2025 Annual Dam and Dike Inspection Report

East Fly Ash Pond

Kanawha River Power Plant

Appalachian Power Company

Glasgow, WV

September 2025

Prepared for: Appalachian Power Company – Kanawha River Power Plant

Prepared by: American Electric Power Service Corporation

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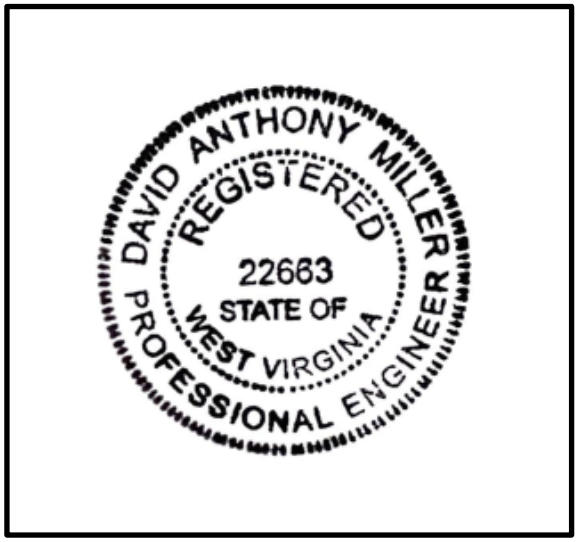
East Fly Ash Pond

PREPARED BY Daniel S Murphy DATE 10/9/2025
Dan Murphy, P.E.

REVIEWED BY Blake Arthur DATE 10/09/2025
Blake Arthur, P.E.

APPROVED BY David Anthony Miller DATE 12.01.2025
David A. Miller, P.E.
Director – Ash Management Services



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).

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Attachments

1.0 INTRODUCTION

This report was prepared by AEP- Ash Management Services, in part, to fulfill requirements of 40 CFR 257.83 for the legacy CCR surface impoundments inspections and to provide Appalachian Power Company an evaluation of the East Fly Ash Pond at the Kanawha River Power Plant.

The inspection was performed on September 4, 2025. The inspection party consisted of Mr. Dan Murphy, P.E. and Mr. Micah Bates. The facility contact was Mr. William Cummings. Weather conditions during the inspection were light rain showers, and the temperature was near 75°F. The ground conditions were damp.

2.0 DESCRIPTION OF IMPOUNDMENTS

The area of the East Fly Ash Pond is approximately 22 acres and is located adjacent to the Kanawha River in Kanawha County, West Virginia. The Kanawha East Fly Ash Pond was operated as a surface impoundment from approximately 1953 to sometime prior to 1989. The East Fly Ash Pond is surrounded by an earthen berm with an approximate elevation of 625 ft-msl based on topographic data presented in Figure 2. Based on 1951 drawings, the original ground within the pond area ranged from 625 to 605 ft-msl. The pond area was dug down to elevation 606 to 604, and the pond bottom was sloped towards the outfall structure in the southwest corner.

While operating as a fly ash pond, the water elevation was controlled with an outfall structure that was in the southwest corner. During an overflow condition, decant from the pond was discharged into the Kanawha River.

In 1989, AEP submitted a permit to construct a landfill overlying the former East Fly Ash Pond. A revised landfill permit was submitted in 2017 and the landfill was capped and closed.

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

In addition to the current visual inspection, a review of available information regarding the status and condition of the East Fly Ash Pond, including files available in the operating record, was conducted. Available information consists of design and construction information, if readily available. Based on the findings of the current visual inspection and the review of the available data, it is concluded that the facility is performing as intended in the design documents and there were no signs of actual or potential structural weakness or adverse conditions.

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

4.1 CHANGES IN GEOMETRY SINCE LAST INSPECTION (257.83(b)(2)(i))

No changes in geometry since last inspection were found.

4.2 INSTRUMENTATION (257.83(b)(2)(ii))

There is no instrumentation at the East Fly Ash Pond.

4.3 IMPOUNDMENT CHARACTERISTICS (257.83(b)(2)(iii, iv, v))

Table 1 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.

The information in this table is based on visual observations made during the inspection.

Table 1: Impoundment Characteristics	
Approximate **Minimum** depth (elevation) of impounded water since last annual inspection	No water visible
Approximate **Maximum** depth (elevation) of impounded water since last annual inspection	No water visible
Approximate **Present** depth of impounded water at the time of the inspection	No water visible
Approximate **Minimum** depth (elevation) of CCR since last annual inspection	The facility no longer receives CCR
Approximate **Maximum** depth (elevation) of CCR since last annual inspection	The facility no longer receives CCR
Approximate **Present** depth (elevation) of CCR at the time of the inspection	Approximately 68 ft deep (max.)
Storage Capacity of impounding structure at the time of the inspection [crest el]	Approximately 600,000 CY (as a surface impoundment)
Approximate volume of impounded water at the time of the inspection	Ponded water is not visible
Approximate volume of CCR at the time of the inspection	Approximately 1.3 million CY of CCR

4.4 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/Satisfactory:	A condition or activity that generally meets what is minimally 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 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 it is normal or desired, or which may have affected the ability of the observer to properly evaluate the structure or particular area of interest or which may be a concern from a structure's 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 identified as a deficiency are considered routine maintenance activities or items to be monitored.

