2021 Annual Landfill Inspection Report

FGD Stackout Area

H.W. Pirkey Plant

Southwestern Electric Power Company

Hallsville, Texas

September 8, 2021

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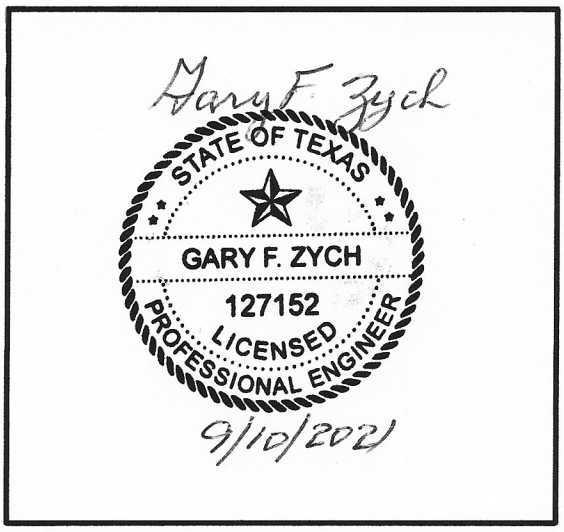

I certify to the best of my knowledge, information and belief the information contained in this report meets the requirements of 40 CFR § 257.84(b).

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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 2021 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 18, 2021. Weather conditions were mostly cloudy with rain showers and the temperature was in the upper 70's to low 80's (°F). There was 0.08 inches of rainfall over the seven days prior to the inspection and 1.51 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 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 auxiliary surge pond for circulation back to the plant. There is concrete pad 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 2020 annual inspection.

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

The total volume of FGD that has passed through the FGD Stackout Area since November 2020 is estimated as 225,000 cubic yards. At the time of the inspection, it was estimated that about 900 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. 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. A rain event of 1.51-inches occurred on 9/18/2021 in the early morning hours before the inspection resulting in several inches of standing water along the eastern gravel berm of the stackout area. Surface water from this area was flowing to a steel pipe culvert that conveys water underneath an access road located in the northeast corner of the pad. This culvert outlets onto a concrete slab with curb walls underneath the supports for the conveyor belt, which feeds the radial arm stacker. A section of these curb walls have been notched out to allow surface water runoff to drain to the drainage ditch that feeds the auxiliary surge pond.

3. An old rail road tie beam and other wood debris were observed at the end of the north drainage ditch and up against the culvert that directs runoff into the auxiliary surge pond. This culvert is downstream of the notch in the curb mentioned above.

4. Vehicle traffic enters the site from the south end. A gravel access road ramps over the top of the gravel berm covered with a geomembrane material.

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 re-graded to maintain positive drainage to the culvert.

2) The rail road tie beam and wood debris lying up against the culvert of the of the north drainage ditch that direct runoff into the auxiliary surge pond should be removed.

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

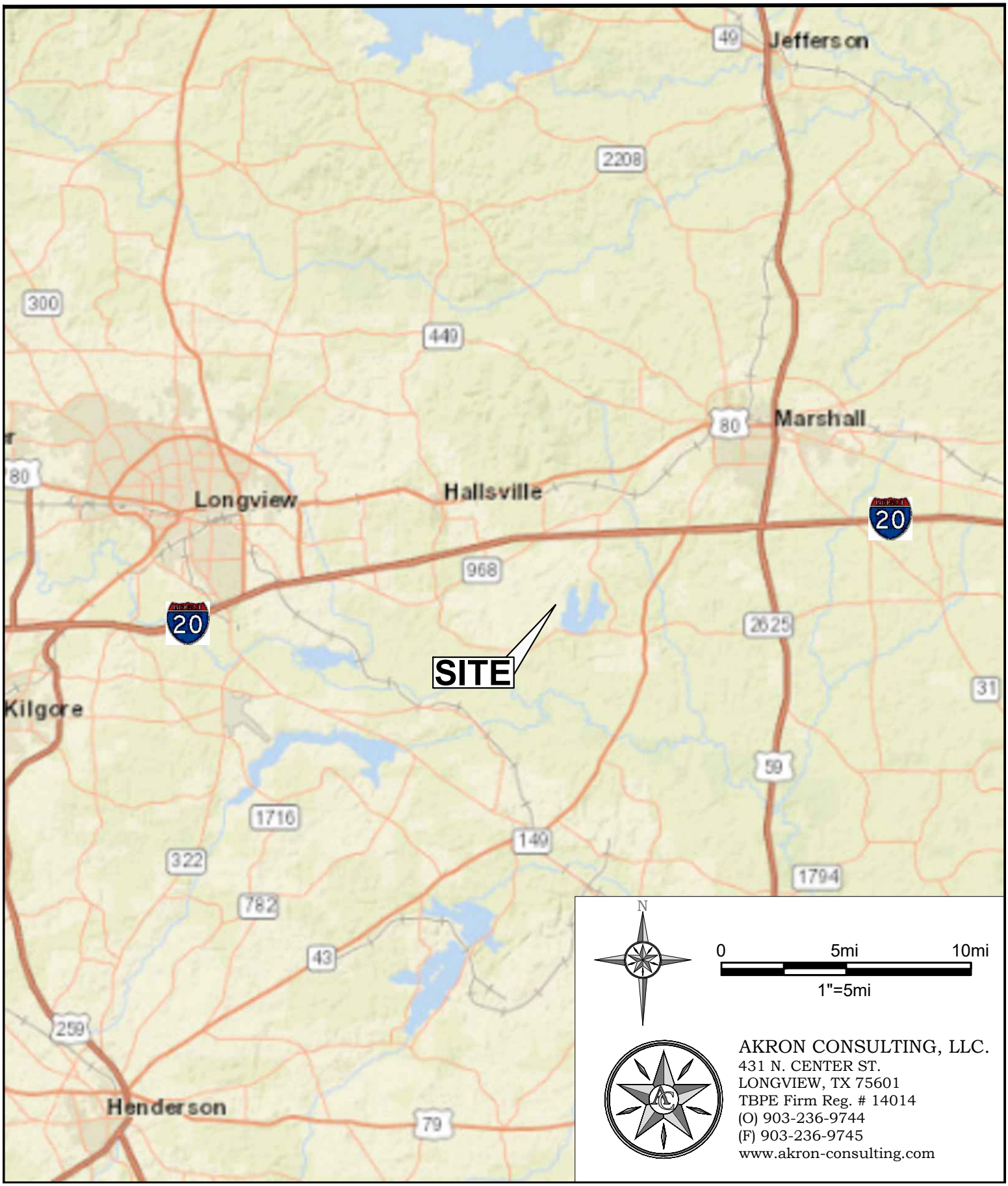

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FIGURE 2
FGD STACKOUT AREA SITE MAP

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 south.	
Photo # 3	
View of the southern gravel berm with a geomembrane cover facing east.	

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 ditch which is located under 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	
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 drainage area north of the stackout area that leads to the auxiliary surge pond.	