

2020 Annual Landfill Inspection Report

FGD Stackout Area

**H.W. Pirkey Power Plant
American Electric Power Service Company
(SWEPCO)
Hallsville, Texas**

December 24, 2020

Prepared for:



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Date of Inspection: November 5, 2020

PREPARED BY Le Ro DATE 12-23-2020
Lane Roberts, P.E.

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APPROVED BY Le Ro DATE 12-24-2020
Lane Roberts, P.E.



I certify to the best of my knowledge, information and belief that the information contained in this report meets the requirements of 40 CFR § 257.84(b).

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H.W. Pirkey Power Plant
Hallsville, Texas

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1.0 INTRODUCTION

This report was prepared by Akron Consulting, LLC for the AEP - Geotechnical Engineering Services (GES) section, in part, to fulfill requirements of 40 CFR 257.84 and to provide the H.W. Pirkey Power Plant an evaluation of the facility.

Mr. Lane Roberts, P.E. performed the 2020 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 of the plant was the facility contact for this inspection, which was performed on November 5, 2020. Weather conditions were partly cloudy with light winds, and the average temperature was in the low 70's (°F).

2.0 DESCRIPTION OF LANDFILL

The H.W. Pirkey Power Plant is located in southern Harrison 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 a separate 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 the Auxiliary Surge Pond for circulation back to the plant. There is a concrete pad used for washing the tires of dump trucks that drive into the FGD Stackout 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 includes 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 2019 annual inspection. However, in order to minimize erosion and contact storm water, the plant has recently installed a geomembrane rain flap on the western side of the area to direct non-contact storm water around the Surge Pond, but this did not change the overall geometry of the FGD Stackout Area.

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

The total volume of ash that has passed through the FGD Stackout Area since the 2019 inspection was estimated at approximately 175,000 cubic yards. At the time of the inspection, it was estimated that about 200 cubic yards 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, these are 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 disruptive 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 as Figure 2 in Attachment A.

1. The gravel 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 gravel berm with a geomembrane cover 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 walls has been notched to allow surface water runoff to drain to the Auxiliary Surge Pond. The steel culvert was not obstructed, but the area upstream of the culvert should be re-graded to maintain positive drainage to the culvert.
3. There is no vegetal cover on the FGD Stackout Area due to material constantly being stockpiled and removed.
4. The geomembrane rain flap that was recently installed is functioning in good condition. All contact water adjacent to the rain flap is directed away from it to the Surge Pond.
5. Vehicle traffic enters the site from the south end via a gravel access ramp, which is also functioning in good condition. 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.
6. A minor obstruction was observed in the concrete ditch on the north end, which should be removed. Minor erosion was also observed where the FGD Stackout Pad surface drains into the Auxiliary Surge Pond, which should be repaired.

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 minor maintenance items have been noted and 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 re-graded to maintain positive drainage to the culvert.
- 2) The minor obstruction in the concrete ditch on the north end should be removed.
- 3) Repair the erosion rills that have formed from the stackout pad to the Auxiliary Surge Pond. This area shall be backfilled properly due to the presence of shallow pipelines in this area. This erosion is considered a minor maintenance item.

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 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 the Geotechnical Engineering Services (GES) section immediately.

