

January 13, 2022  
Project No. 16221100.00

Ms. Gulay Aki  
Industrial and Hazardous Waste Permits Section, MC-130  
Coal Combustion Residuals Program  
Texas Commission on Environmental Quality  
P. O. Box 13087  
Austin, Texas 78711-3087

Re: Sandy Creek Energy Station Coal Combustion Residual Waste Management Facility  
Solid Waste Registration No. 88448; EPA ID: TXR000079082  
2021 Annual Inspection Report Notification

Dear Ms. Aki:

On the behalf Sandy Creek Services, LLC, SCS Engineers is providing this letter of the availability of 2021 Annual Inspection Report per 40 CFR §257.84(b)(2). This letter is being provided in accordance with 40 CFR §257.106(g)(7) (30 TAC §352.1311) to the Texas Commission on Environmental Quality (TCEQ). In accordance with 40 CFR §257.105(g)(9) and §257.107(g)(9) this report has been placed in the Site Operating Record and placed on the Landfill's publicly accessible website. This letter is being provided to the TCEQ within 30 days of placing the annual inspection in the Site Operating Record.

If you have any questions related to the above described information, please feel free to contact Mr. Brett DeVries, Ph.D., P.E. at 817-358-6110.

Sincerely,



Brett DeVries, Ph.D., P.E.  
Project Engineer  
SCS ENGINEERS  
TBPE No. F-340



Ryan Kuntz, P.E.  
Vice President / Satellite Office Manager  
SCS ENGINEERS

cc: Darryl Sparks – Sandy Creek Energy Station

January 13, 2022  
SCS Project No. 16221100.00

Mr. Darryl Sparks  
Compliance Manager  
NAES Corporation  
2161 Rattlesnake Road  
Riesel, Texas 76682

*Sent via email*

Subject: Sandy Creek Energy Station  
Coal Combustion Residual (CCR) Waste Management Facility  
2021 Annual Inspection Report per 40 CFR §257.84(b)(2) (30 TAC §352.841)

Dear Mr. Sparks:

SCS Engineers (SCS) is pleased to provide this 2021 annual inspection report for compliance with Title 40, Code of Federal Regulation (CFR) §257.84(b)(2) (30 Texas Administrative Code (TAC) §352.841) related to the annual inspection of a coal combustion residual (CCR) Landfill by a qualified engineer.

The Sandy Creek Energy Station CCR Waste Management Facility (Landfill) is located at 2161 Rattlesnake Road, Riesel, Texas 76682, and is currently registered with the Texas Commission on Environmental Quality (TCEQ) under Registration No. 88448.

## **BACKGROUND**

The Landfill is currently comprised of three CCR disposal cells, inclusive of Cell 1, Cell 2, and a portion of Cell 3 (inclusive of Subcells 3A through 3D). Cells 1 and 2 are classified as a existing Landfill as defined under §257.53 since they were constructed and commenced operation in 2010 and 2014, respectively (prior to October 14, 2015). Cell 3, including the portion which was constructed in 2021, is considered a lateral expansion. The approximate areas of the currently constructed cells are 10.0 (Cell 1), 14.3 (Cell 2) and 10.3 (Cell 3) acres.

The primary wastes disposed in the Landfill are fly ash and bottom ash generated during the coal combustion process at the Sandy Creek Energy Station (Plant). Additionally, other Class 2 and Class 3 waste generated at the Plant are disposed of at the Landfill.

## **ANNUAL INSPECTION [§257.84(B)(1)]**

An annual inspection of the Landfill was performed on January 4, 2022, by Brett DeVries, Ph.D., P.E., a Professional Engineer registered in the State of Texas. An annual inspection checklist was prepared during the inspection, and is attached to this report. At the time of the inspection, the Landfill was operational, and the Landfill was receiving waste.

**Although the items described below and on the attached checklist were observed during the inspection, there were no existing conditions or changes from the previous annual inspection that appeared to have the potential to disrupt the operation, safety, or stability of the Landfill**

**[§257.84(b)(2)(iv)]. Additionally, during the inspection, no appearance of actual or potential structural weakness was observed [§257.84(b)(2)(ii)].**

During the inspection, as noted in the attached checklist, the following items were observed:

- A portion of the internal sideslope in Subcell 2E was steeper than 3.5H:1V. This slope extended from top of protective cover up approximately 10 feet to an intermediate top deck elevation. Based on review of this slope, no appearance of structural weakness or instability was observed. Based on discussions with operation personnel, this slope will be brought to a 3.5H:1V slope consistent with designed internal slope grades in the near future.
- Damage to the contact water diversion berm in Subcell 2D was observed. Based on discussion with operation personnel, the contact water diversion berm damage in Subcell 2D was repaired shortly after the inspection.
- Erosion was observed on the intermediate cover of the east slope of Subcell 2D, and interior sideslope of Subcells 2C and 2D. Based on discussion with operation personnel, the minor erosion was repaired shortly after the inspection. It was evident that operation personnel repaired minor erosion rills throughout the year as the erosion rills develop. In addition, site personnel have installed temporary sideslope berms in potential high erosion areas in an effort to control erosion.
- Excessive dust emissions were not observed during the inspection. Leachate evaporation pond, leachate evaporation pond underdrain system, and groundwater monitoring systems were observed to be functioning as designed.

**During the inspection, SCS also reviewed the weekly inspection reports prepared by a qualified person in accordance with §257.84(a). All required weekly inspections have been completed for calendar year 2021. Consistent with §257.84(b)(I), SCS reviewed the 2021 weekly inspections and the prior 2020 annual inspection. Items noted during the 2021 weekly inspections were similar to the items noted in this 2020 annual inspection, which were primarily related to ongoing challenges with erosion and stormwater (non-contaminated water) culverts. In addition, items observed during the 2021 annual inspection will be corrected by operation personnel in the near future (weather permitting). Based on a review of these inspections, operation personnel have routinely corrected or maintained the Landfill, as weather allowed, for items identified in the inspections and during Landfill operation. Additionally, no deficiencies were observed during the weekly or annual inspections that could result in harm to human health, the environment, or had resulted in a release.**

**Lastly, during the inspection, consistent with §257.84(b)(I), SCS also reviewed all other documents in the Site Operation Record. All documents required to be in the Site Operating Record in accordance with §257.105 were present during the inspection.**

**In summary, based on the above-described inspection and improvement plans (previously noted) and consistent with the previous annual inspection (dated 1/13/2021), in our opinion, the design, construction, operation, and maintenance of the Landfill (inclusive of the items inspected in the attached checklist) is being performed consistent with recognized and generally accepted good engineering standards.**

**VOLUME OF IN-PLACE WASTE [§257.84(B)(2)(ii)]**

The approximate volume of CCR contained in the Landfill at the time of the inspection was estimated in accordance with §257.84(b)(2)(ii). The Landfill has been operational since early 2013.

Ground surveys of the Landfill have been developed since April 2013, with the most recent two surveys being performed on September 28, 2021 and December 27, 2021. The estimated airspace consumed between the two surveys is 35,111 cubic yards (CY) for a period of 90 days (provided by facility personnel). Therefore, the airspace consumed was converted to an average daily volume of approximately 390.1 cy/day. Based on a comparison of the as-built top of liner grades and existing grades at the time of the surveys, the Landfill has approximately 1,253,254 cubic yards of CCR waste as of December 27, 2021 (provided by facility personnel). In addition, based on the average daily volume of 390.1 cy/day, it is estimated that an additional 3,121 cy of CCR waste was disposed of in the Landfill between December 27, 2021 and January 4, 2022. **Therefore, as of the date of the annual inspection (January 4, 2022), it is estimated that the Landfill contained approximately 1,256,375 cy of CCR waste.**

**CLOSING**

SCS appreciates the opportunity to perform the 2021 annual inspection of Sandy Creek Energy Station (Plant) Coal Combustion Residual (CCR) Waste Management Facility (Landfill). Should you have any questions or require additional information on this inspection, please feel free to contact Brett DeVries, Ph.D., P.E. at 817-571-2288.

Sincerely,



Brett DeVries, Ph.D., P.E.  
Project Engineer  
**SCS ENGINEERS**  
TBPE Registration No. F-3407

Ryan Kuntz, P.E.  
Vice President / Satellite Office Manager  
**SCS ENGINEERS**

Attachment: Coal Combustion Residual Landfill Annual Inspection Checklist

## Sandy Creek Energy Station

### Coal Combustion Residual Landfill Annual Inspection Checklist

40 CFR §257.84(b) - Requires inspections on an annual basis by a Qualified Professional Engineer

Date and Time of Inspection: January 4, 2022 at 9:30 a.m.

Professional Engineer's Name: Brett DeVries, Ph.D., P.E.

