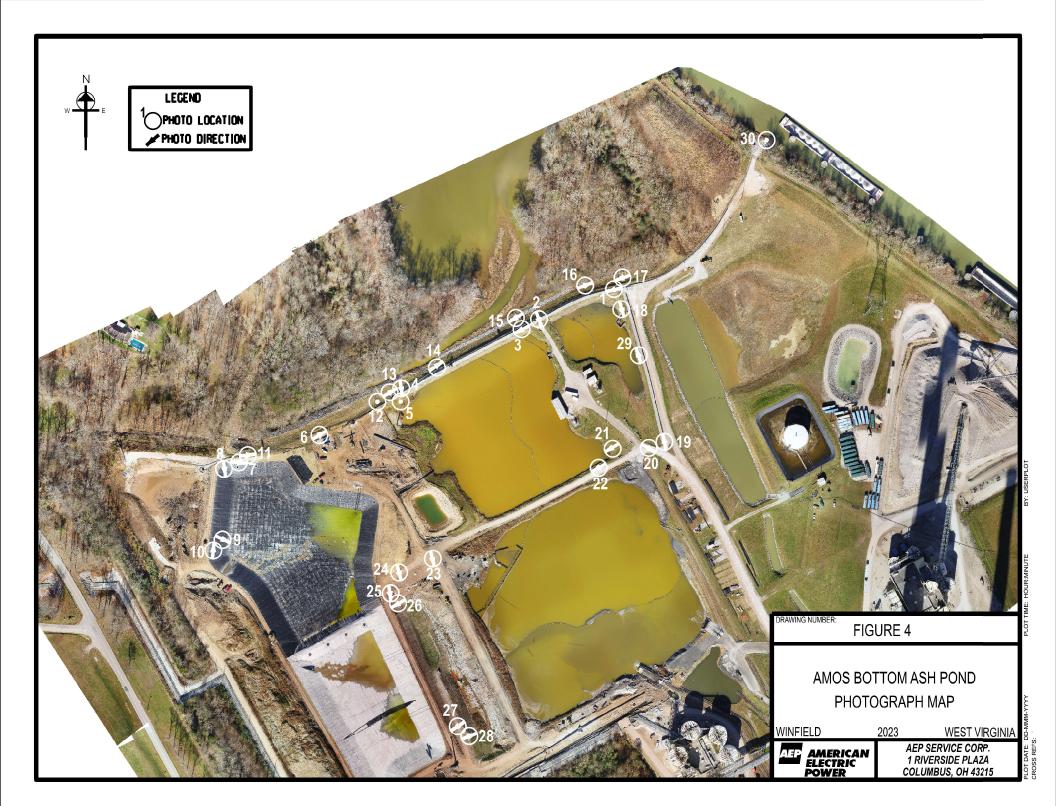
<u>DETAIL - REINFORCED EARTH FILL TYPICAL SECTION</u> NOT TO SCALE

(EXCERPT FROM "BOTTOM ASH STORAGE AREA MODIFICATIONS 2010 DIKE RAISING, SECTIONS AND DETAILS" PREPARED BY: AMERICAN ELECTRIC POWER, DATED 2/26/10 REV 6/16/11

