

TECHNICAL MEMORANDUM

DATE October 20, 2023

Project No. GL19121569-05

- TOJoe Kutch, Manager, Environmental Compliance
Northern Indiana Public Service Company LLC (NIPSCO)
- **CC** Jeff Loewe, Jennifer Wunsh, Stephen Holcomb, Danielle Sylvia Cofelice, Joe Gormley, Cody Johnson
- FROM Mark Haney

EMAIL mark.haney@wsp.com

RE: NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC BAILLY GENERATING STATION, CCR UNITS - PRIMARY 1, PRIMARY 2, AND SECONDARY 1 CORRECTIVE MEASURES SELECTION OF REMEDY, SEMI-ANNUAL PROGRESS REPORT #23-02

On behalf of Northern Indiana Public Service Company LLC (NIPSCO) and in conformance with 40 Code of Federal Regulations (CFR) §257.97(a), WSP USA Inc. (WSP), formerly Golder Associates USA Inc., has prepared this semi-annual progress report for the NIPSCO Bailly Generating Station (BGS), 246 Bailly Station Road, Chesterton, Porter County, Indiana (Site). This report summarizes progress toward selection of Corrective Measures for three Coal Combustion Residuals (CCR) Rule regulated impoundments (Primary 1, Primary 2, and Secondary 1) collectively referred to herein as the CCR Units. Specifically, this semi-annual progress report summarizes NIPSCO's/WSP's actions completed since the submittal of the eighth semi-annual progress report on April 19, 2023.

In May 2019, Golder, now WSP USA Inc. as of January 1, 2023, prepared an Assessment of Corrective Measures (ACM) to address detections of Appendix IV parameters in groundwater downgradient of the CCR Units above the groundwater protection standards (GWPS). Specifically, the ACM addressed arsenic, cadmium, lithium, and thallium due to Statistically Significant Levels (SSLs) in groundwater or detections above the GWPS. The ACM was prepared in conformance with applicable requirements of 40 CFR §257.96 and was certified by a qualified Indiana-licensed professional engineer on May 1, 2019. Following certification, the ACM was placed in the facility operating record, and NIPSCO posted it to their publicly accessible CCR website.

As discussed in the ACM, NIPSCO plans to close the CCR Units. In anticipation of closure, NIPSCO initially submitted a Closure Application to Indiana Department of Environmental Management (IDEM) in February 2021. Between April and September 2021 NIPSCO received comments from and was in communications with IDEM regarding aspects of the closure approach. NIPSCO also attended an in-person meeting with IDEM during mid-April 2022. Issues of review/discussion included CCR delineation and removal from certain CCR Units, excavation/removal of source material and the underlying Hypalon and clay liner systems, design of the final cover system, and conceptual design, future operation, and maintenance of a post-closure stormwater collection and infiltration gallery. Review by and discussions with IDEM remain ongoing, and additional comments have been received from IDEM and responded to by NIPSCO. Based upon IDEM feedback, NIPSCO continues to refine the Closure Application. Additional feedback from IDEM may require modifications or refinement to the closure approach, post-closure water management systems, and Closure Application, which may in turn potentially impact the ACM and selection of a groundwater Corrective Measure(s).

The ACM initially identified five potential groundwater Corrective Measure alternatives to be considered for implementation following excavation and closure of the CCR Units. However, during the ACM process Golder determined that additional data and further evaluation were required prior to selecting a remedy from among these options.

In June 2022, Golder completed a final version of Addendum #1 to the ACM (initial draft prepared in April 2022) to supplement the findings of the 2019 ACM. The addendum was prepared to provide further details of Golder's evaluation of the potential corrective measures for the CCR Units, incorporate changes resulting from an enhanced final cover system design included in the draft closure application submitted and reviewed by IDEM, and reevaluate the potential Corrective Measures identified in the ACM based on their compatibility with the final closure design.

The following remedy selection-related activities have been performed in the past six months:

- NIPSCO has continued to monitor groundwater impacts and flow direction and their effect(s) on potential Corrective Measure alternatives.
- NIPSCO conducted a supplemental investigation that included installation and sampling of additional monitoring wells and conducting exploratory borings at the north and south property boundaries.
- The exploratory borings were conducted to confirm the presence, continuity, thickness of, and depth to the "upper clay" confining unit, identified at various depths in previous borings, the understanding of which is critical for evaluating potential applicability of remedial technologies in the Assessment of Corrective Measures and Selection of Remedy processes. The results confirmed the presence of the upper clay unit along the south property boundary and to the north of P1; however, the upper clay was not encountered to the north and east of P2. The lack of a relatively shallow confining unit downgradient of a regulated CCR unit will likely impact the selection of remedy process (i.e., certain alternatives previously identified as appropriate may no longer meet all necessary criteria). Accordingly, NIPSCO is evaluating the necessity of preparing a second addendum to the ACM based on these newly identified site conditions.
- The monitoring wells were installed to provide additional data on groundwater gradients and contaminant distribution to better define the degree and extent of CCR-related groundwater impacts downgradient of the CCR units. The results of the initial post-installation groundwater sampling indicated the contaminant distributions are generally as expected based on previous monitoring events, with the exception of a preliminary detection of molybdenum that exceeded the groundwater protection standard in a new well located near the north property boundary. This data, particularly in the case of molybdenum, is insufficient for progressing to a selection of groundwater corrective measure remedy and supports the continued collection of additional data as scheduled.

Following a full evaluation of data collected during the supplemental investigation, and IDEM acceptance of the Closure Application as complete, WSP will determine whether additional data or evaluations are required to supplement the findings of the May 2019 ACM and June 2022 Addendum. Following this determination, WSP will either 1) prepare another ACM addendum to further reevaluate the potential Corrective Measure alternatives based on their compatibility with groundwater conditions and the final closure design or 2) proceed with the selection of groundwater Corrective Measures, a process that will include groundwater modeling to evaluate remedies retained from the ACM in consideration of the downgradient National Park Service's (NPS') recommendations.

Throughout the winter-spring 2023/2024 timeframe, WSP will continue to collect and evaluate additional information relative to the further review and advancement of potential Corrective Measures. These evaluations will be consistent with timing and implications of the IDEM's review of the Closure Application, NIPSCO's not-yet-scheduled closure-related public meeting, IDEM approval processes, and additional discussions with the NPS. For these evaluations, WSP will emphasize the following:

- Identifying critical data gaps
- Understanding and reacting to impacts of newly gathered information on previous assumptions and/or conclusions
- Identifying and researching applicability of emerging technologies
- Monitoring changing conditions and future plans for the Site and their impacts on the remedy process

WSP will summarize these additional evaluations along with a summary of NIPSCO's progress toward selection of Corrective Measures for groundwater for the CCR Units in the next semi-annual progress report.

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https://golderassociates.sharepoint.com/sites/nipscoccrgwmonitoring/shared documents/bgs/reports/selection of remedy progress reports/2203-02/bgs selection of remedy semi annual progress report 9_draft.docx
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