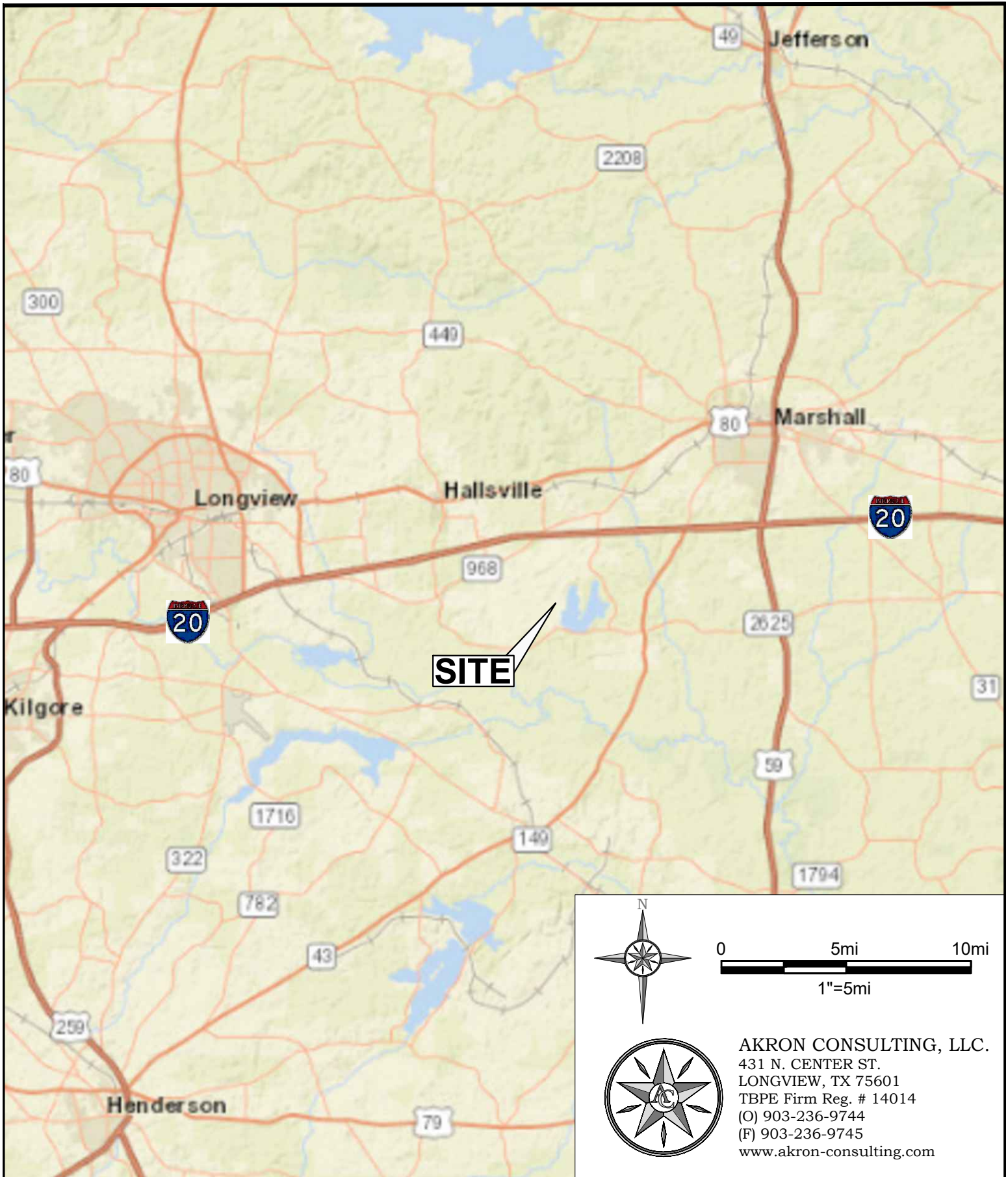
ATTACHMENT A

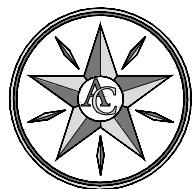
Figure 1 – Vicinity Map

Figure 2 – Site Map

FIGURE 1 - VICINITY MAP

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





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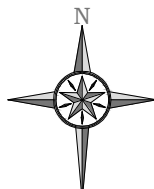
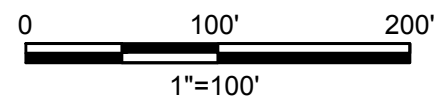


FIGURE 2
FGD STACKOUT AREA
SITE MAP

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 upstream end of the eastern steel culvert



PHOTO #2

View of the downstream end of the eastern steel culvert



PHOTO #3

View of the eastern perimeter berm / ditch with minor ponding



PHOTO #4

View of the western perimeter berm / ditch with rain flap



PHOTO #5

View of the northern perimeter berm / ditch



PHOTO #6

View of the eastern side of the rain flap



PHOTO #7

View of the conveyor, the radial arm stacker, and the active stackout area



PHOTO #8

View of the radial arm stacker and the active stackout area with the limestone pile in the distance (outside of FGD Stackout Area)



PHOTO #9

View of concrete ditch on the north end with minor obstruction



PHOTO #10

View of erosion between the stackout area and the Auxiliary Surge Pond



PHOTO #11

View of exposed shallow pipelines in one of the erosion rills

