CCR Landfill 2017 Annual Inspection Report

NC1 Ash Disposal Area

Omaha Public Power District
Nebraska City Station

Nebraska City, Nebraska
January 19, 2018

OPPD Nebraska City Station
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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."

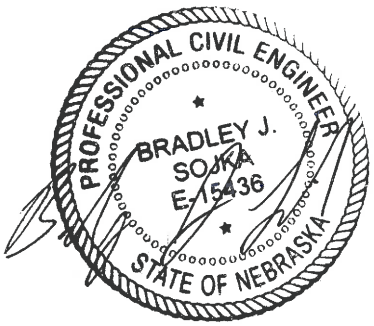
Print Name: Bradley J. Sojka

Signature:

Date: 1/10/18

License #: E-15436

My license renewal date is December 31,2018.



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 placed in the operating record no later than January 19, 2016. 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 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, 2017 through December 31, 2017
- NDEQ Title 132 permit
- Recent topographic survey
- Documentation regarding recent NC1 Ash Disposal Area, Phase 2 sideslope closure

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

OPPD changed ash contractors during 2016. OPPD closed the phase 2 side slopes during 2017. This closure project involved creating a basin on top of the landfill to collect stormwater to be drained to the Plant Runoff Pond. The project also included installing a clay liner system of 18" along with 6" of topsoil and grass seed along the phase 2 side slopes.

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

On December 12, 2017, a site inspection of the NC1 Ash Disposal Area was performed by Professional Engineer and OPPD Senior Environmental Specialist, Brad Sojka.

The weather during the site visit was overcast with temperatures ranging from 20 to 30 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
- Sideslope erosion
- Stability of CCR fill areas

3.2 Inspection Findings

The following are the findings of the site inspection:

- The previous year inspection showed minor erosion areas on the south and east side slopes. Those areas were addressed during the year and no signs of erosion were found during this inspection.
- A stockpile of ash was placed on the top surface to be used as freeze protection for the NC2 Cell 2/3 expansion project. This stockpile is roughly 240,000 yd^3. During the time of inspection, the contractor had removed approximately 30% of this stockpile.
- Phase 2 side slopes were recently closed and capped with 18" of clay and a 6" vegetative soil layer. Vegetation was beginning to grow around all side slopes.
- Grading on the top plateau to drain all stormwater to the southeast basin has been completed and appears to be working as designed.
- The ditches around the landfill were recently graded to drain stormwater more effectively. A spillway has also been cut into the south drainage ditch to allow clean Stormwater to drain into the adjacent field.

4 Changes in Geometry

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

OPPD just completed Phase 2 closure of the side slopes which range in elevation from 950 to 960. Ash will now be placed in Phase 3, which ranges in elevation from 960 to 973. The top surface of the landfill has been graded to drain stormwater to a basin locate in the southeast corner of the top surface.

5 Approximate CCR Volume

Total ash deposited within the NC1 Ash Disposal Area was estimated by comparing a July 2017 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 2,470,000 cubic yards.

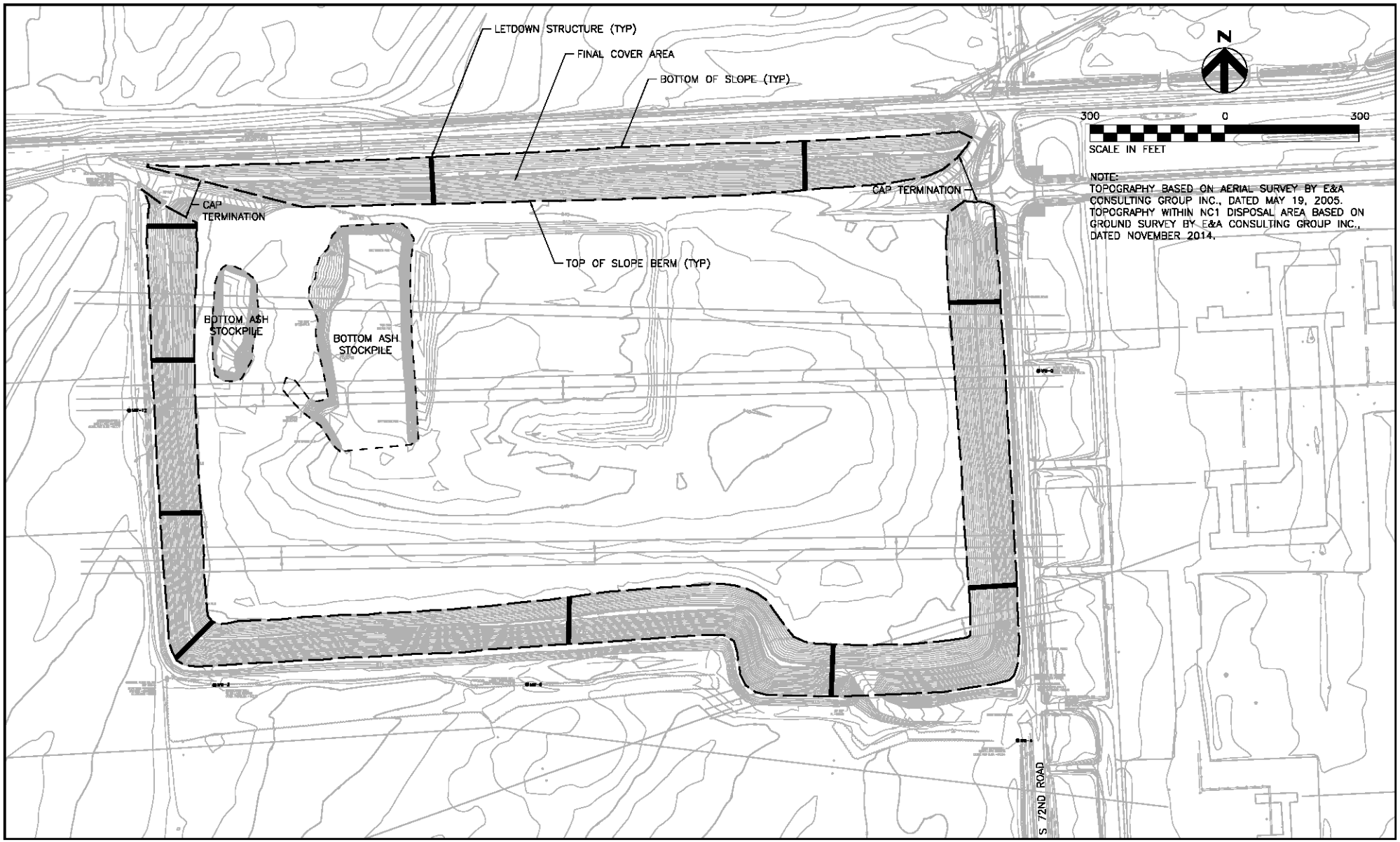
6 Appearance of Structural Weakness

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