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Bottom Ash Ponds

2025 Annual Dam and Dike Inspection Report

H.W. Pirkey Power Plant, Hallsville, Texas

Submitted to:
American Electric Power Service Corporation
1 Riverside Plaza
Columbus, OH 43215

Submitted by:
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August 30, 2025
Project 2501323
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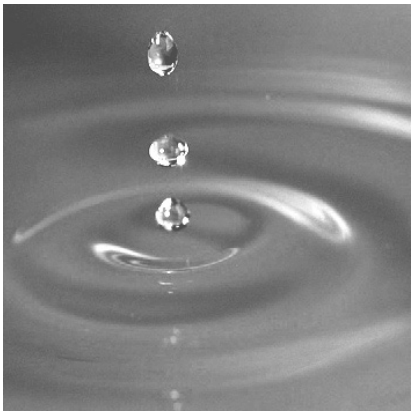

William Walton, PE (TX)
Senior Vice President

Megan Jehring, PE
Senior Engineer

2025 Annual Inspection Report

Bottom Ash Ponds
Pirkey Power Plant
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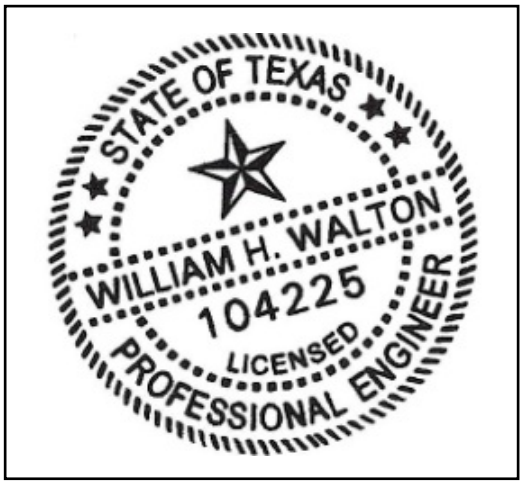
Signature

William Walton, PE
Senior Vice President
GEI Consultants, Inc.

August 30, 2025
Date



I certify, to the best of my knowledge, that the information provided in this report satisfies the requirements of 40 CFR 257.84(b).

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B:\Working\AEP\2501323 AEP 2025 Dam & Landfill Inspections\06_DRAFT INSPECTION REPORTS\07Pirkey\Bottom Ash Complex\2024 Pirkey CCR Bottom Ash Complex.docx

1. Introduction

GEI Consultants, Inc. (GEI) was retained by AEP to implement the 2025 Dam and Dike Inspection and Maintenance Program at AEP facilities and to provide the H.W. Pirkey Plant with an evaluation of the Bottom Ash Pond facilities to fulfill requirements of 30 TAC 352.841 (40 CFR 257.84). As part of the evaluation, GEI's Pedro Amaya, PE and Megan Jehring, PE performed the 2025 inspection of the Bottom Ash Ponds facilities. Mr. Jeremy C Hebert, Mr. Joe Mars, Ms. Amanda Gann, and Mazin Al-Zou'bi, PE of AEP's Engineering participated in the inspection and provided contextual background. This report was prepared by Megan Jehring, PE and Bill Walton, PE of GEI and serves as a summary of the inspection and an assessment of the general conditions of the facility.

The inspection was performed on May 14, 2025. Weather conditions were hazy with high temperatures reaching approximately 90 degrees Fahrenheit. It was reported that 0.70 inches of rainfall was recorded at the regional weather station in the seven days leading up to the inspection.

2. Description of Impoundments

The AEP H.W. Pirkey Plant is in southern Harrison County, approximately five miles southeast of Hallsville, Texas, and approximately eight miles southwest of Marshall, Texas as shown in Figure 1 – Site Location Map. The facility arrangement is provided on Figure 2 – Facility Plan. This report contains the inspection findings, observations, photographic descriptions, conclusions, and maintenance recommendations. Details of the visual inspection are presented below.

Photographs taken during the inspection are included in Appendix A - Photolog. Each photograph that was captured during the inspection was tagged as either a general site observation, recommended for monitoring, or recommended as an item to be addressed. Our inspection did not identify any items to be monitored in the Bottom Ash Pond Complex. The site observations are presented on Figure 3 – Site Plan and the items to be addressed are provided on Figure 4.

2.1 East Bottom Ash Pond

The East Bottom Ash Pond (EBAP) CCR unit is at the north end of the Plant and about 2,000 feet north-northwest of Brandy Branch Reservoir. The EBAP was a partially incised pond below the existing natural ground surface with an embankment height of approximately 4 feet. The EBAP embankments were constructed of compacted clay on 3H:1V (horizontal: vertical) for the upstream and downstream slopes. The EBAP was certified closed by removal of CCR in 2023. Significant portions of the EBAP embankments have been removed, and drainage systems preclude EBAP from impounding water. The East Bottom Ash Pond vegetation is being established.