Weather Summary at time of Inspection: 49°F, sunny, little to no wind

Precipitation for the previous 7 days: 0.04 inches

### 1. Landfill Structure and Slope

Sloughing, Slumping, Sliding		Surface Cracking		Excessive Slope		Toe of Slope Moving		Inadequate Compaction	
		Yes	No	Yes	No	Yes	No	Yes	No
	<b>X</b>		<b>X</b>	<b>X</b>			<b>X</b>		<b>X</b>

  

Inappropriate Vegetative Growth		Animal Burrows		Erosion Damage		Vehicle Damage	
Yes	No	Yes	No	Yes	No	Yes	No
	<b>X</b>		<b>X</b>		<b>X</b>		<b>X</b>

Additional Observations: A portion of internal sideslope in Cell 2E was steeper than 3.5(H):1(V). The slope extended from top of protective cover to up approximately 10 feet to an intermediate deck. No appearance of structural weakness or instability was observed.

### 2. Landfill Cover

Qualifier	Intermediate Soil Cover		Final Soil Cover		Bottom Ash Cover		Alternative Cover	
	Yes	No	Yes	No	Yes	No	Yes	No
Installed	<b>X</b>		N/A		N/A		N/A	
Erosion	<b>X</b>							
Location	2C & 2D							

Additional Observations: Erosion was observed on the intermediate cover of the east slope of subcell 2D, and interior of subcell 2C and 2D.

### 3A. Run-on and Run-off Control System

#### Uncontaminated Surface Water Management System

Qualifier	Diversion Berms		Downchutes		Perimeter Drainage Channels		Culverts		Detention Basins	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Inspection	<b>X</b>		<b>X</b>		<b>X</b>		<b>X</b>		<b>X</b>	
Damage		<b>X</b>		<b>X</b>		<b>X</b>		<b>X</b>		<b>X</b>
Type										
Location										

Additional Observations: \_\_\_\_\_

**3B. Run-on and Run-off Control System**

Contact Water Management System

Qualifier	Diversion Berms		Drainage at Perimeter Berm		Drainage at Separation Berm		Culvert		Ponding of Contact Water		Release of Contact Water		
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Inspection	X		X		X		N/A		X		X		
Damage	X		X			X				X		X	
Type	See Note 1		See Note 1										
Location	2D		2D										

Additional Observations: 1. Damage to the contact water diversion berm was observed. No evidence of release of contact water.

**4. Exposed Liner and Leachate Collection and Removal System**

Qualifier	Intercell Berm Sacrificial Plastic		LCRS Riser Pipes		Leachate Sump Pump/Controls		Leachate Evaporation Pond		
	Yes	No	Yes	No	Yes	No	Yes	No	Freeboard (ft)
Inspection	X		X		X		X		5
Damage		X		X		X		X	N/A
Type									N/A
Location									N/A

Qualifier	LCRS Valve		Protective Cover		Exposed Geosynthetics	
	Yes	No	Yes	No	Yes	No
Inspection	X		X		X	
Damage		X		X		X
Type						
Location						

Additional Observations: \_\_\_\_\_

**5. Dust Emissions**

Landfill		Haul Trucks		Ash Silo	
Yes	No	Yes	No	Yes	No
	X		X		X

Additional Observations: \_\_\_\_\_

**6. Leachate Evaporation Pond Underdrain System**

Sediment		Vegetation		Debris		Water Flow	
Yes	No	Yes	No	Yes	No	Yes	No
	X		X		X	X	

Additional Observations: \_\_\_\_\_

**7. Groundwater Monitoring System**

Damage		Excess Vegetation		Lock Working		Housing Lid Functional		Insects in Housing		Housing Paint Peeling		Label Adequate	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	<b>X</b>		<b>X</b>	<b>X</b>		<b>X</b>			<b>X</b>		<b>X</b>	<b>X</b>	

Additional Observations: \_\_\_\_\_

**8. Document Review**

Description	Yes	No
Weekly Inspection Checklists Reviewed:	<b>X</b>	
All Weekly Inspections Completed:	<b>X</b>	
Site Operating Record Reviewed:	<b>X</b>	
All necessary documents maintained in Site Operating Record: (see attached Site Operating Record Checklist)	<b>X</b>	

