



CCR Landfill 2018 Annual Inspection Report

NC2 Ash Disposal Area



Omaha Public Power District
Nebraska City Station

Nebraska City, Nebraska
January 18, 2019

**OPPD Nebraska City Station
NC2 Ash Disposal Area
CCR Landfill 2018 Annual Inspection Report**

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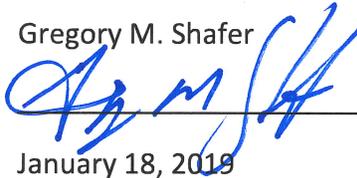
**OPPD Nebraska City Station
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Professional Engineer Certification

"I hereby certify that the CCR landfill known as the NC2 Ash Disposal Area at the Nebraska City Generating Station, owned and operated by the Omaha Public Power District, was inspected and this report has been prepared in accordance with the Coal Combustion Residual Rule 40 CFR 257.84(b). I am a duly licensed Professional Engineer under the laws of the State of Nebraska."

Print Name: Gregory M. Shafer

Signature: _____



Date: January 18, 2019

License #: E-11178

My license renewal date is December 31, 2020.



1 Introduction

On April 17, 2015 the U.S. Environmental Protection Agency (EPA) published the final rule for the regulation and management of coal combustion residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act (RCRA). The CCR rule defines a set of requirements for the disposal and handling of CCR within CCR units (defined as either landfills or surface impoundments). The Omaha Public Power District (OPPD), Nebraska City Generating Station (Station) currently has two (2) active CCR landfills; NC1 Ash Disposal Area and NC2 Ash Disposal Area. Section 40 CFR 257.84(b) specifies that an owner or operator of a CCR landfill or any lateral expansion of a CCR landfill must have the landfill inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. This annual inspection report covers the NC2 Ash Disposal Area.

1.1 Purpose

The CCR rule requires the inspection report for existing CCR landfills must be completed and filed in the operating record on an annual basis. The completion date of the last inspection report (i.e., placed in the facility operating record) establishes the deadline to complete the next inspection. Subsequent inspections and reports must be completed and filed on an annual basis. The requirements of the annual inspection include:

- A review of available information regarding the status and condition of the CCR unit - 257.84 (B)(1)(i),
- A visual inspection of the CCR unit to identify signs of distress or malfunction - 257.84 (B)(1)(ii),
- An inspection report that includes the following:
 - Changes in geometry since the last inspection - 257.84 (B)(2)(i)
 - Approximate volume of CCR in unit at time of inspection - 257.84 (B)(2)(ii)
 - Appearance of actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit - 257.84 (B)(2)(iii)
 - Any other changes which may have affected the stability or operation of the CCR unit since the last inspection - 257.84 (B)(2)(iv)

OPPD, as owner and operator of the Station, must notify the Nebraska Department of Environmental Quality (NDEQ) Director within 30 days of placing the CCR Landfill Annual Inspection Report in the operating record and posting to the CCR web site (40 CFR §257.106 and §257.107).

1.2 Facility Background

OPPD has a two-unit (Nebraska City (NC) Unit 1 and NC Unit 2) fossil fuel-fired generating plant at the Station located 5.5 miles southeast of Nebraska City, Nebraska, along the west shore of the Missouri River. This Station has two (2) existing CCR landfills that are permitted under the current NDEQ Title 132 regulations for fossil fuel combustion ash disposal area; the NC1 Ash

Disposal Area and NC2 Ash Disposal Area that are active after the CCR rule effective date of October 19, 2015. This annual inspection report covers the NC2 Ash Disposal Area (NDEQ Permit No. NE0204421, Facility ID 58343). The NC2 Ash Disposal Area is a CCR landfill with a composite liner and leachate collection system and encompasses a total of 40.7 acres. A facility site map is included in Appendix A.