A "deficiency" is some evidence that a dam has developed a condition 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

   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 collected and safely carried off by a drain. Seepage that is collected by a drain can still be uncontrolled if it is not safely transported. Seepage that is not clear and is turbid would also be considered as uncontrolled. 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 be monitored more frequently.]

2. Displacement of the Embankment

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

3. Blockage of Water Control Appurtenances

   Blockage of water Control Appurtenances is the restriction of flow at spillways, decant or pipe spillways, or drains.

4. Erosion

   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.

4.5 VISUAL INSPECTION (257.83(b)(2)(i))

A visual inspection of the East Fly Ash Pond was conducted to identify signs of distress or malfunction of the impoundment and appurtenant structures which includes its hydraulic structures. Specific items inspected included structural elements of the dam such as upstream and downstream slopes, crest, and toe; as well as appurtenances such as the outlet/spillway structure. Photographs taken during the inspection are provided in Attachment B - Photolog.

The following summarizes the visual inspection of the East Fly Ash Pond:

- The downstream slope of the dam is in fair condition. The slope is overgrown with mature woody vegetation. Areas of the downstream slope with significant erosion identified in the previous inspection have been repaired by placement of riprap buttress. The repairs appeared to have stabilized the areas impacted. There were some smaller erosion features noted in several areas along the length of the dike.

- The crest of the dam is in good condition and is used as a gravel access road. There were no signs of rutting or misalignment.

- The stormwater outfall was in good condition. Wooden pedestrian stairs have been constructed to provide safe access for sampling events.

- There are 3 abandoned in place corrugated metal pipes that pass underneath the East Fly Ash Pond. The pipes were permenantly abandoned via grout placment in 2015 and storm water drainage was rerouted around the footprint of the East Fly Ash Pond. Two of the pipe outlets were dry and observed to be sealed off with grout. The western most pipe outlet was not able to be located because of construction of a riprap revetment.

- The riprap cap overlying the landfill was observed to be in good condition. There were minor amount of woody vegetation in sparse patches around the site. There was no evidence of erosion or instability.

4.6 CHANGES THAT EFFECT STABILITY OR OPERATION (257.83(b)(2)(vii))

There were no changes to the East Fly Ash Pond since the last inspection that would affect the stability of the impounding structure.

5.0 SUMMARY OF FINDINGS

5.1 GENERAL OBSERVATIONS

The following general observations were identified during the visual inspection:

- The East Fly Ash Pond is generally in fair condition. The East Fly Ash Pond appears to be functioning as intended with no signs of structural weakness. The constructed embankment/berms appear in fair condition structurally. Four areas on the downstream slope with significant erosion identified in the previous inspection have been repaired and appear to be stable.

  The vegetation on the downstream slopes of the dam is in poor condition and consists of mature trees and dense brush. There were no signs of depression, settlement, or sinkholes along the general inspected areas. The East Fly Ash Pond is graded like a turtle back to promote positive drainage and there was no ponded water visible during the inspection.

5.2 MAINTENANCE ITEMS

1) Continue with the vegetation control and maintenance at the site. Continue periodically spraying the woody vegetation on the riprap cap of the East Fly Ash Pond. Develop plans to address vegetation on the downstream slope of the dam.

5.3 ITEMS TO MONITOR/INVESTIGATE

The following items were identified during the visual inspection as items to be monitored or investigated:

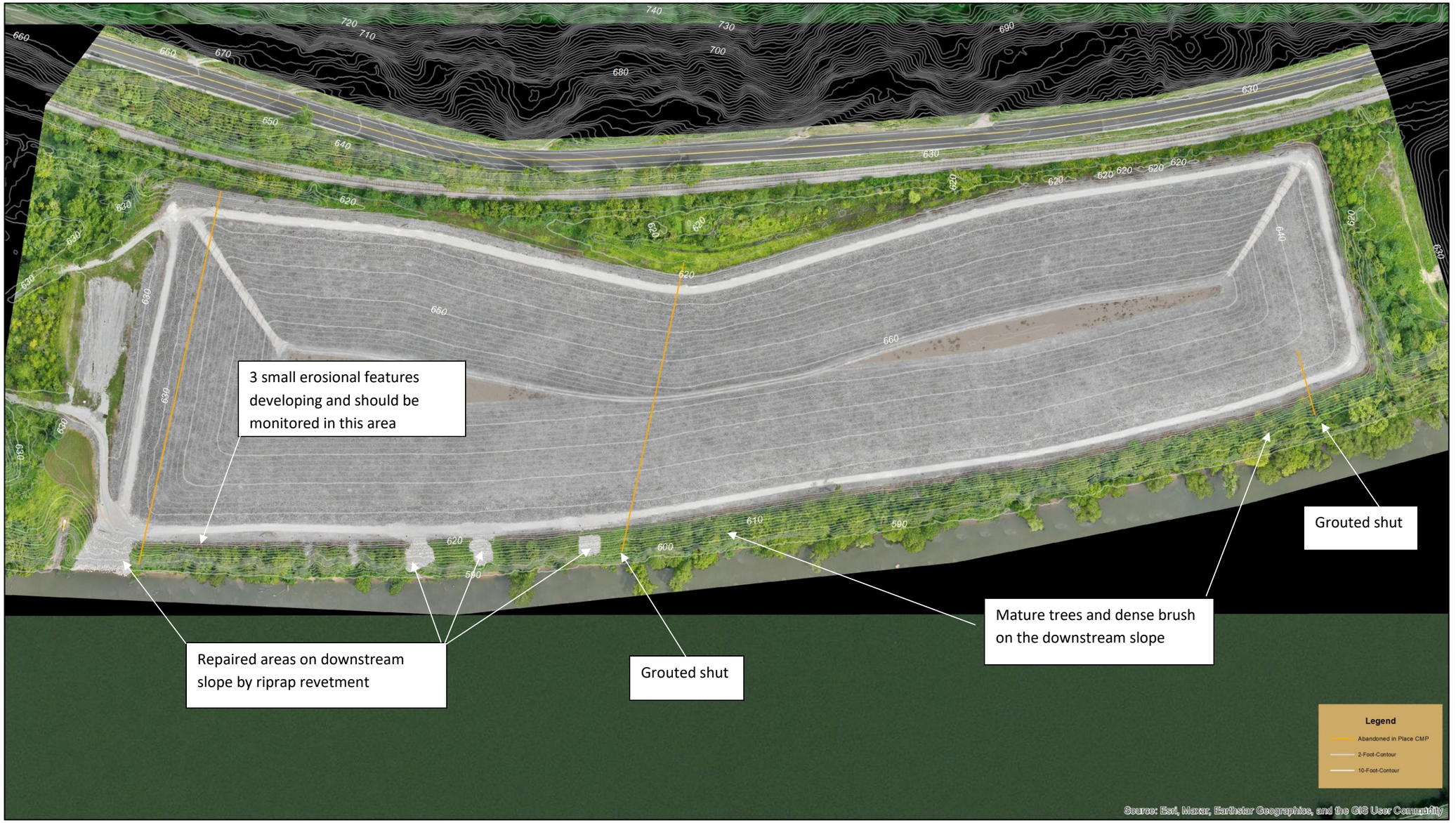
1) Monitor the downstream slope for erosion features to develop below the geocomposite drainage layer.

5.4 DEFICIENCIES (257.83(b)(2)(vi))

At the East Fly Ash Pond 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 7-day or 30-day inspections. A deficiency is defined as: 1) uncontrolled seepage, 2) displacement of the embankment, 3) blockage of control features, or 4) erosion, more than that requiring minor maintenance.

If any of these conditions occur before the next annual inspection contact AEP Ash Management Services immediately.

ATTACHMENT A
Inspection Map



Attachment A
Site Map: Kanawha River Plant
East Fly Ash Pond
Drawn By: Dan Murphy
Date: September 24, 2025

N
W E
S

0 150 300
Feet

Note: Digitial Elevation Model was taken from LiDAR (2018) available through the WV Elevation and LiDAR Download Tool and from July 2025 Topographic survey from AGE Engineering.

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ATTACHMENT B

Inspection Photos

	Photograph 1: View of repaired area on the downstream slope of the dam.
	Photograph 2: Another repaired area on the downstream slope.
	Photograph 3: Another repaired area on the downstream slope.

	Photograph 4: View of a small erosional area beginning to form. Monitor this area for additional erosion.
	Photograph 5: View of a small erosional area beginning to form. Monitor this area for additional erosion.
	Photograph 6: View of a small erosional area beginning to form. Monitor this area for additional erosion.

	Photograph 7: Typical view of the vegetation on the downstream slope.
	Photograph 8: Typical view of the riprap cap.
	Photograph 9: Typical view of the riprap cap.

	Photograph 10: View along the crest of the dam, looking west.
	Photograph 11: View along the crest of the dam, looking east.
	Photograph 12: View along the crest of the dam, noting the markings associated with proposed monitoring wells.

	Photograph 13: View of an abandoned in place corrugated metal culvert near the rivers edge. Photo taken in December, 2024.
	Photograph 14: View of an abandoned in place corrugated metal culvert near the rivers edge. This is the former discharge structure from the impoundment. Photo taken in December, 2024.