

2025 Annual Dam and Dike Inspection Report

Bottom Ash Pond Complex

**Glen Lyn Plant
Appalachian Power Company
Glen Lyn, VA**

August 2025

Prepared for: Appalachian Power Company – Glen Lyn Plant

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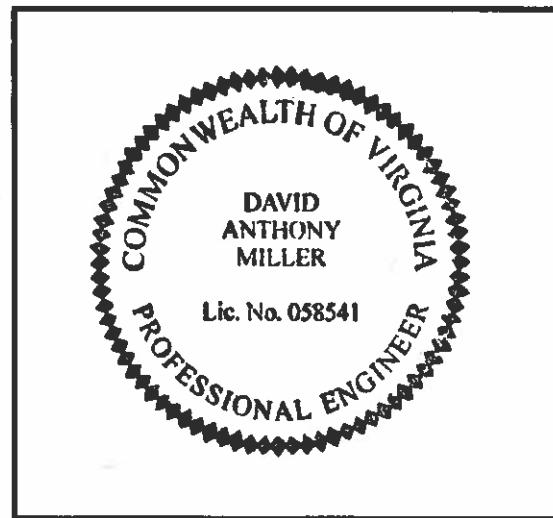
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Glen Lyn Plant Bottom Ash Pond Complex

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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

- Attachment A –Inspection Location Map
- Attachment B – Inspection Photographs

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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 Bottom Ash Pond Complex at the Glen Lyn Plant.

The inspection was performed on July 31, 2025. The inspection party consisted of Mr. Dan Murphy, P.E., Mr. Blake Arthur, P.E., Dr. Mohammad Ajlouni, P.E. and Mr. Austin Salmon. The facility contacts were Mr. William Cummings, and Mr. Josh Coulter and both were also present during parts of the inspection. Weather conditions during the inspection were partly cloudy, and the temperature was near 90°F. There was about 1.5 inches of rainfall recorded over the seven days prior to the inspection, with roughly 0.6 inches of rain in the evening prior to the inspection.

2.0 DESCRIPTION OF IMPOUNDMENTS

The Bottom Ash Pond Complex (BAP) consists of the North and South Cells and the Clear Water Cell and was operated until 2015 when Glen Lyn Power Plant was permanently retired. The Bottom Ash Pond Complex is surrounded by an earthen berm. The US Route 460 bridge over the New River overlays parts of the BAP. The pond is approximately 9 acres and is located adjacent the New River and East River in Giles County, Virginia. While operating as a bottom ash pond, the water elevation was controlled with an outfall structure that was located in the northwest corner. During an overflow condition, decant from the pond was discharged into the East River.

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 BAP, including files available in the operating record, was conducted. Available information consists of design and construction information. 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 BAP.

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: BAP Complex Characteristics

Approximate Minimum depth (elevation) of impounded water since last annual inspection	None
Approximate Maximum depth (elevation) of impounded water since last annual inspection	None
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	8 feet (1506 ft msl)
Approximate Maximum depth (elevation) of CCR since last annual inspection	8 feet (1506 ft msl)
Approximate Present depth (elevation) of CCR at the time of the inspection	8 feet (1506 ft msl)
Storage Capacity of impounding structure at the time of the inspection [crest el]	Approximately 100,000 CY
Approximate volume of impounded water at the time of the inspection	None
Approximate volume of CCR at the time of the inspection	Approximately 35,000 CY

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

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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 Bottom Ash Pond Complex 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 Bottom Ash Pond Complex:

- The upstream slopes of the Bottom Ash Pond Complex are in fair condition. A riprap revetment was installed along 400 feet section of the upstream slope of the North and South Bottom Ash Pond to repair erosion.
- A few animal burrows were located along the edge of the stairs to the spillway of Clearwater Pond.
- The downstream slope of the dam is in fair condition. There were no signs of seepage, instability or erosion problems.
- The crest of the dam is in fair condition and is used as an access road. There were no signs of cracks, rutting or low areas.
- The spillway structures were in fair condition. Metal plates have been installed on the concrete riser of the Clearwater Pond to contain floodwaters from the New River within the riser. The top of the metal plate is estimated to be elevation 1512 ft msl.
- Areas around the structures have vegetation that should be maintained to 12-inches or less.
- A minor blockage was observed at the outlet of the Clearwater Pond spillway. Sediment build-up around drainage structures should be monitored and addressed as needed.

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

There were no changes to the Bottom Ash Pond Complex recently 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 Bottom ash Pond Complex is generally in fair to good condition. The Bottom Ash Pond Complex appears to be functioning as intended with no signs of structural weakness. The constructed embankment/berms appear in fair condition structurally. The vegetation on the upstream and downstream slopes of the perimeter berm is in good condition and maintained to 12-inches or less. Vegetation around the drainage features was observed in excess of 12-inches and should be maintained more frequently to maintain less than 12-inch height. The Bottom Ash Pond Complex's spillway is in fair condition. There were no signs of depression, settlement, or sinkholes along the general inspected areas. The Bottom Ash Pond Complex is graded to promote positive drainage.

5.2 MAINTENANCE ITEMS

- 1) Continue with the vegetation maintenance and mowing efforts at the facility.
- 2) Repair the animal burrows on the upstream slope along the stairs to the spillway of the Clearwater pond.

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 vegetation within 25-feet of the upstream and downstream side slopes and around drainage features and maintain to a height of 12- inches or less.
- 2) Monitor the inlets and outlets of drainage features and maintain sediment build-up if sediment build-up becomes significant or restricts flow.
- 3) Monitor the areas underneath the bridge scuppers of the US 460 bridge for erosion.

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

At the Bottom Ash Pond Complex 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

Location Map

Glen Lyn Bottom Ash Pond Complex



Legend

■ Glen_Lyn_BAP_Features

● Glen_Lyn_BAP_Point

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0 62.5 125 250 Feet



ATTACHMENT B

Inspection Photos

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	<p>Photograph 1: Southern Dike along Bottom Ash Pond Complex</p>
	<p>Photograph 2: Southern Dike along Southern Bottom Ash Pond looking towards idle plant.</p>
	<p>Photograph 3: Outlet Spillway Weir – level raised by plates in Concrete Riser.</p>

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Photograph 4:

Outlet Spillway for Clearwater Pond – level raised by plates in Concrete Riser.



Photograph 5:

Clearwater Pond – Looking towards inlet distribution weir.

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 A photograph showing a circular opening in the ground, likely a pipe outlet, surrounded by grass and dirt. The opening is partially covered with sediment and debris.	<p>Photograph 6: Spillway Outlet Pipe at River. Partially blocked with sediment.</p>
 A photograph looking down the interior of a large, dark, cylindrical pipe. The interior is lined with sediment and debris, including some small plants growing from the bottom.	<p>Photograph 7: Outlet Spillway Pipe.</p>
 A photograph of a black metal outlet riser standing in a grassy area. The riser is connected to a pipe that runs along the ground. The surrounding area is covered in green grass and some gravel.	<p>Photograph 8: Northern Bottom Ash Pond – Outlet Riser.</p>

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Photograph 9:

BAP Dike along New River – Looking towards Plant



Photograph 10:

Clearwater Pond – Inlet distribution weir



Photograph 11:

North Bottom Ash Pond – Dike along highway bridge abutment.