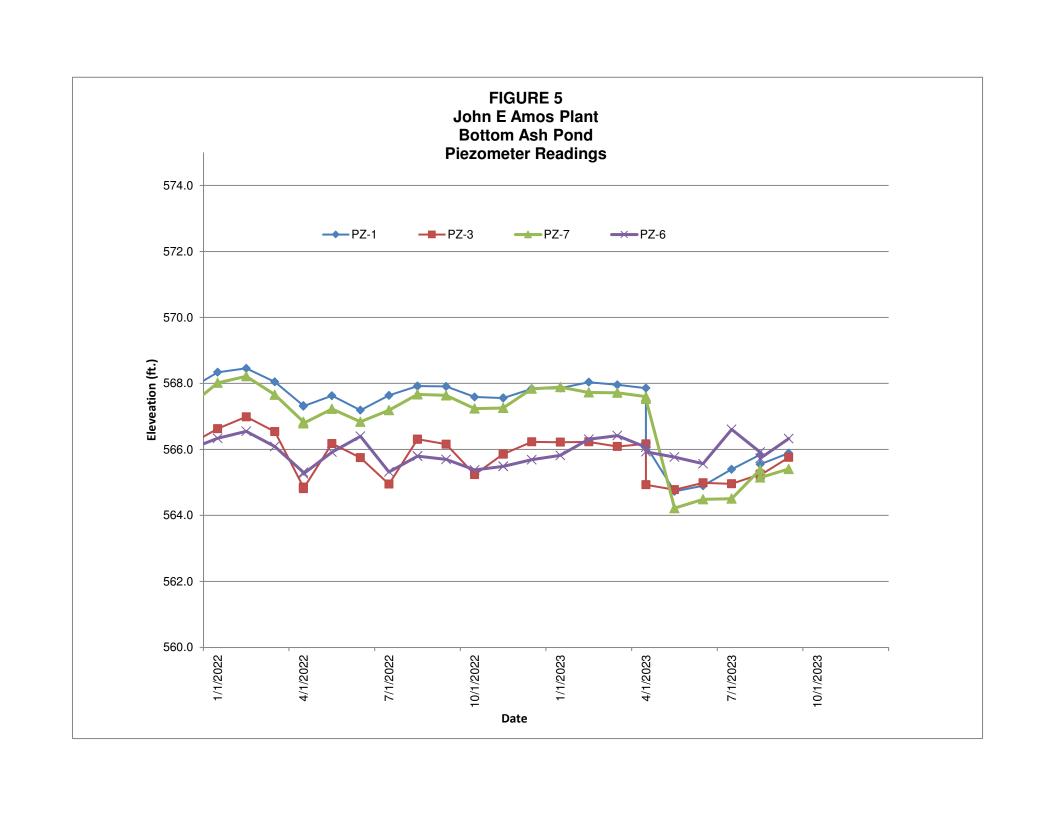
PIEZOMETER SCREEN

NOTES: 1. SEE SHEET 1 OF 2 FOR SECTION LOCATIONS. 2. EXISTING GROUND SURFACE FROM SURVEY DATA DATED 9/9/15 PROVIDED BY AEP.

DRN BY: Amanda Graphics	APPALACHIAN POWER COMPANY			AED AMERICAN	AEP SERVICE CORP.
DATE: 07/12/2016	SCARY	AMOS PLANT	WEST VIRGINIA	ELECTRIC POWER	1 RIVERSIDE PLAZA COLUMBUS, OH 43215
SCALE: N. T. S	EMBANKMENT SECTIONS & DETAILS		FIGURE 3		



A (8.5"x11")



ATTACHMENT A

Photos

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

1



General condition of interior slope of Main dam at Clearwater Pond



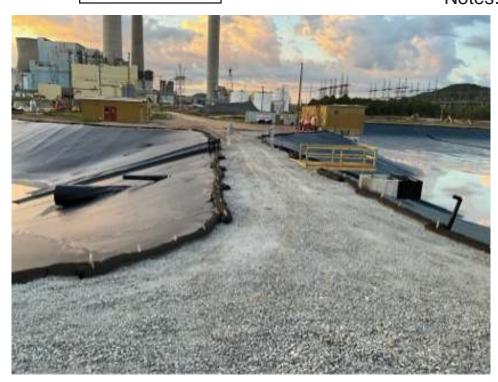
N38 28.798 W81 49.739

Photo #:

2

Notes:

General condition of splitter berm between Reclaim and Clearwater Ponds



N38 28.784 W81 49.793

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:





General condition of crest of stone wall along Reclaim Pond



N38 28.779 W81 49.805

Photo #:

4

Notes:

General condition of Reclaim Pond



N38 28.743 W81 49.889

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:





End block on stone wall shifted due to temporary pumping activities.

N38 28.742 W81 49.890

Photo #:



Notes:

General condition of Main Dam dike along pennisula area between the Wastewater Pond and the Reclaim Pond



N38 28.719 W81 49.947

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

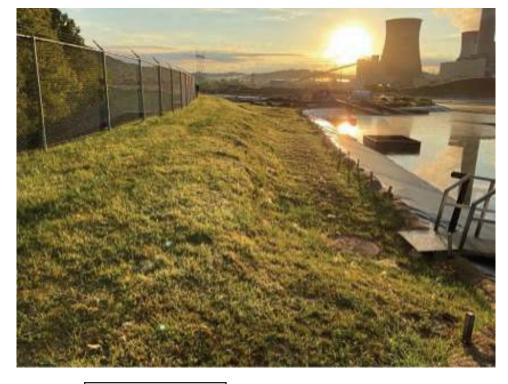
September 27, 2023

Photo #:

7

Notes:

General condition of Main Dam interior slope at Wastewater Pond



N38 28.707 W81 50.003

Photo #:

8

Notes:

General condition of interior slope and crest of Northwest Dike



N38 28.702 W81 50.012

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

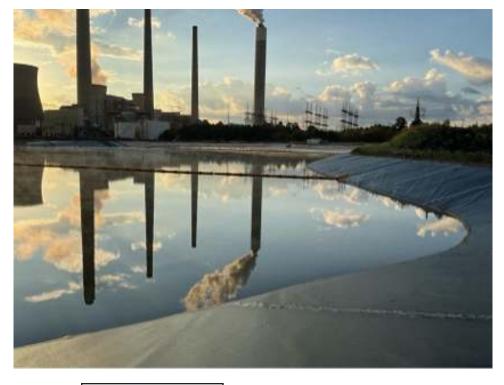
September 27, 2023

Photo #:

9

Notes:

General condition of Wastewater Pond



N38 28.664 W81 50.017

Photo #:

10

Notes:

General condition of Northwest Dike exterior slope



N38 28.662 W81 50.021

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

11



General condition of Main Dam exterior slope below wastewater pond



N38 28.710 W81 49.998

Photo #:

12

Notes:

General condition of old concrete emergency spillway.



N38 28.741 W81 49.907

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

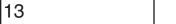
Bottom Ash Pond

Date:

September 27, 2023

Photo #:

13





General condition of old discharge pipe.



N38 28.745 W81 49.897

Photo #:

14

Notes:

General condition of Main Dam exterior slope



N38 28.758 W81 49.865

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

15



General condition of Main Dam exterior slope downstream Reclaim Pond.



N38 28.784 W81 49.808

Photo #:

16

Notes:

General condition of Main Dam exterior slope downstream Reclaim Pond.



N38 28.801 W81 49.760

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

17



General condition of Main Dam exterior slope downstream Reclaim Pond.



N38 28.805 W81 49.734

Photo #:

18



General condition of stone wall on east side of Clearwater Pond



N38 28.788 W81 49.735

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

19



General condition stone wall southeast corner of Reclaim Pond



N38 28.716 W81 49.707

Photo #:

20

Notes:

General condition of east side of BAP 1A.



N38 28.712 W81 49.717

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

21



General condition of raised South Dike between Reclaim Pond and BAP 1A



N38 28.712 W81 49.743

Photo #:

22

Notes:

General condition of raised South Dike between Reclaim Pond and BAP 1A.



N38 28.702 W81 49.755

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

23



General area of former BAP 1a/1b splitter dike that has been removed



N38 28.654 W81 49.870

Photo #:

24

Notes:

General condition of exterior slope of new East Dike of Wastewater Pond



N38 28.646 W81 49.893

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

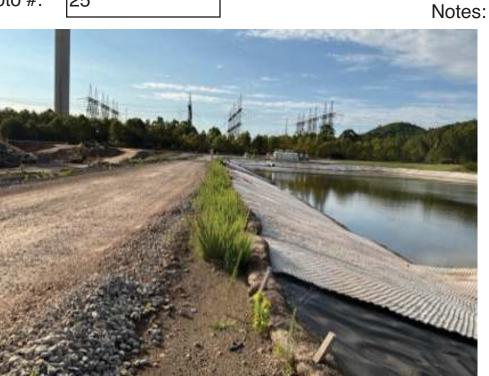
Date:

September 27, 2023

Photo #:

25





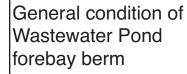
General condition of interior slope of South Dike with Wastewater Pond along forebay area

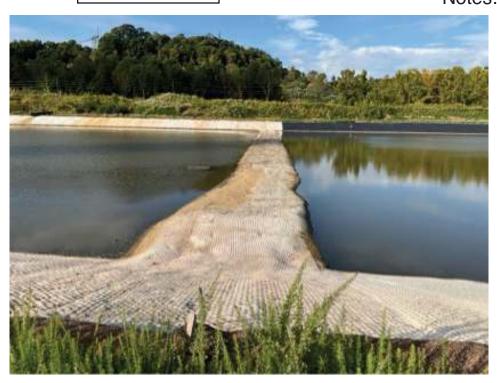
N38 28.634 W81 49.899

Photo #:

26

Notes:





N38 28.630 W81 49.896

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

27



General condition of inlet discharge to the Wastewater Pond



N38 28.561 W81 49.854

Photo #:

28

Notes:

Overview of construction activities in BAP 1A



N38 28.554 W81 49.847

Page:

Plant Name:

Amos

Inspector:

B Palmer

Unit:

Bottom Ash Pond

Date:

September 27, 2023

Photo #:

29

Notes:

General condition of new outlet structure in the Clearwater Pond



N38 28.757 W81 49.730

Photo #:

30

Notes:

General condition of wastewater discharge diffuser at the Kanawha River. Storm water discharge next to diffuser pipe.



N38 28.880 W81 49.639

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