



# CCR Landfill 2015 Annual Inspection Report

## NC2 Ash Disposal Area



Omaha Public Power District  
Nebraska City Station

*Nebraska City, Nebraska*  
January 19, 2016

**OPPD Nebraska City Station  
NC2 Ash Disposal Area  
CCR Landfill 2015 Annual Inspection Report**

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**OPPD Nebraska City Station  
NC2 Ash Disposal Area  
CCR Landfill 2015 Annual Inspection Report**

**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 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: Garrett M. Williams

Signature: \_\_\_\_\_

Date: January 19, 2016

License #: E-15124

My license renewal date is December 31, 2016.



# 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 initial inspection report for existing CCR landfills 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 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 October 19, 2015 through December 29, 2015
- NDEQ Title 132 permit
- Recent topographic survey
- Documentation regarding recent NC2 Ash Disposal Area, Cell 1 Closure

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 filled with CCR, graded and received final cover. Prior to October 19, 2015, OPPD began initial construction activities to develop the Cells 2 and 3 liners. At this time, the Cell 2 and 3 liner construction is not complete. Since no CCR can be placed in these cells until liner construction is complete Cells 2 and 3 are not part of this annual inspection.

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

On December 14, 2014 a site inspection of the NC2 Ash Disposal Area was performed by an independent Professional Engineer, Garrett Williams of HDR and by Brad Sojka, an OPPD Environmental Specialist. This site inspection was performed in advance of the CCR rule submittal deadline to ensure that the inspection was completed prior to snow cover. . Office review of available information was conducted by Garrett Williams.

The weather during the site visit was overcast and mildly windy with temperatures ranging from 36 to 40 degrees Fahrenheit. Rain events prior to the annual inspection made for wet conditions during the inspection. The site was free of 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

- Sideslope conditions and erosion
- Top of closed landfill cell
- General drainage

### **3.2 Inspection Findings**

The following are the findings of the site inspection:

- Small areas of standing water are present on the plateau of the landfill from the previous weekend rain event. The water was contained; however, a plan is currently in place to regrade the area to direct stormwater flow to the letdown structures.
- In areas of recent closure construction (Cell 1), where the topsoil had not yet been fully stabilized by vegetation, the slopes were showing signs of minor erosion. This is expected due to the slope grades and lack of vegetation. Rill erosion in these areas posed no apparent operational or structural concerns and are planned to be corrected when weather permits.
- No exposed ash was present.
- 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. Since this is the first annual inspection, the geometry changes will be addressed in the next inspection report.

## **5 Approximate CCR Volume**

Total ash disposal is estimated by survey comparison utilizing Cell 1 closure construction survey versus the permitted base grade. The total volume of CCR at the time of inspection is estimated at 1,109,400 cubic yards.

## **6 Appearance of Structural Weakness**

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

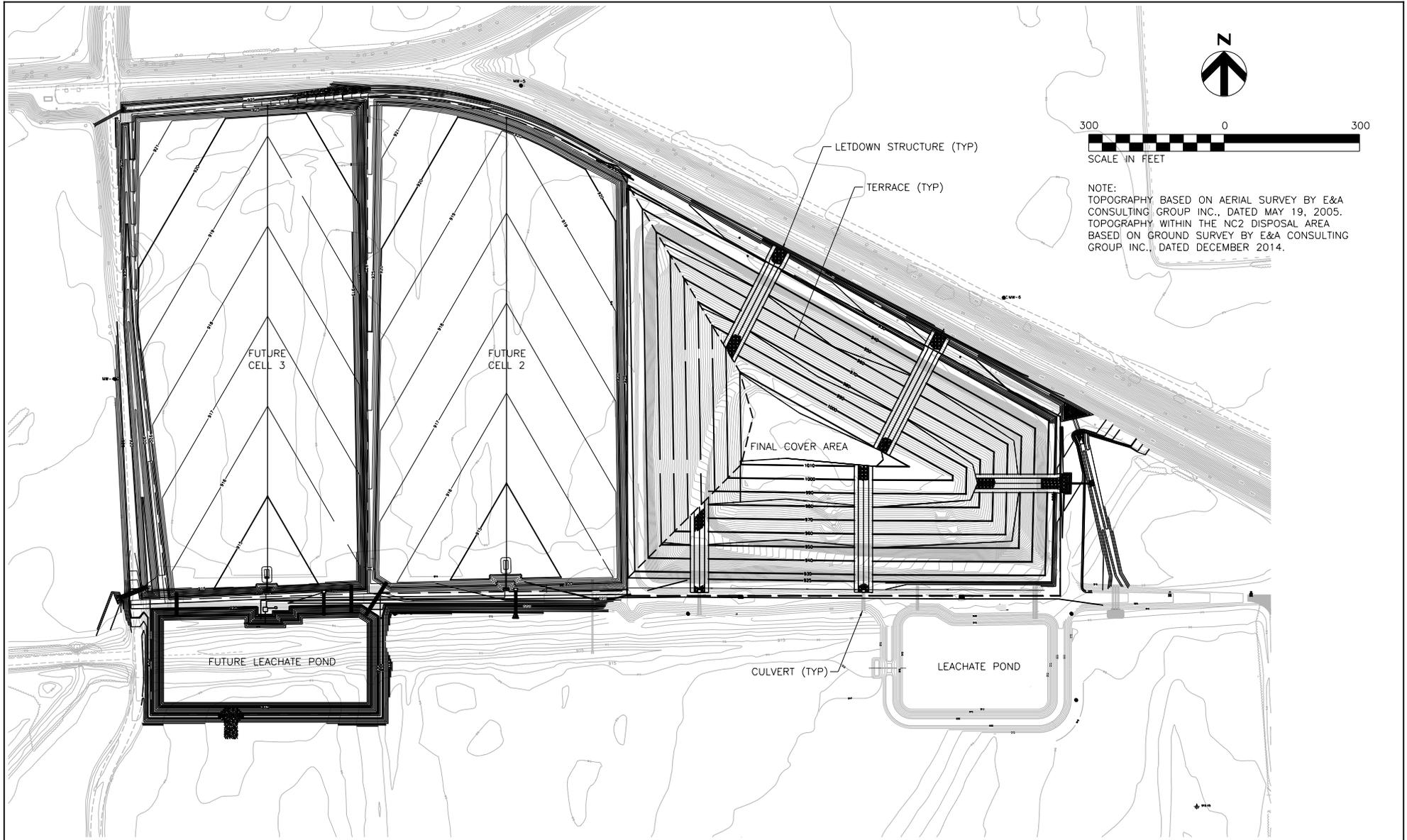
## **7 Changes Affecting Stability or Operation**

The CCR rule requires that changes that affect stability or operation of the CCR landfill be identified since the last annual inspection. Since this is the first annual inspection, changes will be described in the next inspection report.



**Appendix A**  
**Facility Site Map**





**OPPD  
NEBRASKA CITY STATION  
NC2 ASH DISPOSAL AREA**

INSPECTION MAP

DATE  
OCTOBER 2015

FIGURE

1