TECHNICAL MEMORANDUM

DATE October 24, 2025 **Project No.** 31406779.0108

TO Jeff Loewe, Joe Kutch, Stephen Holcomb, Justin Barrett
Northern Indiana Public Service Company LLC

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FROM Mark Haney **EMAIL mark.haney@wsp.com**

RE: 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 #01-25

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 to the United States Environmental Protection Agency (USEPA) 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*" (Golder, 2020(a), hereinafter Demonstration) for the Coal Combustion Residuals (CCR) Rule-regulated surface impoundment referred to as the Waste Disposal Area (WDA). The WDA impoundment is part of the NIPSCO R.M. Schahfer Generating Station (RMSGS), 2723 E 1500 N Road, Wheatfield, Jasper County, Indiana (Site). Following consultation with representatives of USEPA, on November 30, 2020, NIPSCO submitted to USEPA 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 – Addendum 1*" (Golder, 2020(b), hereinafter Demonstration Addendum 1). Both the 2020 Demonstration and Demonstration Addendum 1 anticipated permanent cessation of coal-fired generation in May 2023. However, due to issues related to RMSGS' contribution to and its critical role in electric generation and regional grid reliability, NIPSCO has found it necessary to continue coal-fired generation until December 2025, and consequent use of the WDA until early 2026. Accordingly, because of these electric demand and reliability driven operational changes, on August 18, 2022, NIPSCO submitted to USEPA 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 – Addendum 2*" (Golder, 2022, hereinafter Demonstration Addendum 2). The 2020 Demonstration, 2020 Addendum 1, and 2022 Addendum 2, all prepared by Golder Associates Inc., thereafter Golder Associates USA, Inc., now WSP USA Inc. (WSP), on behalf of NIPSCO, are currently under review by USEPA.

Although the WDA is the primary focus of the Demonstration, Addendum 1, and Addendum 2, 40 CFR §257.103(f)(2) specifies that the facility (*emphasis added*) complies with all other requirements of the CCR Rule, including the requirement to conduct any necessary corrective action. The WDA is not subject to corrective action provisions nor are the Landfill Phases V, VI, VII, and VIII; however, for three other RMSGS surface impoundments known as the Material Storage Runoff Basin (MSRB), Metal Cleaning Waste Basin (MCWB), and Drying Area (DA), referred to and having been closed collectively as the Multi-Cell Unit (MCU), a regulatorily compliant

groundwater remedy, post-closure cover system operation and maintenance (O&M) activities, and corrective action groundwater monitoring have been implemented.

The text of the 2020 Demonstration, 2020 Addendum 1, 2022 Addendum 2, and 40 CFR §257.103(f)(2)(x) each reference completion of an annual report documenting the continued lack of alternative disposal capacity and the progress toward the closure of the WDA surface impoundment. This Demonstration Annual Progress Report #01-25 (hereinafter 2025 Progress Report) fulfills the 40 CFR §257.103(f)(2)(x) regulatory requirement and the reporting commitments as outlined in the Demonstration and addenda. In addition to providing the aforementioned information, the 2025 Progress Report serves as an update on select additional RMSGS CCR Rule compliance and demonstration actions completed by NIPSCO subsequent to previously submitted Demonstration, addenda, and progress reports.

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

As of October 1, 2021, NIPSCO permanently retired Units 14 and 15, representing two of the four formerly operating coal-fired boilers at RMSGS. Remaining Units 17 and 18 have continued to operate when not in outage, with management of CCR and non-CCR waste streams produced from the Unit being provided by the WDA. NIPSCO'S cessation of operations of the remaining coal-fired boiler(s) is consistent with overall Site retirement plans and on schedule with NIPSCO's revised plan for permanent cessation of all coal-fired generation activities by the end of Q4 2025. The basis for and detailed schedule of permanent cessation of coal-fired generation, which represents a grid reliability-driven shift from the formerly planned retirement discussed in the November 2020 Demonstration, is outlined in the August 2022 Demonstration Addendum 2.

Ongoing Need for Operation of the WDA

NIPSCO continues progress toward permanent cessation of all coal-fired generation activities at RMSGS. Units 14 and 15 have been permanently retired, Unit 14 washdown has been completed, and Unit 15 related activities have been conducted intermittently over the past year. Cleaning of both Units 14 and 15 flue gas desulfurization (FGD) systems have likewise been completed. The remainder of boiler decommissioning and washdown event(s) associated with Unit 15 are expected to occur through Q1 2026. Units 17 and 18 have continued to operate when not in outage based on demand from the grid, generating CCR and non-CCR waste streams as detailed in the Demonstration and Addenda 1 and 2 and summarized below. Following permanent cessation of boiler operations, Units 17 and 18 will likewise be washed down as part of the facility decommissioning process, generating CCR waste streams to be managed in the WDA. 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 was also a pivotal component during the MCU closure. NIPSCO completed CCR removal and associated dewatering was terminated on March 29, 2024 in accordance with conditions of the IDEM Closure and Post-Closure Plan Approval Letter, dated March 17, 2023. Completion of the 2023-24 MCU closure activities permanently eliminated another waste stream, dewatering fluids discharge estimated at 1.42 million gallons per day (MGD) (see Part A Demonstration, Addendum 2, WSP Golder 2022) assigned for WDA management. The scheduled 2025 permanent retirement of the remaining Units 17 and 18 coal-fired boilers and conclusion of associated decommissioning activities will further reduce reliance on the WDA as a CCR and non-CCR waste management unit.

Nevertheless, as designed and constructed, most of RMSGS's wastewater and stormwater systems operate through a network of common sumps which ultimately discharge to the WDA. Until such time as CCR Rule regulated and non-regulated waste streams are no longer being generated, separation of the various sumps and pipelines is impractical. Therefore, until boiler cessation and plant decommissioning actions are fully completed, continued operation of the WDA remains essential to the management of these waste streams.

NIPSCO has retained WSP to design a reroute of the existing Units 14 and 15 sump lines and an existing yard drain line currently discharging into the WDA. The proposed reroute will direct these lines away from the WDA into the existing coal pile runoff sump. The construction of the reroute is anticipated to be completed by Q2 of 2026. Separately, the existing Units 17 and 18 sluice lines will remain active into the WDA until cessation of all boiler operations and wastewater generation associated with plant decommissioning.

Continued Lack of Alternative Capacity

At the time of preparation of this 2025 Progress Report, the measurable reduction in Site-wide generation of CCR and non-CCR waste streams resulting from the retirement of Units 14 and 15 and the cessation of dewatering from the MCU closure could not be definitively quantified but rather were reasonable estimates based on knowledge of Site operations. The inability to measure this reduction is due to the absence of flow metering capacity in individual feed and discharge lines. Most, if not all, of these lines will be taken out of service upon or shortly after permanent cessation of generation by Units 17 and 18. As such, capital upgrades such as the addition of stream-specific flow metering capability are not being added at this time. 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 initial Demonstration (i.e., October 2020) from Units 14 and 15 was removed from the combined total waste stream flow estimates considered in the 2021, 2022, 2023, 2024, and 2025 Progress Reports. Note that such an approach assumes an instantaneous and maximum waste stream flow reduction (and does not account for the intermittent ongoing compulsory boiler washdown flow from Units' decommissioning) and is, as a result, considered a conservative 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), individual volumes of the several CCR and non-CCR effluent streams being discharged to the WDA are estimated to be between 0.34 MGD and 0.86 MGD, with a combined estimated daily flow of 2.64 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, WSP, on behalf of NIPSCO, performed a re-evaluation of its previous assessments. The continued lack of alternative capacity is supported by the following conditions/conclusions:

- No other existing on-Site impoundment system can accept partial or total flows of CCR waste streams that are currently discharging into the WDA
- No existing transport conduit nor alternative disposal capacity is available for CCR and non-CCR waste streams in the existing on-Site wastewater treatment plant (WWTP)
- No existing off-loading or conveyance piping infrastructure to support on or off-Site alternative disposal of CCR or non-CCR waste streams is in place and, as a practical matter, commercial tanker truck capacity for individual waste streams of between 0.34 and 0.86 MGD, up to a combined estimated daily maximum volume

of up to 2.64 MGD is not possible to dependably source considering equipment and driver availability, impairments due to seasonal weather conditions, etc.

- An employee and public health and safety risk associated with off-Site disposal would exist 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 would exist each time the wastewater is handled (i.e., pumped for off-Site transport, unloaded at off-Site receiving facilities)

NIPSCO previously evaluated the feasibility of constructing new alternative CCR and non-CCR waste management options on-Site, even though RMSGS plans to cease all coal-fired generation by December 2025). As in 2020 and confirmed in 2022 (Demonstration Addendum 2), 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 including permit application review timeframes, potential supply chain issues relative to equipment and construction materials availability, and building timeframes, construction of new alternative management facilities is infeasible.

Based on current operating conditions and an updated evaluation regarding alternative disposal capacity, WSP 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, Golder, on behalf of NIPSCO, completed an Assessment of Corrective Measures (ACM) for the MCU 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 ACM Addendum #1) to the 2019 ACM. ACM Addendum #1 was certified by a qualified Indiana-licensed professional engineer on November 30, 2020. Following certification, ACM Addendum #1 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 groundwater remedy alternatives, Golder, on behalf of NIPSCO, prepared a second addendum (hereinafter ACM Addendum #2) to the 2020 ACM in accordance with the requirements of 40 CFR §257.96. ACM Addendum #2 was certified by a qualified Indiana-licensed professional engineer on July 29, 2021. Following certification, ACM Addendum #2 was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. In October 2021, in accordance with the requirements of 40 CFR §257.103(f)(2)(x), Golder, on behalf of NIPSCO, prepared the Part A Demonstration Annual Progress Report #01-21, following which it was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. In June 2022, to focus on cobalt which was identified as the only CCR Rule Appendix IV constituent detected in a single shallow downgradient monitoring well at a statistically significant level (SSL) above the groundwater protection standard (GWPS), Golder, on behalf of NIPSCO, prepared a third addendum (hereinafter ACM Addendum #3) to the 2020 ACM in accordance with the requirements of 40 CFR §257.96. ACM Addendum #3 was certified by a qualified Indiana-licensed professional engineer on June 17, 2022. Following certification, ACM Addendum #3 was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. In October 2022, in accordance with the requirements of 40 CFR §257.103(f)(2)(x), Golder, on behalf of NIPSCO, prepared the Part A Demonstration Annual Progress Report #01-22, following which it was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. Following the September 29, 2022 public meeting

