



REPORT

NORTHERN INDIANA PUBLIC SERVICE COMPANY

R.M. SCHAHFER GENERATING STATION

Second Annual RCRA CCR Unit Inspection Report –
January 2017

WASTE DISPOSAL AREA – SURFACE IMPOUNDMENT

Submitted To: Northern Indiana Public Service Company (NIPSCO)
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January 11, 2017

Project No. 1666965

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1. INTRODUCTION

The United States Environmental Protection Agency (EPA) promulgated the Resource Conservation and Recovery Act (RCRA) Coal Combustion Residuals (CCR) Rule (Rule) on April 17, 2015, with an effective date of October 19, 2015. The Rule requires owners or operators of existing CCR surface impoundments to have those units inspected on an annual basis by a qualified professional engineer in accordance with 40 CFR 257.83(b)(1). The annual qualified professional engineer inspections are required to be completed and the results documented in inspection reports (per 40 CFR 257.83(b)(2)) for CCR surface impoundments. Golder Associates Inc. (Golder) was retained by Northern Indiana Public Service Company (NIPSCO) to perform the second annual inspection of the Waste Disposal Area (WDA), a CCR surface impoundment located at the R.M. Schahfer Generating Station (Site).

The CCR Rule establishes national minimum criteria and new CCR management obligations for existing, new, and lateral expansions of CCR disposal units. One of the new obligations pertains to inspections, specifically; CCR unit owners/operators must initiate the following activities:

- weekly inspections and monthly instrument monitoring of CCR Units by October 19, 2015; and
- annual inspections of CCR units by January 18, 2016.

This report presents the results of the second annual inspection of the WDA CCR surface impoundment unit at the NIPSCO R.M. Schahfer Generating Station (RMSGs), located in Wheatfield, Jasper County, Indiana. The inspection was conducted to comply with §257.83 of the CCR Rule.

Per 40 CFR 257.83(b)(1), Golder reviewed available information regarding the status and condition of the CCR unit and performed an onsite visual inspection which was conducted on November 3, 2016. The objectives of the inspection included the following:

- Review of Operational Records (as applicable, see Section 3):
 - Design and construction information.
 - Results of previous structural stability assessments.
 - Results of previous annual inspections.
- A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures.
- A visual inspection of hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation.



In accordance with §257.83(b)(2), this inspection report has been prepared by a qualified professional engineer documenting the operational records review, visual inspection, and identifying the following since the previous annual inspection:

- Any changes in geometry of the CCR surface impoundment since the previous annual inspection.
- The location and type of existing instrumentation and the maximum recorded readings for each instrument since the previous annual inspection.
- The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.
- The storage capacity of the impounding structure at the time of inspection.
- The approximate volume of the impounded water and CCR at the time of inspection.
- Any appearances of an 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 and appurtenant structures.
- Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.



2. FACILITY DESCRIPTION

The WDA was designed by Sargent & Lundy Engineers of Chicago, Illinois in 1982. The WDA is formed by a ring earth-fill dike with slurry trench core that is approximately 17 feet high and 7,540 feet long (including the common embankment) with a crest elevation of 681 feet above mean sea level (Marbach, 2011). The WDA was constructed for NIPSCO, put in service in 1982, and has been continuously owned and operated by NIPSCO until this time.

The WDA accepts sluiced bottom ash and boiler slag CCR and various sump discharges from the generating station. The sluiced CCR enters the WDA via elevated pipes at the north side and also via buried pipes located at the northwest corner. Water exits the WDA via an overflow weir, to the Recycle Basin, or through the auxiliary spillway located at the northwest side. The overflow weir is located at the southern end of the east side of the WDA. There is a spillway consisting of two, 24 inch diameter corrugated steel pipes with a concrete down-slope channel transitioning to a rip-rap lined downstream channel located near the northwest corner of the WDA. The east side of the WDA is common with the west side of the adjacent Recycle Basin. A survey of the WDA was performed by Marbach, Brady and Weaver, Inc. in December 2011 (Marbach, 2011).



3. BACKGROUND AND DOCUMENT REVIEW SUMMARY

The existing reports reviewed for this assessment are summarized below.

Table 1: Summary of Background Document Review

Document	Date	Author
Various construction drawings	1982	Sargent & Lundy Engineers
Assessment of Dam Safety of Coal Combustion Surface Impoundments, NIPSCO, RM Schahfer Generating Station	July 2010	CDM for the EPA
Report on Inspection of The Waste Disposal Area	January 2011	Golder Associates Inc.
Final Hazard Classification Review Report – NIPSCO Schahfer Generating Station	January 2011	Golder Associates Inc.
Embankment Elevation Survey, Waste Disposal Area and Recycle Pond, NIPSCO Schahfer Generating Station	December 2011	Marbach, Brady and Weaver, Inc.
Schahfer Spillway Hydrologic and Hydraulic Evaluation	December 2011	Golder Associates Inc.
Final Geotechnical Investigation and Embankment Stability Analyses	June 2012	Golder Associates Inc.
Report on Inspection of The Waste Disposal Area	September 2012	Golder Associates Inc.
Construction in a Floodway Permit Application, NIPSCO R.M. Schahfer Generating Station,	November 2012	Golder Associates Inc.



Basin Operation, Maintenance and Inspection Plan, NIPSCO R. M. Schahfer Generating Station,	February 2013	Golder Associates Inc.
Emergency Action Plan, Final Settling Basin (FSB), Intake Settling Basin (ISB), Waste Disposal Area (WDA), Recycle Basin (RB), Northern Indiana Public Service Company (Nipsco), R.M. Schahfer Generating Station	February 2013	Golder Associates Inc.
State of Indiana Department of Natural Resources (DNR), Certificate of Approval, After-the-Fact, Construction in a Floodway	April 23, 2013	State of Indiana DNR
Report on Inspection of The Waste Disposal Area	April 2014	Golder Associates Inc.
Construction Observation Documentation Report, Surface Water Basin Erosion Repairs, NIPSCO R.M. Schahfer Generating Station	October 2014	Golder Associates Inc.
Northern Indiana Public Service Company R.M. Schahfer Generating Station – First Annual RCRA CCR Unit Inspection Report – January 2016 – Waste Disposal Area – Surface Impoundment	January 15, 2016	Golder Associates Inc.
Weekly Inspection Reports	2016	NIPSCO



4. 2016 VISUAL INSPECTION

The 2016 onsite inspection of the WDA was performed by Ms. Tiffany Johnson, P.E. and Mr. Steve McManus of Golder Associates Inc. (Golder) on November 3, 2016. Ms. Johnson is a Professional Engineer, licensed in the State of Indiana. Golder's inspectors were directed by Mr. Joe Kutch, Coal Combustion Residuals Program Manager with NIPSCO RMSGS.

The inspection provides the following information as stipulated in 40 CFR 257.83(b)(2):

- Any changes in geometry of the CCR surface impoundment since the previous annual inspection.
 - There were no changes in the geometry of the WDA.
- The location and type of existing instrumentation and the maximum recorded readings for each instrument since the previous annual inspection.
 - There is currently no instrumentation in place designed to monitor for the structural stability of the WDA.
- The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.
 - Maximum: approximately 678.9 feet above mean sea level (based on invert elevation of spillway pipes (Marbach, Brady and Weaver, 2011))
 - Minimum: approximately 677 feet above mean sea level (based on visual observation)
 - Present Depth: approximately 15 feet (based on review of available information)
- The storage capacity of the impounding structure at the time of inspection.
 - 1,530 acre-feet (based on review of available information)
- The approximate volume of the impounded water and CCR at the time of inspection.
 - Impounded water = approximately 498,600,000 gallons (from NIPSCO)
 - CCR = approximately 1,267,900 cubic yards (from NIPSCO)
- Any appearances of an 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 and appurtenant structures.
 - None were observed.
- Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.
 - None were observed.

Based on visual observations made on November 3, 2016, the overall condition of the WDA is acceptable. No structural weaknesses or safety issues were observed within the upstream, downstream, crest or hydraulic structures of the WDA. Based on visual observations made on November 3, 2016, there were no visual conditions identified that would likely impact the operation of the WDA.



5. CLOSING

This report has been prepared in general accordance with normally accepted civil engineering practices to fulfill the Resource Conservation and Recovery Act (RCRA) reporting requirements in accordance with 40 CFR 257.83(b). Based on our review of the information provided by NIPSCO and on Golder's on-site visual inspection, the overall condition of the WDA is acceptable. Golder's assessment is limited to the information provided to us by NIPSCO and to the features that could be inspected visually in a safe manner. Golder cannot attest to the condition of subsurface or submerged structures.

Sincerely,

GOLDER ASSOCIATES INC.

Tiffany Johnson, P.E.
Senior Consultant

David M. List, P.E.
Principal



At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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