2.2 West Bottom Ash Pond

The West Bottom Ash Pond (WBAP) CCR unit is at the Plant's north end and about 3,000 feet northwest of Brandy Branch Reservoir. The WBAP embankments had a maximum height of approximately 25 feet and were constructed of compacted clay on a slope ranging from 2.5H:1V to 3H:1V. The elevation at the top of the embankment around the perimeter of the WBAP was approximately 357 feet above msl. The WBAP was certified closed by removal of CCR in 2022. Drainage systems are in place within the WBAP that precluded the WBAP from impounding water. Vegetation was fully established within the footprint of the WBAP at the time of the inspection.

3. Review of Available Information (257.83(b)(1)(i))

A review of available information regarding the status and condition of the CCR Ponds, which include files available in the CCR operating record, such as design and construction information, periodic structural stability assessments, previous 7-day inspection reports, 30-day instrumentation data, and previous annual inspections has been conducted. Based on this visual inspection and the review of the data there were no signs of actual or potential structural integrity issues or adverse conditions.

4. Changes in Geometry Since Last Information (257.83(b)(2)(i))

No changes in unit geometry were made since the 2023 Annual Inspection. The West Bottom Ash Pond and the East Bottom Ash Pond are currently undergoing ground water monitoring to achieve closure.

5. Changes that Effect Stability or Operation (257.83(b)(2)(vii))

The closure-by-removal activities do not negatively affect stability since both ponds will no longer be operable as they cannot impound water. AEP will continue monitoring the vegetation being established in the EBAP and WBAP footprints in the short term until the area can be repurposed.

6. Impoundment Characteristics (257.83(b)(2)(iii,iv,v))

6.1 East Bottom Ash Pond

Table 1 is a summary of the minimum, maximum, and present depth and elevation of the impounded water and CCR material 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 at the time of the inspection.

Table 1: Summary of Relevant Storage Information for East Bottom Ash Pond

Project Statistics	East Bottom Ash Pond
Approximate **Minimum** depth of impounded water since last annual inspection	0.0 ft
Approximate **Maximum** depth of impounded water since last annual inspection	0.0 ft
Approximate **Present** depth of impounded water at the time of the inspection	0.0 ft
Approximate **Minimum** depth of CCR since last annual inspection	0.0 ft
Approximate **Maximum** depth of CCR since last annual inspection	0.0 ft
Approximate **Present** depth of CCR at the time of the inspection	0.0 ft
Storage Capacity of impounding structure at the time of the inspection	0 acre-ft
Approximate volume of impounded water at the time of the inspection	0.0 gallons
Approximate volume of CCR at the time of the inspection	0.0 c.y.

6.2 West Bottom Ash Pond

Table 2 is a summary of the minimum, maximum, and present depth and elevation of the impounded water and CCR material 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 at the time of the inspection.

Table 2: Summary of Relevant Storage Information for West Bottom Ash Pond

Project Statistics	West Bottom Ash Pond
Approximate **Minimum** depth of impounded water since last annual inspection	0.0 ft
Approximate **Maximum** depth of impounded water since last annual inspection	0.0 ft
Approximate **Present** depth of impounded water at the time of the inspection	0.0 ft
Approximate **Minimum** depth of CCR since last annual inspection	0.0 ft
Approximate **Maximum** depth of CCR since last annual inspection	0.0 ft
Approximate **Present** depth of CCR at the time of the inspection	0.0 ft
Storage Capacity of impounding structure at the time of the inspection	0 acre-ft
Approximate volume of impounded water at the time of the inspection	0.0 gallons
Approximate volume of CCR at the time of the inspection	0.0 c.y.

7. Summary of Inspection Terms

The summary of the visual observations presented herein uses terms to describe the general appearance or condition of an observed item, activity, or structure. Their meaning is understood 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, cracks, concrete surface 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, cracks, concrete surface etc.) where the current maintenance program has neglected to improve the condition. Usually, conditions that have been identified in previous inspections, but have not been corrected.

Excessive: A reference to an observed item (e.g., erosion, seepage, vegetation, cracks, concrete surface etc.) where the current maintenance condition is below or worse than what is normal or desired, and which may have affected the ability of the observer to properly evaluate the structure or area being observed or which may be a concern from a structure safety or stability point of view

In addition, a "deficiency" is some evidence that a dam or embankment has developed a problem that could impact its structural integrity. 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 be monitored frequently.]