held in accordance with the requirements of 40 CFR §257.96(e) to accept comment on the groundwater ACM, Golder, on behalf of NIPSCO, completed the MCU groundwater Selection of Remedy (SOR). The SOR report, which determined monitored natural attenuation (MNA) to be the most appropriate, and thus recommended, groundwater corrective measure, was certified by a qualified Indiana-licensed professional engineer on December 28, 2022. Following certification, the SOR report was placed in the facility operating record and NIPSCO posted it to their publicly accessible CCR website. On August 10, 2023, in further support of MNA for remediation of impacted groundwater downgradient of the MCU, WSP, on behalf of NIPSCO, performed geochemical modeling. Following completion, NIPSCO placed the resulting WSP modeling report in the facility operating record and posted it to their publicly accessible CCR website. In October 2023 and October 2024, in accordance with the requirements of 40 CFR §257.103(f)(2)(x), WSP, on behalf of NIPSCO, prepared the Part A Demonstration Annual Progress Reports #01-23 and #01-24, respectively, following which they were placed in the facility operating record and NIPSCO posted them to their publicly accessible CCR website. Since selecting a remedy, cobalt concentrations have decreased below the GWPS, and no SSLs have been identified. Groundwater monitoring will continue until compliance with the GWPS is achieved for a period of three consecutive years.

In planning for final closure of the WDA, which will follow permanent retirement of Units 17 and 18 and completion of boiler washdown activities, NIPSCO has retained WSP to evaluate alternative closure strategies and prepare detailed closure design plans in accordance with the applicable requirements of 40 CFR §257.102. NIPSCO has selected a closure by removal approach, with cleanup to site-specific background standards. WSP has prepared a closure plan and NIPSCO submitted the WDA closure plan to IDEM on December 28, 2023. IDEM issued a notice of completion in Q2 2025, a public comment period was completed, and NIPSCO is currently awaiting issuance of a closure plan permit approval which is expected in Q4 2025.

NIPSCO continues to perform all CCR Rule required activities at RMSGS' regulated CCR surface impoundments (i.e., WDA and MCU) 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

WSP completed the evaluation and prepared this 2025 Progress Report on behalf of NIPSCO. The 2025 Progress Report documents a) the continued lack of alternative capacity on-Site and off-Site, b) NIPSCO's progress toward the closure of the RMSGS surface impoundment referred to as the WDA, and c) additional Demonstration-related actions taken by NIPSCO since the 2023 and 2024 Progress Reports. NIPSCO currently does not plan to change the cease receipt date, or the final closure date as outlined in its 2022 Demonstration Addendum 2. WSP submits this Report in fulfillment of the 40 CFR §257.103(f)(2)(x) annual progress reporting regulatory requirement and the reporting commitments as outlined in the 2020 Demonstration, 2020 Demonstration Addendum 1, and 2022 Demonstration Addendum 2.

References

Golder Associates Inc. (2020a), 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, October 30, 2020.

Golder Associates Inc. (2020b), 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 – Addendum 1, November 30, 2020.

Golder Associates USA, Inc. (2021), a member of WSP, NIPSCO LLC RMSGS 40 CFR §257.103(f)(2)(x) Part A Demonstration Annual Progress Report #01-21, October 29, 2021.

Golder Associates USA, Inc. (2022a), a member of WSP, 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 – Addendum 2, August 18, 2022.

Golder Associates USA, Inc.(2022b), a member of WSP, NIPSCO LLC RMSGS 40 CFR §257.103(f)(2)(x) Part A Demonstration Annual Progress Report #01-22, October 28, 2022.

WSP USA Inc.(2023a), NIPSCO LLC RMSGS Multi-Cell Unit Reactive Transport Modeling, August 10, 2023.

WSP USA Inc.(2023b), NIPSCO LLC RMSGS 40 CFR §257.103(f)(2)(x) Part A Demonstration Annual Progress Report #01-23, October 27, 2023.

WSP USA Inc. (2024), NIPSCO LLC RMSGS 40 CFR §257.103(f)(2)(x) Part A Demonstration Annual Progress Report #01-24, October 26, 2024.