



INITIAL ANNUAL INSPECTION
REPORT

NORTHERN INDIANA PUBLIC SERVICE COMPANY

MICHIGAN CITY GENERATING STATION

Initial Annual RCRA CCR Unit Inspection Report

PRIMARY BASIN NUMBER 2 – SURFACE IMPOUNDMENT

Submitted To: Northern Indiana Public Service Company (NIPSCO)
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1.0 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 initial annual inspection of the Primary Settling Basin Number 2 (PB2), a CCR surface impoundment located at the Michigan City Generating Station (MCGS, 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, however the PB2 was initially in the process of closure, therefore the initial annual inspection for the PB2 must be performed by July 15, 2017.

This report presents the results of the initial annual inspection of the PB2 CCR surface impoundment unit at the MCGS, located in Michigan City, LaPorte County, Indiana. The PB2 is an above grade surface impoundment that is not currently regulated by the Indiana Department of Water Dam Regulations (IDOW). The inspection was conducted to comply with §257.83 of the new 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 May 30, 2017. 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 points listed above, 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.



2.0 FACILITY DESCRIPTION

The PB2 was designed by Sargent and Lundy Engineers (S&L) of Chicago, Illinois in 1972, and put into service in 1973 and has been continuously owned and operated by NIPSCO to the present time. The PB2 is formed by an above grade embankment that is approximately 14 feet high on the outside and approximately 19 feet high on the inside.

The contractor who built the PB2 is not known. Historical geotechnical data from hydrogeologic and geotechnical investigation reports completed at the site by others were provided to Golder. Drawings and numerous boring logs were available from the initial 1970s facility design/construction. Golder also completed a geotechnical investigation and embankment stability analyses in 2012.

The PB2 is currently used as storage for air heater wash and boiler room blowdown water. PB2 is currently not accepting CCR materials. At the time of the inspection, PB2 was not receiving discharges from the generating station. When operating, water is pumped into the PB2, via an aboveground steel pipe, from the generating station. There is one discharge structure in PB2. The discharge structure is concrete and utilizes stop logs to control water elevation and currently discharges to the Final Settling Pond.



3.0 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	1972	Sargent & Lundy Engineers (S&L)
Draft Round 10 Dam Assessment Report, NIPSCO Michigan City Generation Station, Coal Ash Impoundments	March 2012	GZA GeoEnvironmental, Inc. (GZA) for the EPA
Final Report – Summary of Hydraulic Evaluation of Impoundments, Technical Memorandum, NIPSCO, Michigan City Generating Station, Michigan City, Indiana	August 2012	Golder Associates Inc.
2012 Geotechnical Investigation and Embankment Stability Analyses, NIPSCO Michigan City Generating Station, Michigan City, Indiana	August 2012	Golder Associates Inc.



4.0 2017 VISUAL INSPECTION

The 2017 onsite inspection of the PB2 was performed by Ms. Tiffany Johnson, P.E. of Golder Associates Inc. (Golder) on May 30, 2017. Golder's inspector was accompanied by Mr. Joe Kutch, Coal Combustion Residuals Program Manager and Mr. Jeff Neumeier, Environmental Coordinator with NIPSCO MCGS for the inspection.

The visual 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.
 - Not applicable.
 - Since this is the initial annual inspection, changes in geometry will be incorporated in the report for the next annual inspection.
- 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 PB2.
- The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.
 - Maximum: approximately 603 feet above mean sea level (based on visual observation)
 - Minimum: approximately 601 feet above mean sea level (based on visual observation)
 - Present Depth: approximately 11 feet (based on visual observation)
 - Since this is the initial annual inspection, this data has been provided for reference only and will be compared to the 2018 annual inspection.
- The storage capacity of the impounding structure at the time of inspection.
 - Approximately 70,260 cubic yards (CY), based on previous inspection report information (GZA, 2012).
- The approximate volume of the impounded water and CCR at the time of inspection.
 - Impounded water = approximately 500,000 gallons (from NIPSCO)
 - CCR = approximately 10,000 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 a review of the historical reports listed in Table 1 and conditions noted during the initial annual inspection, the following items were observed:

- Primary Basin No. 2 is in overall acceptable condition.
- Minor vegetation within the rip-rap along the northwestern downstream slope will be removed by June 2017, per NIPSCO representative.
- Noted minor erosion on the upstream slope.

Given that this is the initial annual CCR Rule inspection for the PB2 at the MCGS, the conditions noted during the May 30, 2017 inspection of the PB2 will be compared to future annual inspections.

There is currently no instrumentation in place designed to monitor for the structural stability of the PB2. At the time of the inspection and report, there are no plans for installation of stability monitoring instrumentation.

Based on visual observations made on May 30, 2017, the overall condition of the PB2 is acceptable. No structural weaknesses or safety issues were observed within the upstream, downstream, crest or hydraulic structures of the PB2. Based on visual observations made on May 30, 2017, there were no conditions visually identified that would likely impact the operation of the PB2.



5.0 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 PB2 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.

GOLDER ASSOCIATES INC.

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July 11, 2017

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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