January 13, 2021
SCS Project No. 16220101.00

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) Landfill
2020 Annual Inspection Report per 40 CFR §257.84(b)(2)

Dear Mr. Sparks:

SCS Engineers (SCS) is pleased to provide this 2020 annual inspection report for compliance Title 40, Code of Federal Regulation (CFR) §257.84(b)(2), related to the annual inspection of a coal combustion residual (CCR) landfill by a qualified engineer. The CCR landfill is located on the Sandy Creek Energy Station (facility) property at 2161 Rattlesnake Road, Riesel, Texas 76682, and is registered with the Texas Commission on Environmental Quality (TCEQ) under Registration No. 88448.

BACKGROUND

The CCR landfill is classified as an existing landfill as defined under §257.53, which was constructed and commenced operation prior to October 14, 2015. The landfill is currently comprised of two CCR disposal cells, Cells 1 and 2, which commenced receiving waste in early 2013 and October 2014, respectively. The approximate area of Cells 1 and 2 are 10.0 and 14.3 acres, respectively.

The primary wastes disposed of in the landfill are dry scrubber ash and bottom ash generated during the facility's coal combustion process. Incidental waste generated during the facility's operation may also be disposed of in the landfill, as described in the initial registration notification to TCEQ and the most recent version of the facility's Operations Plan.

ANNUAL INSPECTION [§257.84(B)(1)]

An annual inspection of the landfill was performed on December 30, 2020, by Brett DeVries, Ph.D., P.E., a Professional Engineer registered in the State of Texas. An annual inspection checklist prepared during the inspection is attached to this report. At the time of the inspection, the facility 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:

- One (center) of three culverts located at the west side entrance of the stormwater pond (i.e., discharge of perimeter channel into the pond) is blocked and unable to transmit uncontaminated surface water. Based on discussion with operation personnel, this does not result in the ponding of surface water, and it will continue to be monitored by operation personnel.

- Erosion rills were not observed on the intermediate cover of the internal and external slopes of the landfill. As a result, underlying CCR waste was not observed (or exposed) in any location as a result of erosion to intermediate cover. In addition, site personnel have installed temporary sideslope berms in potential high erosion areas in an effort to control erosion.

- Protective cover was removed and geosynthetic was exposed at a temporary downchute on the east slope of inactive Subcell 2E, and a portion of the protective cover on the northwest corner of Subcell 2D was damaged due to erosion, but the geosynthetic was not exposed. Based on discussion with operation personell, the temporary downchute in Subcell 2E and erosion damage in Subcell 2D was repaired shortly after the inspection.

- Minor erosion damage to the contact water diversion berm in Subcell 2D was observed; however, this minor damage was not enough to allow contact water release. Based on discussion with operation personell, the contact water diversion berm damage in Subcell 2D was repaired shortly after the inspection.

- 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 2020. Consistent with §257.84(b)(i), SCS reviewed the 2020 weekly inspections and the prior 2019 annual inspection. Items noted during the 2020 weekly inspections were similar to the items noted in this 2019 annual inspection, which were primarily related to ongoing challenges with erosion and stormwater (non-contaminated water) culverts. In addition, items observed during the 2020 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 facility, as weather allowed, for items identified in the inspections and during landfill operation.**

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 1/13/2020), 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 23, 2020 and December 14, 2020. The estimated airspace consumed between the two surveys is 28,400 cubic yards (CY) for a period of 82 days (provided by facility personnel). Therefore, the airspace consumed was converted to an average daily volume of approximately 346.3 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 1,123,128 cubic yards of CCR waste as of December 14, 2020 (provided by facility personnel). In addition, based on the average daily volume of 346.3 cy/day, it is estimated that an additional 5,540.8 cy of CCR waste was disposed of in the landfill between December 14, 2020 and December 30, 2020. **Therefore, as of the date of the annual inspection (December 30, 2020), it is estimated that the landfill contained approximately 1,128,669 cy of CCR waste.**

CLOSING

SCS appreciates the opportunity to perform the 2020 annual inspection of Sandy Creek Energy Station, CCR 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: 12/30/2020 10:00 a.m.

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

Weather Summary at time of Inspection: 60°F, Rain

Precipitation for the previous 7 days: 0.1-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	Yes	No
	X		X		X		X		X

Inappropriate Vegetative Growth		Animal Burrows		Erosion Damage		Vehicle Damage	
Yes	No	Yes	No	Yes	No	Yes	No
	X		X		X		X

Additional Observations:

2. Landfill Cover

Qualifier	Intermediate Soil Cover		Final Soil Cover		Bottom Ash Cover		Alternative Cover	
	Yes	No	Yes	No	Yes	No	Yes	No
Installed	X		N/A		N/A		N/A	
Erosion		X						
Location								

Additional Observations:

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	X		X		X		X		X	
Damage		X	X			X	X			X
Type			See Note 1				Blockage (See Note 2)			
Location			Subcell 2E				Stormwater Pond Entrance			

Additional Observations: [1] Located on east slope of Subcell 2E to control uncontaminated surface water.

