



DEMONSTRATION ANNUAL PROGRESS REPORT #01-21

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**NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC
R. M. SCHAHFER GENERATING STATION, WASTE DISPOSAL AREA
40 CFR §257.103(F)(2)(X) PART A DEMONSTRATION ANNUAL PROGRESS REPORT #01-21**

On October 30, 2020 in accordance with the requirements of 40 Code of Federal Regulations (CFR) §257.103(f)(2), Northern Indiana Public Service Company LLC (NIPSCO) submitted the “*NIPSCO LLC RMSGS Demonstration of Site-specific Alternative Deadline to Initiate Closure of CCR Surface Impoundment Due to Permanent Cessation of Coal-Fired Boilers by a Date Certain*” (hereinafter Demonstration) for the NIPSCO R.M. Schahfer Generating Station (RMSGs or Site), 2723 E 1500 N Road, Wheatfield, Jasper County, Indiana. The Demonstration, the subject of which is the Coal Combustion Residuals (CCR) Rule regulated surface impoundment referred to as the Waste Disposal Area (WDA), was submitted to and is currently under review by the United States Environmental Protection Agency (USEPA).

Both the text of the 2020 Demonstration and 40 CFR §257.103(f)(2)(x) address completion of an annual report documenting the continued lack of alternative capacity and the progress toward the closure of the surface impoundment. This Demonstration Annual Progress Report #01-21 (hereinafter Report) fulfills the 40 CFR §257.103(f)(2)(x) regulatory requirement and the reporting commitments as outlined in the Demonstration. In addition to providing the aforementioned information, the Report serves as an update on select additional RMSGS CCR Rule compliance and Demonstration actions completed by NIPSCO subsequent to the October 2020 submission.

Progress Toward Closure/Permanent Cessation of Coal-Fired Boiler Operations

As of October 1, 2021, NIPSCO permanently shut down operations of Units 14 and 15, representing two of the four coal-fired boilers at RMSGS. Remaining Units 17 and 18 continue to operate, with management of CCR and non-CCR waste streams produced from these Units being provided by the WDA. Cessation of operations of the two coal-fired boilers is consistent with overall Site retirement plans and on schedule with NIPSCO’s planned permanent cessation of all coal-fired generation activities by Q2 2023, as outlined in the Demonstration (Section 2.4 and Figure 3).

Ongoing Need for Operation of the WDA

As evidenced by the recent shut down of two of its four coal-fired boilers, NIPSCO is progressing toward permanent cessation of all coal-fired generation activities at RMSGS. Although Units 14 and 15 have been shut down, boiler decommissioning and washdown event(s) associated with these two Units will increase the generation of CCR and non-CCR wastewater and resultant discharge to the WDA for a period of time. Furthermore, Units 17 and 18 continue to operate at or near their capacity, generating substantial volumes of CCR and non-CCR waste streams as detailed in the Demonstration and discussed below. Thus, the need remains for existing capacity and continued operation of the WDA to meet both ongoing coal-fired generation and current and future decommissioning demands.

Aside from ongoing operational and future decommissioning needs, continued availability of the WDA is also a pivotal component in the planned closure of three other inactive CCR Rule regulated surface impoundments referred to collectively as the Multi-Cell Unit (MCU). A Closure Application, which has undergone several revisions in response to Indiana Department of Environmental Management (IDEM) reviews, is awaiting final IDEM approval. A key facet of the MCU closure by removal approach is the planned discharge of dewatering fluids to the WDA. As the only remaining operational CCR Rule regulated impoundment on-Site, discharge to the WDA is the only viable alternative for the management of high-volume dewatering effluent. Anticipating IDEM approval will be received, NIPSCO is in the construction contractor procurement stage. Contractor selection is expected within the next few months and closure construction activities, including dewatering, are currently planned for summer 2023. Completion of the 2023 closure activities, shutdown of the remaining coal-fired boilers, and conclusion of decommissioning activities will reduce reliance on the WDA as a CCR and non-CCR waste management unit.

As designed and constructed, most of NIPSCO's wastewater and stormwater systems feature a network of common sumps which ultimately discharge to the WDA. Until such time as CCR Rule regulated waste streams are no longer being generated, separation of the various sumps and pipelines is impractical, especially for a generating station with less than two years of active generation life remaining. Therefore, until cessation and decommissioning actions are completed, the WDA remains essential to the management of these high-volume waste streams. Once CCR generation activities cease and boiler decommissioning is complete, ongoing post-generation non-CCR waste streams can be managed in one or more existing NPDES-regulated non-CCR impoundments as an alternative to management in the WDA.