Additional Observations: \_\_\_\_\_

Additional Comments/Observations/Recommendations: \_\_\_\_\_



1/13/2022

Professional Engineer's Signature and Seal

Date

**SANDY CREEK ENERGY STATION  
CCR LANDFILL ANNUAL SITE OPERATING RECORD REVIEW**

Primary Citation	Description	Required	Deadline	Date Completed	Maintained in Operating Record		
					Yes	No	NA
§257.60(a) and §352.601	Documentation of compliance with location restrictions: aquifer	Yes	No later than date of initial receipt of CCR in any lateral expansion (e.g. Cell 3)	Cell 3(subcells 3A-3D) - 6/7/21	X		
§257.61(a) and §352.611	Documentation of compliance with location restrictions: wetland	Yes	No later than date of initial receipt of CCR in any lateral expansion (e.g. Cell 3)	Cell 3(subcells 3A-3D) - 6/7/21	X		
§256.62(a)	Documentation of compliance with location restrictions: seismic zone	Yes	No later than date of initial receipt of CCR in any lateral expansion (e.g. Cell 3)	Cell 3(subcells 3A-3D) - 6/7/21	X		
§256.63(a)	Documentation of compliance with location restrictions: damage zone near fault lines	Yes	No later than date of initial receipt of CCR in any lateral expansion (e.g. Cell 3)	Cell 3(subcells 3A-3D) - 6/7/21	X		
§257.64(a) and §352.641	Documentation of compliance with location restrictions: unstable areas	Yes	10/17/2018	10/1/2018	X		
§257.70(e) and §352.701	Liner Design Certification	Yes	60 days prior to construction of any lateral expansion (e.g. Cell 3)	Cell 3(subcells 3A-3D) - 6/7/21	X		
§257.70(f) and §352.701	Liner Construction Certification	Yes	No later than date of initial receipt of waste in any new waste unit	Cell 3(subcells 3A-3D) - 12/6/21	X		
§257.80(b) and §352.801	Fugitive Dust Control Plan	Yes	10/19/2015	10/18/2015 & Rev 12/16 & 12/18	X		
§257.80(c) and §352.801	Fugitive Dust Control Plan Annual Report	Yes	1 year after previous report completion	12/16/16, 11/30/17, 12/18/18, 1/19, 12/20	X		
§257.81(c) and §352.811	Initial and Periodic run-on and run-off control system plan	Yes	10/17/2016, and every 5 years after initial plan	10/14/2016, 10/14/21	X		
§257.84(a) and §352.841	Weekly inspection reports	Yes	Weekly in 2016, 2017, 2018, 2019, and 2020	Weekly in 2016, 2017, 2018, 2019, 2020, and 2021	X		
§257.84(b)(2) and (3) and §352.841	Annual Inspections	Yes	Due 1/19/2016 and 1 year after previous report completion	1/13/2016, 1/13/17, 1/13/18, 1/13/19, 1/13/20, 1/13/21	X		
§257.84(b)(5) and §352.841(b)	Documentation of corrective measures for deficiency or release (based on annual report)	Yes	As soon as feasible	NA			X
§257.90(e) and §352.901	Annual groundwater monitoring and corrective action report	Yes	1/31/2018, and Annual Report due 1 year after previous report completion	1/30/18, 1/30/19, 1/31/20, 1/29/21	X		
§257.91(e)(1) and §352.911	Documentation of design, installation, development, and decommissioning of GW Wells	Yes	10/17/2017	3/11/2016 and 1/22/21	X		
§257.91(f) and §352.911	Groundwater Monitoring System certification	Yes	10/17/2017	3/11/2016	X		
§257.93(f) and §352.931	Certification of selected statistical method for evaluating GW monitoring data	Yes	10/17/2017	3/2/2016	X		
§257.94(e)(3) and §352.941	GW Assessment Monitoring Program establishment notification	Yes	30 days after plan establishment	NA			X
§257.95(d)(1) and §352.951	GW Assessment monitoring program sampling and results	Yes	90 days after results, and on at least semiannual basis thereafter	NA			X
§257.95(e)	Notification of resuming GW detection monitoring program	Yes	30 days after program establishment	NA			X
§257.95(g)	Notification of GW constituent(s) being above protection standards	Yes	30 days after detection	NA			X
§257.96(d)	Assessment of GW corrective measures	Yes	90 days after detection	NA			X
§257.96(e)	Documentation recording public meeting for GW corrective measures assessment	Yes	After meeting	NA			X
§257.97(a)	Progress reports (Semiannually) for selecting and design remedy for GW corrective action	Yes	6 months after selection and design completion	NA			X
§257.98(e)	Notification and certification of GW remedy completion	Yes	After 30 days of completion	NA			X
§257.102(b)	Closure Plan	Yes	10/17/2016	10/14/2016	X		
§257.104(d)	Post-Closure Care Plan	Yes	10/17/2016	10/14/2016	X		