Northern Indiana Public Service Co. (NIPSCO) operates the coal-fired R.M. Schahfer Generating Station (RMSGS) located near Wheatfield, Indiana. Since beginning operations in 1976, NIPSCO has stored and disposed of plant generated CCR in the on-site ash landfill. The ash landfill consists of seven phases, five of which are currently closed. Of the remaining two phases, one is active and the other has been constructed and has yet to receive waste. This written Closure Plan (Plan) addresses the requirements of 40 CFR §257.102 Criteria for conducting the closure or retrofit of CCR units of the USEPA’s Final CCR Rule dated April 17, 2015 for the RMSGS Landfill Phases, 6, and 7.

This Plan has been developed based upon information provided by NIPSCO and describes the ash landfill, closure plan design, a schedule for closure, and steps required to amend the closure plan in the future, if necessary. This plan calls for the landfill to be closed leaving CCR in place and installing a final cover system.

Currently, NIPSCO estimates it will operate the RMSGS facility through the year 2023 and begin closure of the landfill thereafter. Regardless of when the landfill is closed, the following steps will be followed for closure of the unit.

1. Finalize detailed construction plans for closure.
2. Obtain written Professional Engineer (PE) certification that design of the final cover system meets the requirements of the Final CCR Rule.
3. No later than the date closure is initiated, prepare a notification of intent to close a CCR unit, including the PE certification from Step 2, and place notification in the facility operating record.
4. Commence closure no later than 30-days after known final receipt of CCR.
5. Obtain PE certification verifying closure has been completed in accordance with the closure plan and the requirements of 40 CFR §257.102.
6. Within 30-days of completion of closure of the CCR unit, prepare a notification of closure of the CCR unit, including the PE certification from step 5, and place notification in the facility operating record.
7. Following closure of the CCR unit, record a notation on the deed to the property or some other instrument normally examined during title search.

8. Within 30-days of recording a notation on the deed to the property, prepare a notification stating that the notation has been recorded and place the notification in the facility operating record.

**Final Cover System**

The final cover system will be designed and constructed to meet the USEPA’s Final CCR Rule requirements of §257.102(i)(A-D). The proposed final cover system will consist of two layers designed to prevent infiltration of liquids into the waste and release of CCR, leachate or contaminated run-off to the ground or surface waters or to the atmosphere. The first layer will consist of a minimum 18-inch thick soil infiltration layer that will minimize the infiltration of liquids through the CCR unit. The infiltration layer will have a permeability less than or equal to any natural subsoils present, or no greater than $1 \times 10^{-5}$ cm/s, whichever is less. An equivalent alternative cover system satisfying the conditions of 257.102(d)(3)(ii) may also be chosen in the future including consideration of an approved geomembrane liner. The second layer will consist of a minimum 6-inch thick soil erosion layer, capable of supporting native plant growth, that will minimize erosion of the final cover system. It is anticipated that soils required for the final cover system will be imported from adjacent borrow areas proximate to the CCR landfill.

The final cover system will be placed and graded to elevations necessary to promote positive drainage and prevent future impoundment of stormwater, sediment or slurry on the final cover system. Grading of the in-place ash may be necessary prior to placement of cover system soils to ensure positive drainage and manage surface water run-off. Surface water run-off and run-on will be managed to minimize the need for future maintenance of the cover system including the use of stormwater controls (i.e. ditches, swales, diversions, check dams, channel linings, etc.) to protect against erosion and sedimentation.

The final cover system design grades and slopes will be designed to provide appropriate safety factors against slope failure, sloughing or movement of the final cover system. Final cover grades will also be designed to accommodate settling and subsidence of the landfill to minimize disruption of the integrity and function of the final cover system and to minimize the need for future maintenance.

A typical section of the final cover including minimum layer thicknesses is presented below.
Final Cover Installation
The following general installation methods and procedures are expected to be used to construct the final cover system:

Subgrade Preparation
Prior to installation of the infiltration layer, any existing vegetation should be removed and the surface smoothed to provide a suitable working base for cover system installation. Fill soil may be required to shape the subgrade and fill in low areas or repair erosion as necessary. Any soft areas should be under-cut and recompacted as necessary to provide a firm, unyielding foundation for placement and compaction of the infiltration layer. The subgrade shall be maintained in a smooth, uniform, and drained condition prior to placement of the infiltration layer.

