

2022 Annual Landfill Inspection Report

FGD Stackout Area

**H.W. Pirkey Plant
Southwestern Electric Power Company
Hallsville, Texas**

November, 2022

Prepared for: Southwestern Electric Power Company – H.W. Pirkey Plant

Prepared by: American Electric Power Service Corporation

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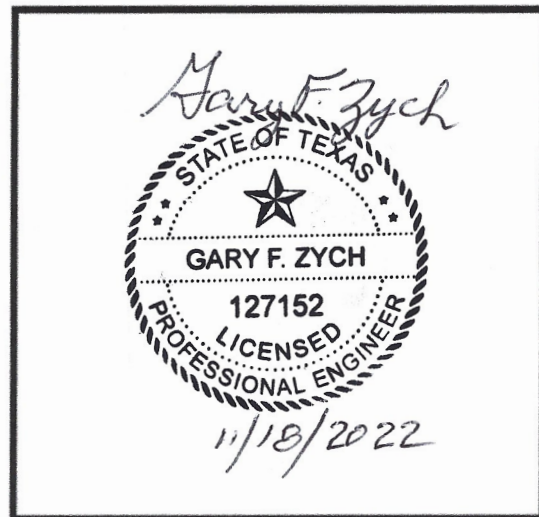
FGD Stackout Area

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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 § 257.84(b).

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1.0 INTRODUCTION

This report was prepared by AEP- Geotechnical Engineering Services (GES) section, in part, to fulfill requirements of 30 TAC 352.841 (40 CFR 257.84) Inspection Requirements for CCR Landfills and to provide the H.W. Pirkey Plant an evaluation of the facility.

Mr. Brett Dreger, P.E. performed the 2022 inspection of the FGD Stackout Area at the H.W. Pirkey Plant. This report is a summary of the inspection and an assessment of the general condition of the facility. Mr. Ron Franklin was the facility contact. The inspection was performed on August 17, 2022. Weather conditions were mostly cloudy with rain showers and the temperature was in the upper 80's to low 90's (°F). There was 2.05 inches of rainfall over the seven days prior to the inspection and 0.00 inches of rain on the day of inspection.

2.0 DESCRIPTION OF LANDFILL

The H.W. Pirkey Power Plant is located in southern Harris County, approximately 6 miles southeast of Hallsville, Texas, as shown in Figure 1 – Vicinity Map in attachment A. The FGD Stackout Area is located due west of the main plant. The FGD Stackout Area is a designated CCR Unit that is subject to 40 CFR 257.84 Inspection Requirements for CCR Landfills. The FGD Stackout Area is designed to temporarily hold a stockpile of Coal Combustion Residuals (CCR) material until it is hauled off by dump trucks for permanent disposal in an on-site landfill. A radial arm stacker deposits the CCR material on the ground surface within the footprint of the FGD Stackout Area. A stone berm with a geomembrane cover exists around the perimeter of the FGD Stackout Area to contain any contact water. All contact water drains by gravity to the lower surge pond or auxiliary surge pond for circulation back to the plant. There is a truck wash station that is used for washing the tires of dump trucks that drive into the FGD Stack-out Area.

These features, including the approximate limits of each area, are included in Figure 2 – Site Map in attachment A. Selected photographs taken during the inspection and used to illustrate the visual observations presented in the report are presented in Attachment B. Additional inspection photos can be made available to the Plant upon request.

3.0 REVIEW OF AVAILABLE INFORMATION (257.84(b)(1)(i))

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

4.0 INSPECTION (257.84(b)(1)(ii))

4.1 CHANGES IN GEOMETRY SINCE LAST INSPECTION (257.84(b)(2)(i))

No modifications have been made to the geometry of the FGD Stackout Area since the November 2021 annual inspection.

4.2 VOLUME (257.84(b)(2)(ii))

The total volume of FGD that has passed through the FGD Stackout Area since September 2021 is estimated as 571,000 cubic yards. At the time of the inspection, it was estimated that about 5,500 cubic yards of FGD were stockpiled at the FGD Stackout Area.

4.3 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 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 §257.84(b)(5) Inspection Requirements for CCR Landfills. 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 landfill has developed a problem that could impact the structural integrity of the landfill. There are four general categories of deficiencies. These four categories are described below:

1. Uncontrolled Seepage (Leachate Outbreak)

Leachate outbreak is the uncontrolled release of leachate from the Landfill.

2. Displacement of the Embankment

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

3. Blockage of Control Features

Blockage of Control Features 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.

4.4 VISUAL INSPECTION (257.84(b)(1)(ii))

A visual inspection of the FGD Stackout Area was conducted to identify any signs of distress or malfunction of the landfill and appurtenant structures. Specific items inspected included all structural elements of the landfill perimeter berms, ditches, and drainage patterns.

