

Annual CCR Landfill Inspection

Lon D. Wright Power Plant

City of Fremont Department of Utilities
400 E Military Avenue
Fremont, Nebraska 68025

SCS ENGINEERS

27219425.01 | February 19, 2021

14755 Grover Street
Omaha, NE 68144
402-884-6202

Table of Contents

Section	Page
PE Certification	iii
1.0 Introduction	1
2.0 Summary of Results and Recommendations	1
3.0 Annual Inspection	2
3.1 Operating Record Review.....	2
3.2 Visual Inspection	2
4.0 Inspection Results	3
4.1 Changes in Geometry.....	3
4.2 CCR Volumes	3
4.3 Appearance of Structural Weakness.....	3
4.3.1 Signs of Surface Movement or Instability	3
4.3.2 Inappropriate Vegetation Growth	3
4.3.3 Animal Burrows.....	3
4.3.4 Erosion Damage	4
4.3.4.1 Phase I Berms and Phase II Area.....	4
4.3.4.2 Adjacent Areas	4
4.3.5 Unusual Surface Damage Caused by Vehicle Traffic.....	4
4.4 Disruptive Conditions.....	4
4.4.1 Existing Disruptive Conditions	4
4.4.1.1 Current Inspection.....	4
4.4.1.2 Previous Inspection.....	4
4.4.2 Potentially Disruptive Conditions.....	4
4.4.2.1 Current Inspection.....	4
4.4.2.2 Previous Inspection.....	4
4.5 Other Changes Since Previous Annual Inspection	5
5.0 Future Inspections	5
5.1 Existing CCR Landfill.....	5
5.2 New CCR Landfills and Lateral Expansions	5

[This page left blank intentionally]

PE CERTIFICATION



I, Joel D. Stenberg, hereby certify that this Annual CCR Landfill Inspection Report meets the requirements of 40 CFR 257.84(b)(2), was prepared by me or under my direct supervision, and that I am a duly licensed Professional Environmental Engineer under the laws of the State of Nebraska.

License number E-14536

My license renewal date is December 31, 2022.

Pages or sheets covered by this seal:

All

[This page left blank intentionally]

1.0 INTRODUCTION

SCS Engineers (SCS) completed an annual inspection of the City of Fremont Department of Utilities (FDU) Lon D. Wright Power Plant's CCR landfill located east of the power plant in Fremont, Nebraska. The CCR landfill has received CCR both before and after the effective date of the CCR Rule. The annual inspection was completed in accordance with the U.S. Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) rule, 40 CFR 257 Subpart D, in particular 257.84(b)(1). According to an annual inspection by a qualified professional engineer is required for all existing and new CCR landfills, and any lateral expansion of a CCR landfill. The purpose of the annual inspection is to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

- A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and
- A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

This report has been prepared in accordance with 40 CFR 257.84(b)(2) to document the annual inspection.

2.0 SUMMARY OF RESULTS AND RECOMMENDATIONS

SCS identified no deficiencies or releases during the annual inspection of the CCR landfill. Deficiencies and releases must be remedied by the owner or operator as soon as feasible and the remedy documented.

SCS did identify conditions during the annual inspection that are not considered deficiencies but have the potential to become a deficiency if left unaddressed. Each condition and the recommendations provided by SCS to address them are summarized in the table below. These conditions and remedial recommendations are further described in **Section 4.0**.

Condition	CCR Unit	Recommendation(s)	Report Section
Evidence of small rodent presence noted by deceased rodent remains.	Landfill and Leachate Pond Berms	<ul style="list-style-type: none"> Continue to maintain the bait stations in proper working order. Monitor for rodent damage during weekly compliance evaluations. 	4.3.3
Minimal damage to above ground leachate transfer piping.	Leachate Riser	<ul style="list-style-type: none"> Piping damage should be fixed or new piping installed. Monitor for proper working function during weekly compliance evaluations or during operation. 	4.4.2.1

3.0 ANNUAL INSPECTION

Mr. Joel Stenberg of SCS completed an annual inspection of the CCR landfill on September 29, 2020. Mr. Stenberg is a licensed Professional Environmental Engineer in Nebraska and holds a Bachelor's of Science degree in Biological Systems Engineering. He has over 14 years of experience in the design, construction, and operation of solid waste disposal facilities. The scope of the annual inspection is described in **Sections 3.1** and **3.2**. The results of the annual inspection are discussed in **Section 4.0**.

3.1 OPERATING RECORD REVIEW

SCS reviewed the available information in the operating record for the CCR landfill prior to the visual inspection discussed in **Section 3.2**. Information reviewed by SCS included operating record materials provided by FDU and the information posted on City of Fremont's CCR Rule Compliance Data and Information website for the CCR landfill, as of the date of the inspection.

3.2 VISUAL INSPECTION

SCS completed a visual inspection of the CCR landfill to identify signs of distress or malfunction of the CCR unit.