2 Review of Available Information (40 CFR 257.84(B)(1)(i))

Several documents pertaining to the operation and structural integrity of the NC2 Ash Disposal Area were reviewed before, during and after the site inspection, including:

- The CCR landfill weekly inspection records (per Section 257.84(a)) from January 2018 through December 2018
- NDEQ Title 132 permit
- Recent topographic survey
- Documentation regarding recent NC2 Ash Disposal Area, Cell 2/3 expansion

Review of the above documents did not uncover any unresolved issues that indicated operational, safety or structural concerns of the NC2 Ash Disposal Area.

Currently, Cell 1 of the NC2 Ash Disposal Area has been, graded and received final cover. At this time, the Cell 2 and 3 liner construction is complete and the freeze protection CCR, 3 feet thick, has been placed over the entire Cell 2/3 expansion. CCR placement recently switched from NC1 disposal area to the NC2 disposal area on or near early November 2018. .

3 Visual Site Inspection (40 CFR 257.84(B)(1)(ii))

On December 14, 2018 a site inspection of the NC2 Ash Disposal Area was performed by an independent Professional Engineer, Greg Shafer of HDR, who was accompanied by Mark Hansen of OPPD. Office review of available information was conducted by Greg Shafer.

The weather during the site visit was overcast and mildly windy with temperatures ranging from 45 to 46 degrees Fahrenheit. The site had some minor snow cover.

3.1 Extent of Inspection

The inspection included an extensive site walk of the NC2 Ash Disposal Area. As the CCR rule only requires the inspection of the existing active CCR landfill itself, this report does not address the condition of the groundwater monitoring system, access roads beyond the landfill perimeter, grades and drainage channels that are not a component of the CCR landfill.

The field visit included inspection of the following:

- Perimeter drainage ways
- Side slope conditions to identify erosion
- Top of closed landfill cell
- General drainage

3.2 Inspection Findings

The following are the findings of the site inspection:

- Cell 1 was fully stabilized by vegetation. There these areas posed no apparent operational or structural concerns.
- CCR was being placed and spread in Cell 2/3 footprint during the inspection.
- Drainage conveyance was generally consistent with the plan and permit. No further action required at this time.

4 Changes in Geometry

The CCR rule requires that the site geometry changes be identified since the last annual inspection. The continuing CCR placement in Cell 2/3 is the only change in geometry.

5 Approximate CCR Volume

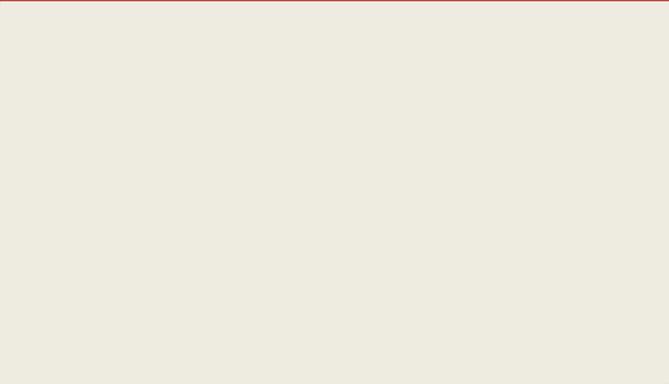
The total CCR volume was estimated by adding the Cell 1 CCR (closed) (1,109,400 cubic yards); the freeze protection CCR in the Cell 2/3 expansion (280,000 cubic yards); and the CCR hauled after the switch to from NC1 landfill to NC2 landfill (mid-October for bottom ash, and November 1st for fly ash). The estimated quantities for that timeframe were determined to be approximately 34,000 cubic yards. Therefore, the estimated total volume of CCR at the time of inspection is 1,423,400 cubic yards.

6 Appearance of Structural Weakness

Based on the inspection, no apparent or potential structural weaknesses were observed.

7 Changes Affecting Stability or Operation

The CCR rule requires that changes that affect stability or operation of the CCR landfill be identified since the last annual inspection. No issues have been determined to affect stability.



Appendix A
Facility Site Map