Overall, the facility is in good condition. The FGD Stackout Area is functioning as intended with no signs of potential structural weakness or conditions, which are disrupting to the safe operation of the landfill. Inspection photos are included in Attachment B. Additional pictures taken during the inspection can be made available upon request. A site map presenting locations of the inspection observations is included in Attachment B.

1. In general, the gravel perimeter berm with a geomembrane cover appeared to be in good condition. There was no evidence of holes, air/water pockets, or other signs of distress noted on the geomembrane.
2. Surface water runoff from along the eastern perimeter berm is conveyed underneath an access road via a steel pipe culvert. Storm water from this culvert outlets onto a concrete slab with curb walls underneath the supports for the conveyor belt that supplies the radial arm stacker. A section of these curb wall has been notched out to allow surface water runoff to drain to the drainage ditch that feeds the Auxiliary Surge Pond. The steel culvert was not obstructed, but the area upstream of the culvert should be graded to maintain positive drainage to the culvert.
3. An old railroad tie beam and other wood debris that were previously observed at the end of the north drainage ditch and up against the culvert that directs runoff into the auxiliary surge pond has been removed and cleared. This culvert is downstream of the notch in the curb mentioned above.
4. Vehicle traffic enters the site from the south end via a gravel access ramp. This ramp also serves as a berm to ensure the contact water in the FGD Stackout Area is contained and directed to the surge pond.
5. Minor erosion was observed where the FGD Stackout Pad surface area drains into the Auxiliary Surge Pond. This area should be graded to maintain positive drainage and to prevent excessive erosion.

4.5 CHANGES THAT EFFECT STABILITY OR OPERATION (257.84(b)(2)(iv))

Based on interviews with plant personnel and field observations there were no changes to the FGD Stackout Area since the last annual inspection that would affect the stability of the facility.

5.0 SUMMARY OF FINDINGS

5.1 GENERAL OBSERVATIONS

The following general observations were identified during the visual inspection:

- 1) In general, the FGD Stackout Area is functioning as intended and is in good condition. The Plant is performing regular maintenance and inspections as required. A few maintenance items have been noted and are described in Section 5.2.

5.2 MAINTENANCE ITEMS

The following maintenance items were identified during the visual inspection, see site map for locations. Contact GES for specific recommendations regarding repairs:

- 1) The area upstream of the culvert that drains the eastern perimeter ditch should be graded to maintain positive drainage to the culvert.
- 2) The area upstream of the FGD Stackout pad that drains to the auxiliary surge pond should be graded to maintain positive drainage to the culvert.

5.3 ITEMS TO MONITOR

There are no items to monitor as a result of observations made during this visual inspection:

5.4 DEFICIENCIES (257.84(b)(2)(iii))

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 inspections. A deficiency is defined as either:

- 1) Uncontrolled seepage (leachate outbreak),
- 2) Displacement of the embankment,
- 3) Blockage of control features, or
- 4) Erosion, more than minor maintenance.