The visual inspection included observations of the following:

- CCR placement areas including active filling areas, final cover areas, and exterior non-CCR berms or slopes.
- Contact water run-off management features including internal contact water drainage features and discharges to the leachate collection pond.
- Non-contact storm water run-on and run-off control features including swales located adjacent to active fill areas.

4.0 INSPECTION RESULTS

The results of the annual inspection, along with a description of any deficiencies or releases identified during the visual inspection, are summarized in the following sections.

4.1 CHANGES IN GEOMETRY

No apparent changes in geometry were noted that would indicate distress or malfunction of the CCR unit at the facility. All changes in geometry observed during the annual inspection were the result of planned CCR filling activities. At the time of the visual inspection, active CCR placement was evident based on exposed and stockpiled CCR material.

4.2 CCR VOLUMES

Based on review of facility records during volumetric analysis, the approximate tonnage of CCR contained in the landfill as of December 3, 2020 is 7,812 cubic yards. Assuming CCR has an average unit weight of 1.03 tons per cubic yard, there are approximately 8,046 tons of CCR in the landfill.

4.3 APPEARANCE OF STRUCTURAL WEAKNESS

The inspection included a review of the appearance of an actual or potential structural weakness of the CCR unit. The visual inspection included a review of CCR fill areas including the top slopes, internal side slopes, external side slopes, and internal ramps/haul roads for the presence of the following conditions:

- Signs of surface movement or instability:
 - Sloughing, slumping, or sliding
 - Surface cracking
 - Slopes in excess of 3 horizontal to 1 vertical (3H:1V)
 - Toe of slope movement
 - Evidence of inadequate compaction of exposed CCR
- Inappropriate vegetation growth
- Animal burrows
- Erosion damage
- Unusual surface damage caused by vehicle traffic

4.3.1 Signs of Surface Movement or Instability

No signs of surface movement or instability were noted during the inspection.

4.3.2 Inappropriate Vegetation Growth

No inappropriate vegetation growth impacting the CCR unit was noted during the inspection.

4.3.3 Animal Burrows

No significant animal burrows were noted during the inspection. There were bait stations strategically placed around the CCR landfill and Leachate Pond Berm. Deceased rodent remains were observed indicating effective pest management. Since small rodents are known to be present,

FDU should continue to maintain the bait stations in proper working order and monitor for rodent damage during weekly compliance evaluations.

4.3.4 Erosion Damage

4.3.4.1 Phase I Berms and Phase II Area

No signs of significant erosion were noted during the inspection.

4.3.4.2 Adjacent Areas

No signs of significant erosion were noted during the inspection.

4.3.5 Unusual Surface Damage Caused by Vehicle Traffic

No unusual surface damage caused by vehicle traffic was noted during the inspection.

4.4 DISRUPTIVE CONDITIONS

4.4.1 Existing Disruptive Conditions

4.4.1.1 Current Inspection

No existing conditions that were disrupting the operation and safety of the CCR unit were noted during the annual inspection.

4.4.1.2 Previous Inspection

No existing conditions that were disrupting the operation and safety of the CCR unit were noted during the previous inspection.

4.4.2 Potentially Disruptive Conditions

4.4.2.1 Current Inspection

In addition to the items discussed in **Section 4.3**, the following potentially disruptive conditions were observed during the current inspection.

- **Minimal damage to above ground leachate transfer piping** was noted during the site inspection. While no leachate discharge was noted, any damaged or excessively worn piping should be fixed or new piping installed.

4.4.2.2 Previous Inspection

The following potentially disruptive conditions were observed during the previous inspection.

- **Damage from rodents** was noted due to the presence of surficial holes. Continued monitoring and diligence in managing pests was recommended. FDU staff have addressed this item.

- **Minimal damage to above ground leachate transfer piping** was noted during the site inspection. While no leachate discharge was noted, any damaged or excessively worn piping should be fixed or new piping installed.

4.5 OTHER CHANGES SINCE PREVIOUS ANNUAL INSPECTION

No other changes to site conditions that appear to have the potential to affect the stability or operation of the facility were noted during the inspection.

5.0 FUTURE INSPECTIONS

5.1 EXISTING CCR LANDFILL

As stated in 40 CFR 257.84(b)(4), the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the inspection report is the basis for establishing the deadline to complete the next subsequent inspection. Any required inspection may be conducted prior to the required deadline, provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record.

The next annual inspection of the CCR landfill must be completed within 1 year of the placement of this inspection report in the operating record for the Lon D. Wright Power Plant.

5.2 NEW CCR LANDFILLS AND LATERAL EXPANSIONS

The initial annual inspection for any lateral expansion in the future must be completed within 14 months of the initial receipt of CCR in the module per 40 CFR 257.84(b)(3)(ii).