2. Displacement:

    a. Displacement of the embankment is large scale movement of part of the dam. Common signs of displacement are cracks, scarps, 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.

8. Inspection (257.83(b)(1)(ii))

8.1 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. Specific items inspected included all structural elements of the dams such as upstream and downstream slopes, crest, and toe.

8.1.1 East Bottom Ash Pond

The EBAP was closed by removal of the CCR materials. In general, the crest, interior, and exterior slopes of the remaining sections of the dike appear satisfactory and stable. No significant settlement or misalignment was observed. Seeps were not observed during the inspection. No animal burrows or activity were observed during the inspection. Vegetation continues to become established on the upstream slopes and basin as shown in Photo No. 7 and No. 8. Isolated areas of major erosion were observed in the southwest corner of the pond and should be addressed as shown in Photo No. 5. Silt build-up was observed at rock check dams near drainage inlets as shown in Photo No. 6. The silt build up should be maintained / addressed on a more frequent schedule to maintain the effectiveness of the rock check dam.

8.1.2 West Bottom Ash Pond

The WBAP has been closed by removal of CCR materials. In general, the crest, interior and exterior slopes of the remaining sections of the dike seem satisfactory and stable. No significant settlement or misalignment was observed. Seeps were not observed during the inspection. No animal burrows or activity were observed during the inspection. Vegetation is better established on the basin and upstream slopes of the West Bottom Ash Pond as shown in Photo No. 3 and No. 4. Isolated areas of major erosion were observed in the southeast corner of the pond and should be addressed as shown in Photo No. 2. Drainage features were observed in good condition / free of potential blockages in the West Bottom Ash Pond as shown in Photo No. 1.

8.1.3 Secondary Ash Pond

Secondary Bottom Ash Pond is incised in the southwest corner of the East Bottom Ash Pond. The overall condition of the Secondary Bottom Ash Pond appeared to be in good functional condition.

The dikes show no visual signs of potential structural weakness or conditions which may disrupt the area's intended performance.

8.2 Instrumentation (257.83(b)(2)(ii))

The monitoring instrumentation for the WBAP includes open pipe type piezometers (PK-W1 and PK-W3). The piezometers are located at the crest areas and are flush mount design. There is no monitoring instrumentation for the EBAP.

The minimum and maximum historical piezometric water elevation data is provided below. Because the WBAP can no longer impound water, the readings in the piezometers W-1 and W-3 are consistently reported as at the same level 323.88 and 318.67, respectively.

Pond Name	Crest Elevation ft (msl)	Boring/Piezometer No.	Min/Max WSEL ft (msl)
WBAP	357.0	PK-W1	323.88/323.88
WBAP	357.0	PK-W3	318.67/318.67

9. Summary of Findings

Based on the visual observations during the inspection, the remaining sections of the dam, existing and newly installed appurtenances are generally in satisfactory condition. Specific conclusions related to this inspection include:

- There is no visual evidence of distress that would indicate the possibility of sliding, slope instability, settlement, misalignment or cracking of the bottom ash pond embankments.
- The East Bottom Ash Pond and West Bottom Ash Pond no longer can impound water. Any stormwater runoff will flow out of the newly installed drainage systems.
- The erosion observed in the West Bottom Ash Pond should be addressed by regrading and re-vegetating. Areas of the East Bottom Ash Pond should be monitored for vegetation establishment and reseeded/re-vegetated as needed to limit erosion concerns and future maintenance. Silt should be regularly removed from the rock check dams near the pipe/culvert inlets to maintain its operational functions.
- CCR has been successfully removed from WBAP and EBAP and their closure status is pending the groundwater monitoring results and soil sampling.
- The overall condition of the Secondary Bottom Ash Pond appeared to be in good functional condition. The dikes show no visual signs of potential structural weakness or conditions which may disrupt the area's intended performance.