Continued Lack of Alternative Capacity

At the time of preparation of this Report the measurable reduction in Site-wide generation of CCR and non-CCR waste streams resulting from these boiler shutdowns could not be definitively quantified due to the absence of flow metering capacity in individual feed and discharge lines. However, in determination of alternative capacity and reliance for the operation of the WDA, the combined estimated average daily waste stream flow of 5.04 MGD reported in the Demonstration (i.e., October 2020) from Units 14 and 15, has been removed from the combined total waste stream flow considered in this Report. Note that such an approach assumes an instantaneous and maximum waste stream flow reduction (and does not account for the compulsory boiler washdown flow from Units' decommissioning) and is, as a result, considered a conservative capacity demand-based approach to this update. Therefore, due to ongoing Site operations and maintenance activities (e.g., boiler room sump dewatering for both shut down and active Units, stormwater collection and management), volumes of individual CCR and non-CCR effluent being discharged to the WDA are estimated to be between 0.34 MGD and 1.42 MGD, with a combined estimated daily flow of 4.1 MGD.

Consistent with the requirements of 40 CFR §257.103(f)(2)(x) and employing processes consistent with those used in the evaluation of alternate disposal capacity for the Demonstration, Golder Associates USA Inc. (Golder), a member of WSP, on behalf of NIPSCO, performed a valuation of its previous assessment. The continued lack of alternative capacity is supported by the following conclusions:

- No existing on-Site impoundment system can accept partial or total flows of CCR waste streams that are currently discharging into the WDA
- No alternative disposal available for CCR and non-CCR waste streams in the existing on-Site WWTP
- No existing off-loading or conveyance piping infrastructure to support on or off-Site alternative disposal of CCR or non-CCR waste streams
- Commercial tanker truck, railcar, on-Site infrastructure, and treatment capacity in the region continue to preclude off-Site transport and/or alternative disposal
- An employee and public health and safety risk associated with off-Site disposal due to the additional truck traffic both on-Site and on the public roads as well as an increased carbon footprint with added truck traffic
- An increased risk of release that could harm the environment every time the wastewater is handled (i.e., pumped for off-Site transport, pumped to the on-Site WWTP)

NIPSCO previously evaluated the feasibility of constructing new alternative CCR and non-CCR waste management options on-Site, even though RMSGS will cease all coal-fired generation in about one and one-half years. As in 2020, due to Site-specific factors (e.g., space limitations, shallow depth to groundwater and thus the inability to reasonably achieve the 40 CFR §257.60(a) five-foot separation from the upper limit of the uppermost aquifer), permitting and/or regulatory hurdles, and building timeframes, construction of new alternative management facilities is infeasible.

Based on current operating conditions and an updated evaluation regarding alternative disposal capacity, Golder concludes that no viable alternative to continued use of the WDA currently exists.

Additional NIPSCO Demonstration-Related Work Completed Subsequent to October 2020

In April 2019, NIPSCO completed an Assessment of Corrective Measures (ACM) in accordance with the requirements of 40 CFR §257.96. In November 2020, based upon informal feedback from USEPA officials regarding their interpretation of ACM content, Golder, on behalf of NIPSCO, prepared an Addendum (hereinafter Addendum #1) to the 2019 ACM. Addendum #1 was certified by a qualified Indiana-licensed professional engineer on November 30, 2020. Following certification, the ACM was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. In July 2021, consistent with changes to the Multi-Cell Unit (MCU) closure design and resultant impacts on remedy alternatives, Golder, on behalf of NIPSCO, prepared a second Addendum (hereinafter Addendum #2) to the 2020 ACM in accordance with the requirements of 40 CFR §257.96. Addendum #2 was certified by a qualified Indiana-licensed professional engineer on July 29, 2021. Following certification, the ACM was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. Predicated upon IDEM approval of the MCU Closure Application, NIPSCO expects the groundwater Selection of Remedy process to be completed in the next few months.

NIPSCO continues to perform all CCR Rule required activities at RMSGS' four regulated CCR surface impoundments and its multi-phase CCR landfill. Based upon its interpretation of the regulatory obligations, NIPSCO reasserts its facility-wide compliance with all applicable Part 257 requirements.

Conclusion

Golder completed the evaluation and prepared this Report on behalf of NIPSCO. The Report documents a) the continued lack of alternative capacity on-Site and off-Site, and b) NIPSCO's progress toward the closure of the RMSGS surface impoundment referred to as the WDA. NIPSCO currently anticipates no delays in the cease receipt date, or the final closure date as outlined in its 2020 Demonstration. As such, Golder submits this Report which fulfills the 40 CFR §257.103(f)(2)(x) annual progress reporting regulatory requirement and the reporting commitments as outlined in the Demonstration.

[https://golderassociates.sharepoint.com/sites/134674/project files/6 deliverables/oct 2021 wda demo annual report/nipsco llc rmsgs wda part a demonstration annual report 01-21.docx](https://golderassociates.sharepoint.com/sites/134674/project%20files/6%20deliverables/oct%202021%20wda%20demo%20annual%20report/nipsco%20llc%20rmsgs%20wda%20part%20a%20demonstration%20annual%20report%2001-21.docx)