



CCR Landfill 2019 Annual Inspection Report

NC1 Ash Disposal Area



Omaha Public Power District
Nebraska City Station

Nebraska City, Nebraska
January 17, 2019

**OPPD Nebraska City Station
NC1 Ash Disposal Area
CCR Landfill 2019 Annual Inspection Report**

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**OPPD Nebraska City Station
NC1 Ash Disposal Area
CCR Landfill 2019 Annual Inspection Report**

Professional Engineer Certification

"I hereby certify that the CCR landfill known as the NC1 Ash Disposal Area at the Nebraska City Generating Station, owned and operated by the Omaha Public Power District, was inspected and this report 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: John A. Wichman

Signature: 

Date: January 17, 2020

License #: E-10495

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 NC1 Ash Disposal Area.

1.1 Purpose

The CCR rule requires the initial 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

Nebraska City Station, NC1 Ash Disposal Area

October 19, 2015. This initial annual inspection report covers the NC1 Ash Disposal Area (NDEQ Permit No. NE0054712, Facility ID 58343). The NC1 Ash Disposal Area is an unlined CCR landfill of approximately 52 acres that has historically received CCR for disposal. A facility site map is included in Appendix A.

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

Numerous documents pertaining to the operation and structural integrity of the CCR landfill were reviewed before, during and after the site inspection, including:

- The CCR Landfill weekly inspection records (per Section 257.84(a)) from January 1, 2019 through December 31, 2019
- NDEQ Title 132 permit
- Recent topographic survey
- Documentation regarding recent NC1 Ash Disposal Area, Side Slope Slough Repairs.

Review of the above documents did not uncover any unresolved issues that indicated operational, safety or structural concerns of the CCR landfill.

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

On November 7, 2019, a site inspection of the NC1 Ash Disposal Area was performed by OPPD Professional Engineer, John Wichman, who was accompanied by OPPD Environmental Affairs Administrator, Mark Hansen.

The weather during the site visit was sunny with temperatures ranging from 28 to 45 degrees Fahrenheit. The site was free of snow cover.

3.1 Extent of Inspection

The inspection included an extensive site walk of the NC1 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 channel conditions
- Side slope erosion
- Stability of CCR fill areas

3.2 Inspection Findings

The following are the findings of the site inspection:

- Vegetation on the side slopes was well established and there were no signs of erosion.
- Grading of the top of the landfill includes a ditch to allow storm water to drain to the storm water basin area.
- The ditches around the perimeter of the landfill appeared functional. The southern ditch contained standing water likely due to elevated groundwater levels throughout the site from recent Missouri River flooding event(s).
- The landfill was actively receiving CCR fill. CCR was being placed and compacted to maintain positive drainage throughout the open surface to the stormwater containment.

4 Changes in Geometry

The CCR rule requires that the site geometry changes be identified since the last annual inspection.

- A topographic survey was conducted on September 12, 2019. At the time of the of that survey top of CCR elevation ranged from approximately 966 to 972.

5 Approximate CCR Volume

Total ash deposited within the NC1 Ash Disposal Area was estimated by comparing an April 2019 survey to the final permit grades and subtracting that volume from the projected total permit volume. The total CCR volume in place at the time of inspection is estimated to be 3,216,203 cubic yards.

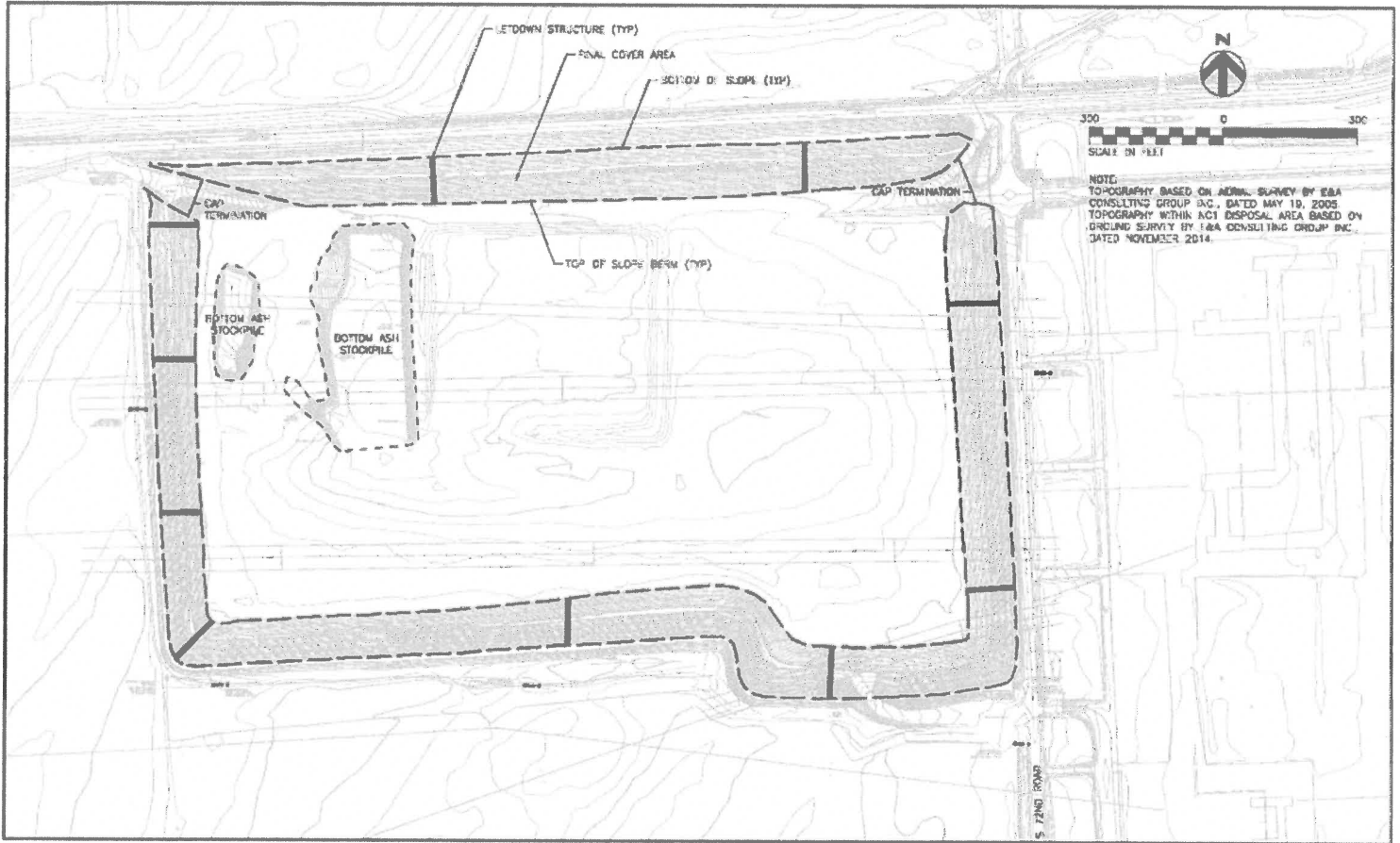
6 Appearance of Structural Weakness

Based on the visual 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. There are no changes that affect stability or operation since the last inspection.

Appendix A
Facility Site Map



OPPD
 NEBRASKA CITY STATION
 NC1 ASH DISPOSAL AREA
 INSPECTION MAP

DATE
 OCTOBER 2015
 FIGURE
 1