



2015 Annual Surface Impoundment Inspection

Coyote Station – Nelsen Pond

Beulah, North Dakota

Prepared for
Otter Tail Power Company

January 2016

2015 Annual Landfill Inspection

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Contents

1.0	Introduction	1
2.0	Review of Existing Information.....	2
2.1	Results of Weekly Inspections	2
2.2	Results of Previous Annual Inspections	2
3.0	Structural Integrity and Operational Review.....	3
3.1	Visual Inspection of Nelsen Pond	3
3.2	Other Changes	3
4.0	Volume of CCR Contained	4

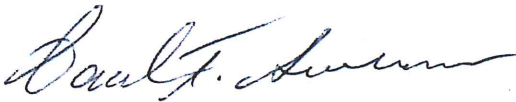


List of Tables

Table 3-1	Summary of Visual Inspection	3
Table 4-1	Approximate Minimum, Maximum, and Present Depth and Elevation of Impounded Water and CCR.	4

Certifications

I hereby certify that I have examined the facility and, being familiar with the provisions of 40 CFR 257 Subp. D, attest that this Annual Landfill Inspection report has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR §257.84.



Paul T. Swenson
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Paul T. Swenson, P.E.
Barr Engineering Co.
Registration Number PE-7636

Dated this 18th day of January, 2016

1.0 Introduction

Otter Tail Power Company (OTP) operates the Coyote Station (Coyote), in Beulah, North Dakota. Coyote is a coal-fired electrical generator that results in production of coal combustion residuals (CCR). CCR management is subject to Federal Standards for Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments per 40 CFR 257 Subpart D (CCR Rule). OTP periodically dredges and pumps CCR material that accumulates in the incised Slag Pond to Nelsen Pond to dewater prior to disposal.

The surface impoundment is required to meet the CCR Rule for surface impoundments, and is therefore subject to annual inspections by a qualified professional engineer (QPE). This report documents the first annual inspection performed by Paul T. Swenson, P.E. on November 16th, 2015, as required by the CCR Rule. Other annual inspection duties, including a review of the available information regarding the status and condition of the CCR Unit and storage capacity evaluations, were performed prior and following the on-site inspection.

2.0 Review of Existing Information

A review of existing information was performed to confirm that the design, construction, operation and maintenance of the surface impoundment is consistent with recognized and generally accepted good engineering standards. No deficiencies were found and the existing information reviewed is described in following subsections.

2.1 Results of Weekly Inspections

OTP commenced weekly surface impoundment inspections by a qualified person on October 23, 2015. Weekly inspection reports from October 23, 2015 through December 23, 2015 were reviewed as part of this annual inspection.

2.2 Results of Previous Annual Inspections

This report is the first annual inspection report required by the CCR Rule; the results of previous annual inspections are therefore not available. A review and summary of pertinent information contained in previous inspection reports will be included in future reports.

3.0 Structural Integrity and Operational Review

An on-site inspection was performed on November 16, 2015 to visually identify signs of distress or malfunction of the CCR Unit. The results of the inspection are included in the following subsections.

3.1 Visual Inspection of Nelsen Pond

Inspection consisted of on-foot inspection of perimeter berms and embankments, toe-of-slope, mid-slope, and crest-of-slope. Visual inspection items and results are summarized in the following table:

Table 3-1 Summary of Visual Inspection

Item	Visual Inspection Description	Visibly Observed (Yes/No)	Notes
1	Free of signs of excessive, turbid, or sediment-laden seepage	Yes	No evidence of seepage at time of inspection.
2	Free of signs of piping and other internal erosion	Yes	No evidence of piping or other internal erosion identified at time of inspection.
3	Free of signs of transverse, longitudinal, and desiccation cracking	Yes	No evidence of transverse, longitudinal or desiccation cracking identified at time of inspection.
4	Free of signs of slides, bulges, boils, sloughs, scarps, sinkholes, or depressions	Yes	No evidence of slides, bulges, boils, sloughs, scarps, sinkholes, or depressions observed at time of inspection.
5	Geometry of landfill is unchanged from previous inspection.	NA	2015 inspection is first inspection conducted under the CCR Rule. Future annual inspections will compare geometry to 2015 baseline.
6	Free of signs of abnormally high or low pool levels	Yes	No sign of abnormally high or low pool levels observed at time of inspection.
7	Animal burrows absent or of no significance	Yes	No burrows of significance identified at time of inspection.
8	Adequate vegetation density and vegetation maintenance	Yes	Vegetation appeared well established and well maintained at time of inspection.
9	Adequate slope stability and erosion control	Yes	No significant erosion identified at time of inspection.
10	Debris controlled or absent	Yes	No debris present at time of inspection.

3.2 Other Changes

No other changes to the CCR Unit design, maintenance, or operations were observed as part of the annual inspection that could affect the stability or operation of the CCR Unit.

4.0 Volume of CCR Contained

The following table summarizes the CCR Unit at the time of the inspection. Nelsen Pond is normally dry, except when slag has been recently placed for dewatering.

Table 4-1 Approximate Minimum, Maximum, and Present Depth and Elevation of Impounded Water and CCR.

<i>Water Level</i>	<i>Approx. Depth of Impounded CCR and Water</i>	<i>Approx. Elevation of Impounded CCR and Water</i>	<i>Approx. Volume of Impounded CCR and Water</i>	<i>Approx. Volume of Storage Capacity Remaining</i>
<i>Minimum*</i>	NA	NA	-	-
<i>Maximum*</i>	NA	NA	-	-
<i>Inspection</i>	0.25 ft	El. 1952 ft	2,000cy	20,000 cy

*2015 inspection is the first inspection conducted under the CCR Rule. Future annual inspections will show approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.