9.1 Items to be Addressed

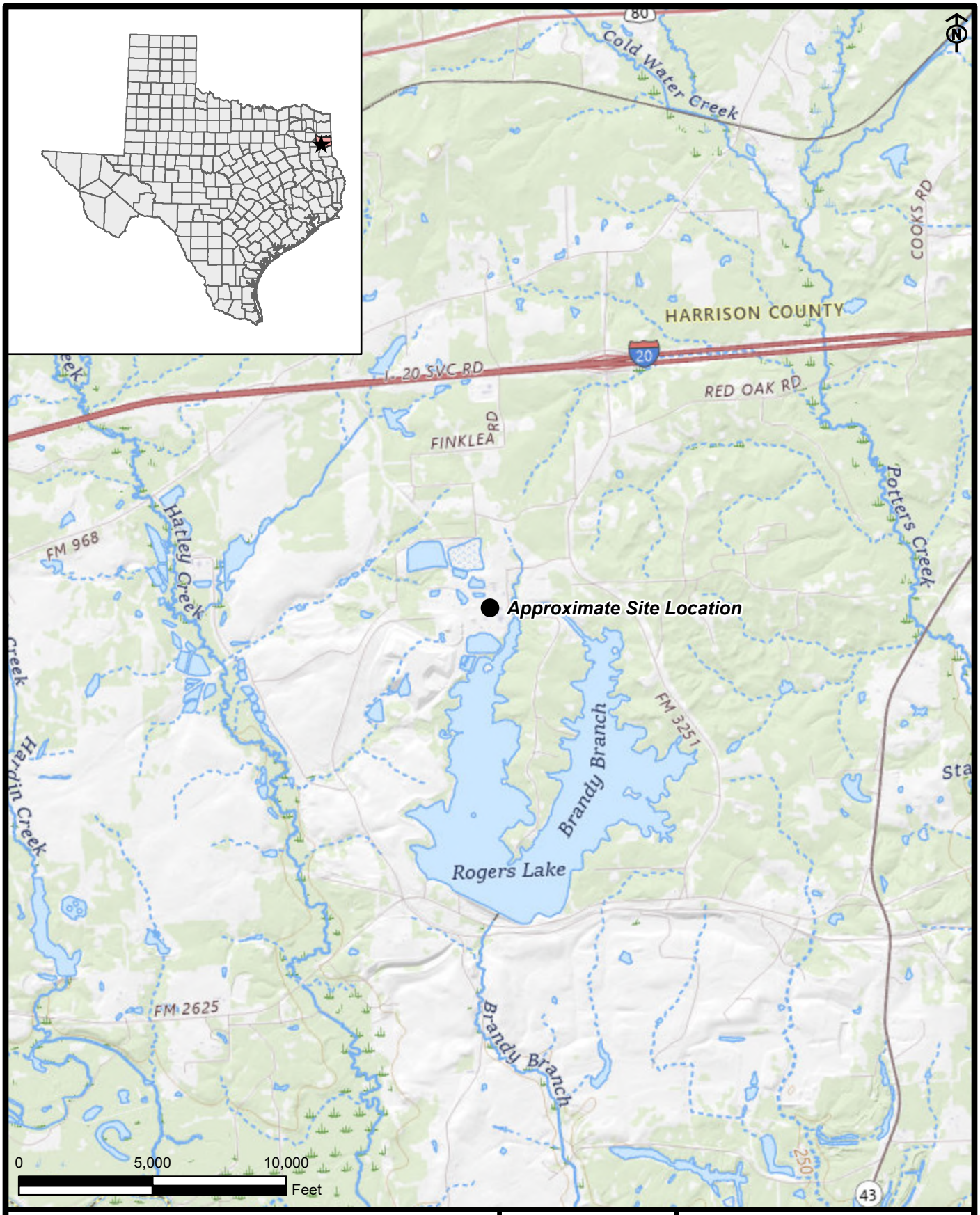
- Item 2 – Address major erosion in the southeast corner of the West Bottom Ash Pond
- Item 5 – Address major erosion in the southwest corner of East Bottom Ash Pond
- Item 6 – Address/remove silt that has accumulated near drainage check dam / pipe inlet at the southwest corner of the East Bottom Ash Pond.

10. Deficiencies (257.83(b)(2)(i))

There were no deficiencies or signs of structural integrity issues or disruptive conditions that were observed at the time of the inspection that would require additional investigation or remedial action.

If you have any questions regarding this report, please contact AEP-Geotechnical Engineering Mazin M Al-Zou'bi (Phone: 740-789-6938, email: mal-zoubi@aep.com) or Daniel Pizzino dwpizzino@aep.com.

Figure 1 – Site Location Map



2025 West/East Bottom Ash Pond and Clearwater Pond Inspection Report
Pirkey Power Plant

American Electric Power Service Corporation
Columbus, OH 43215

GEI Consultants

Project 2305686

SITE LOCATION MAP

May 2025

Fig. 1

Path: B:\Working\AEP\2305686 2024 Dam & Landfill Field Insps\05_GIS\ArcGIS_Pro\2305686 2024 Dam & Landfill Field Insps.aprx

Figure 2 – Facility Plan

2025 West/East Bottom Ash Pond & Clearwater Pond Inspection Report
Pirkey Power Plant
Hallsville, Texas

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Columbus, OH 43215

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FACILITY PLAN

Project 2501323

June 2025

Fig. 2

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Figure 3 – Site Plan

LEGEND:

- General Observation

NOTES:

1. Aerial image obtained from USDA NAIP. Image captured spring of 2021.
2. Points shown represent site conditions during time of inspection. Conditions may change overtime, accuracy is not guaranteed. Map should not be used for measurement.