[2] One (center) of three culverts located on the west side of the stormwater pond is blocked and unable to transmit uncontaminated water.

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		X		X		X	
Damage	X			X		X		X		X		X
Type	See Note 1											
Location	Subcell 2D											

Additional Observations: [1] Minor damage to contact water diversion berm in Subcell 2D. Not enough to allow contact water release.

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	NA
Type									NA
Location									NA

Qualifier	LCRS Ball Valve		Protective Cover		Exposed Geosynthetics	
	Yes	No	Yes	No	Yes	No
Inspection	X		X		X	
Damage		X	X		X	
Type	See Note 2		See Notes 2 and 3		See Note 3	
Location	Subcell 2E		Subcell 2D		Subcell 2E	

Additional Observations: [1] LCRS Ball Valves were covered by soil, but have not been damaged.

[2] Protective cover damaged on Northwest corner of subcell 2D, but geosynthetic was not exposed.

[3] Protective cover removed and geosynthetic exposed at temporary downchute on east slope of Subcell 2E.

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
	X		X	X		X			X		X	X	

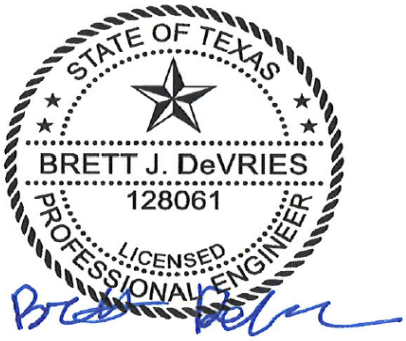
Additional Observations: _____

8. Document Review

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

Additional Observations: _____

Additional Comments/Observations/Recommendations: _____



Professional Engineer's Signature and Seal

12/30/2020

Date

SANDY CREEK ENERGY STATION
CCR LANDFILL ANNUAL SITE OPERATING RECORD REVIEW

					Maintained in Operating Record		
Primary Citation	**Description**	**Required**	**Deadline**	**Date Completed**	**Yes**	**No**	**NA**
§257.60(a)	Documentation of compliance with location restrictions: aquifer	Yes	No later than date of initial reciept of CCR in any lateral expansion (e.g. Cell 3)	NA			**X**
§257.61(a)	Documentation of compliance with location restrictions: wetland	Yes	No later than date of initial reciept of CCR in any lateral expansion (e.g. Cell 3)	NA			**X**
§256.62(a)	Documentation of compliance with location restrictions: seismic zone	Yes	No later than date of initial reciept of CCR in any lateral expansion (e.g. Cell 3)	NA			**X**
§256.63(a)	Documentation of compliance with location restrictions: damage zone near fault lines	Yes	No later than date of initial reciept of CCR in any lateral expansion (e.g. Cell 3)	NA			**X**
§257.64(a)	Documentation of compliance with location restrictions: unstable areas	Yes	10/17/2018	10/1/2018	**X**		
§257.70(e)	Liner Design Certification	No	NA	NA			**X**
§257.70(f)	Liner Construction Certification	No	NA	NA			**X**
§257.80(b)	Fugitive Dust Control Plan	Yes	10/19/2015	10/18/2015	**X**		
§257.80(c)	Fugitive Dust Control Plan Annual Report	Yes	1 year after previous report completion	12/16/16, 11/30/17, 12/18/18, 12/19	**X**		
§257.81(c)	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	**X**		
§257.84(a)	Weekly inspection reports	Yes	Weekly in 2016, 2017, 2018, 2019, and 2020	Weekly in 2016, 2017, 2018, 2019, and 2020	**X**		
§257.84(b)(2) and (3)	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	**X**		
§257.84(b)(5)	Documentation of corrective measures for deficiency or release (based on annual report)	Yes	As soon as feasible	NA			**X**
§257.90(e)	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, 1/30/20	**X**		
§257.91(e)(1)	Documentation of design, installation, development, and decommissioning of GW Wells	Yes	10/17/2017	3/11/2016	**X**		
§257.91(f)	Groundwater Monitoring System certification	Yes	10/17/2017	3/11/2016	**X**		
§257.93(f)	Certification of selected statistical method for evaluating GW monitoring data	Yes	10/17/2017	3/2/2016	**X**		
§257.94(e)(3)	GW Assessment Monitoring Program establishment notification	Yes	30 days after plan establishment	NA			**X**
§257.95(d)(1)	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**		