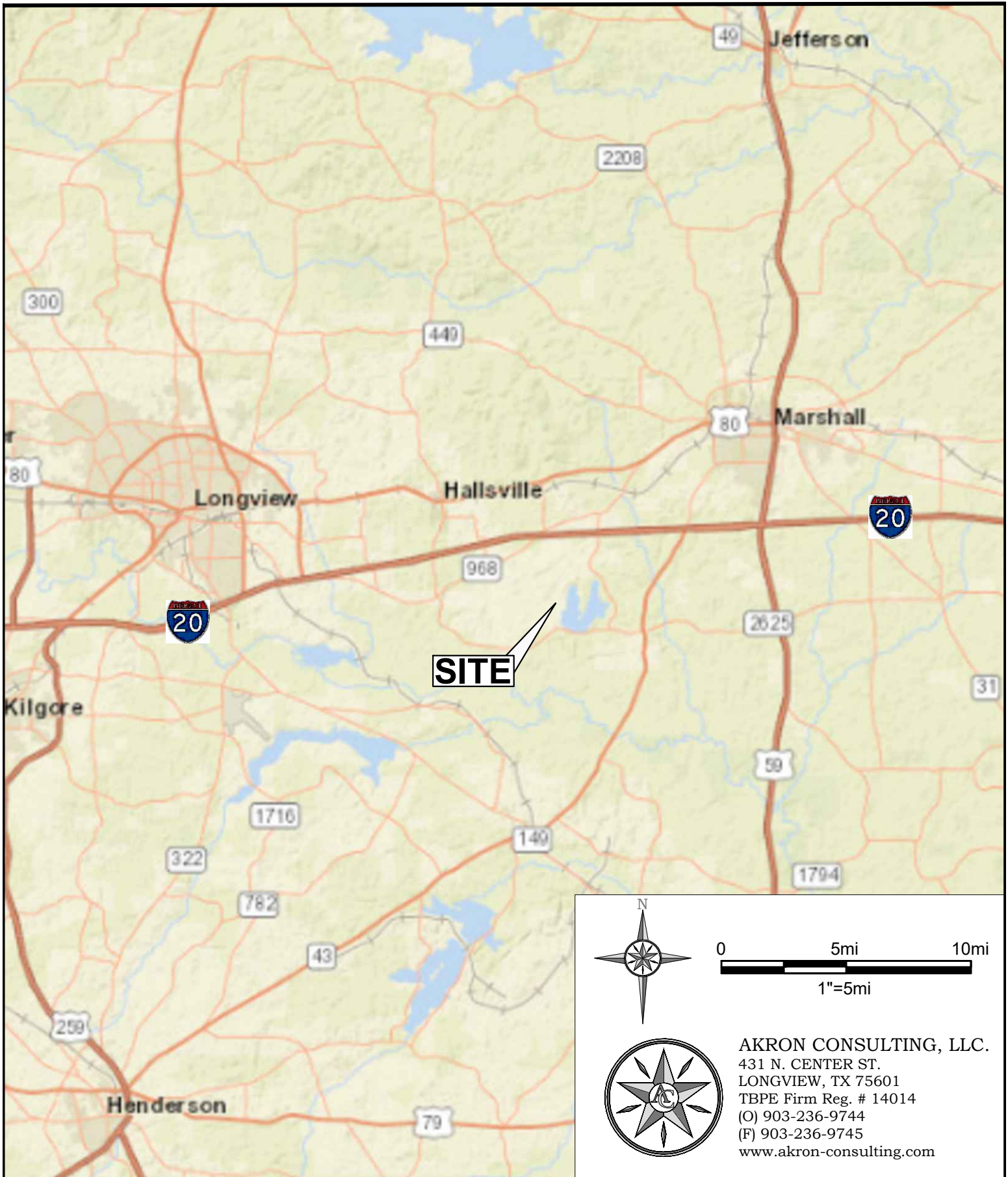
If any of these conditions occur before the next annual inspection contact AEP Geotechnical Engineering (Brett Dreger at 614-716-2258, badreger@aep.com) immediately.

ATTACHMENT A

Figure 1 – Vicinity Map
Figure 2 – Site Map

FIGURE 1 - VICINITY MAP

CCR LANDFILL, H.W. PIRKEY POWER PLANT, HALLSVILLE, TX



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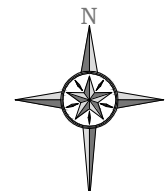
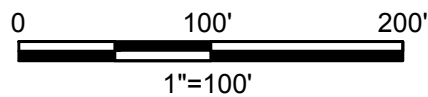


FIGURE 2
FGD STACKOUT AREA
SITE MAP

ATTACHMENT B

**Figure 3 – Inspection Photograph Location Map
Inspection Photographs**

FIGURE 3 - INSPECTION PHOTOGRAPH LOCATION MAP FGD STACKOUT AREA, H.W. PIRKEY POWER PLANT, HALLSVILLE, TX



Photo # 1

View of the contact water drainage ditch located on the west side of Stackout Area.



Photo # 2

View of the western gravel berm with a geomembrane cover facing north.



Photo # 3

View of the southern gravel berm with a geomembrane cover facing west.



Photo # 4
View of the eastern gravel berm with a geomembrane cover facing north.



Photo # 5
View of the inlet culvert pipe that discharges water from the stackout area into the drainage ditch under the conveyor system.



Photo # 6
View of the outlet area of the steel culverts under the conveyor system which feeds the radial arm stacker



Photo # 7

View of the drainage culvert from the FGD Stackout Pad area that drains to the ditch which is located adjacent to the conveyor system on the north side.



Photo # 8

View of the drainage ditch culvert which directs runoff into the auxiliary surge pond. This culvert is downstream of the notch in the curb shown in Photo #6 and culvert shown in Photo #7.



Photo # 9

View of the FGD Stackout Area with a pile of Gypsum on the pad.



Photo # 10

View of the radial arm stacker that conveys gypsum to the stackout area.



Photo # 11

View of the truck wash station to clean the dump trucks loading and hauling gypsum to the landfill.



Photo # 12

View of the FGD Stackout Area on the north side adjacent to the truck wash out station.