0 250 500 Feet

2025 West/Est Bottom Ash Pond & Clearwater Pond Inspection Report
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Project 2305686

SITE PLAN

June 2025 Fig. 3

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Figure 4 – Items to be Addressed

LEGEND:

- Repair

NOTES:

1. Aerial image obtained from USDA NAIP. Image captured spring of 2021.
2. Points shown represent site conditions during time of inspection. Conditions may change overtime, accuracy is not guaranteed. Map should not be used for measurement.

0 250 500 Feet

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ITEMS TO BE ADDRESSED

June 2025 Fig. 4

Path: B:\Working\AEP\2501323 AEP 2025 Dam & Landfill Inspections\05_GIS\07Pirkey\Figures

Appendix A – Photolog

Photographic Log

Project: Pirkey Power Plant, Bottom Ash Complex Inspection
Client: American Electric Power **GEI Project:** 2305686

PHOTOGRAPH NO: 1	DATE: May 14, 2025 2:13 PM	LATITUDE: 32.46657161	LONGITUDE: -94.49068523
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: West Bottom Ash Pond - Drainage Feature, Discharge Culvert. Looking Upstream. General Photo, Typical Conditions.			
PHOTO BY: GEI CONSULTANTS, INC.			

PHOTOGRAPH NO: 2	DATE: May 14, 2025 2:10 PM	LATITUDE: 32.46648398	LONGITUDE: -94.48997433
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: West Bottom Ash Pond - Upstream Slope. Address Major Erosion 3-4 feet-deep.			
PHOTO BY: GEI CONSULTANTS, INC.			

Photographic Log

Project: Pirkey Power Plant, Bottom Ash Complex Inspection
Client: American Electric Power **GEI Project:** 2305686

PHOTOGRAPH NO: 3	DATE: May 14, 2025 2:08 PM	LATITUDE: 32.46630389	LONGITUDE: -94.48905269
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: West Bottom Ash Pond - Upstream Slope. General Photo, Typical Conditions.			
PHOTO BY: GEI CONSULTANTS, INC.			

PHOTOGRAPH NO: 4	DATE: May 14, 2025 2:07 PM	LATITUDE: 32.46634889	LONGITUDE: -94.48905349
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: West Bottom Ash Pond - Upstream Slope. General Photo, Typical Conditions. Vegetation was not recently maintained or mowed due to limited equipment access following recent rain events.			
PHOTO BY: GEI CONSULTANTS, INC.			

Photographic Log

Project: Pirkey Power Plant, Bottom Ash Complex Inspection
Client: American Electric Power **GEI Project:** 2305686

PHOTOGRAPH NO: 5	DATE: May 14, 2025 2:04 PM	LATITUDE: 32.46634771	LONGITUDE: -94.48838302
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: East Bottom Ash Pond - Upstream Slope. Address Major Erosion. Vegetation was not recently maintained or mowed due to limited equipment access following recent rain events.			
PHOTO BY: GEI CONSULTANTS, INC.			

PHOTOGRAPH NO: 6	DATE: May 14, 2025 2:03 PM	LATITUDE: 32.46644103	LONGITUDE: -94.48830827
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: East Bottom Ash Pond - Drainage Feature, Pipe Inlet. Address silt buildup and maintain vegetation to 12-inches or less.			
PHOTO BY: GEI CONSULTANTS, INC.			

Photographic Log

Project: Pirkey Power Plant, Bottom Ash Complex Inspection
Client: American Electric Power **GEI Project:** 2305686

PHOTOGRAPH NO: 7	DATE: May 14, 2025 2:00 PM	LATITUDE: 32.4663186	LONGITUDE: -94.48873888
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: East Bottom Ash Pond - Upstream Slope. General Photo, Typical Conditions.			
PHOTO BY: GEI CONSULTANTS, INC.			

PHOTOGRAPH NO: 8	DATE: May 14, 2025 1:59 PM	LATITUDE: 32.46630686	LONGITUDE: -94.48876789
DIRECTION:	SITE LOCATION: HALLSVILLE, TEXAS		
DESCRIPTION: East Bottom Ash Pond - Upstream Slope, Typical Conditions.			
PHOTO BY: GEI CONSULTANTS, INC.			