The subgrade will be surveyed to establish elevations of the surface prior to placement of the infiltration layer.

Infiltration Layer
Soil materials for the infiltration layer will be obtained from an on-site or off-site source, delivered using haul trucks, spread with a dozer, and compacted with soil compaction equipment. Soil will be compacted to achieve compaction and permeability requirements. The final surface of the infiltration layer will be maintained in a smooth, uniform drainage condition.

Upon completion, the infiltration layer will be surveyed to establish elevations and verify a minimum thickness of 18-inches is provided.

Erosion Layer
Soil materials for the erosion layer will be obtained from an on-site or off-site source, delivered using haul trucks, and spread with a dozer. The erosion layer does not require compaction control however it should be stable for construction traffic. The erosion layer top surface will
remain rough to promote the establishment of native vegetation. Stabilization and seeding of the erosion layer must begin immediately after placement (weather permitting).

Upon completion, the erosion layer will be surveyed to establish elevations and verify a minimum thickness of 6-inches is provided.

Temporary or permanent erosion control materials (mulches, fabrics, rock check dams, soil tackifier) may be used to minimize erosion and aid in establishment of vegetation. Hard armor such as cobbles or rip rap may be used in areas where establishment of vegetation may be difficult or impossible.

The maximum volume of CCR ever stored in Phase 6 and 7 of the landfill will occur at closure and is estimated to be approximately 1,161,000 CY and 1,220,000 CY, respectively. The area of the Phase 6 and 7 landfill requiring final cover is approximately 30 acres. This area is based on data provided by NIPSCO of historic landfill boundaries.

**Closure Schedule**

An estimated schedule for completing the activities necessary to satisfy the closure-in-place criteria of the CCR Rule is provided below. The schedule lists the sequential steps that need to be taken to close each of the two Phases (Phase 6 and Phase 7) of the landfill by installing a final cover system on each phase.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Task Item</th>
<th>Completion Timeframe (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prepare Construction Plans</td>
<td>-8 -7 -6 -5 -4 -3 -2 -1 1 2 3 4 5 6</td>
</tr>
<tr>
<td>2</td>
<td>PE Design Certification</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Notice of Intent to Close</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Agency Closure Approval</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Cease placing CCR</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Commence Closure</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Final Cover Installation</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>PE Closure Certification</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Notice of Landfill Closure</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Record Deed Notation</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Notice of Deed Recordation</td>
<td></td>
</tr>
</tbody>
</table>

NIPSCO will need to initiate some activities prior to commencing closure. As indicated on the schedule, NIPSCO will need to take action on Steps 1-4 as early as 8 months prior to the anticipated final receipt of CCR at the landfill.

Per §257.102(e)(3) closure of either Phase 6 or 7 of the landfill has commenced when NIPSCO has ceased placing CCR in the landfill phase and completes any of the following actions or activities: (i) Taken any steps necessary to implement the written closure plan; (ii) Submitted a completed application for any required state or agency permit or permit modification; or (iii) Taken any steps necessary to comply
with state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of the CCR landfill phase.

NIPSCO estimates that it will operate the plant through 2023. Closure activities for the last of the CCR landfill phases is estimated to be completed in 2029.

**Closure Plan Amendments**

NIPSCO will amend the Plan in the future as provided for in 40 CFR §257.102(b)(3). A record of amendments to the plan will be tracked below. The latest version of the closure plan will be noted on the front cover of the plan.

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description of Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12 October 2016</td>
<td>Initial Issue</td>
</tr>
<tr>
<td>2</td>
<td>7 February 2019</td>
<td>Station Closure Date and Landfill Status Updates</td>
</tr>
</tbody>
</table>

**Professional Engineer Certification**

I certify that this written closure plan for NIPSCO’s Landfill at the R.M. Schahfer Generating Station meets the USEPA’s Final CCR Rule requirements of §257.102(b).

Signed: [Signature]
Consulting Engineer

Print Name: Jeffery A. Miller
Indiana License No.: 11800217
Title: Associate
Company: Haley & Aldrich, Inc.

Professional Engineer’s Seal: