Location Restrictions Certification Report
NIPSCO LLC Michigan City Generating Station Primary 2

Pursuant to:

40 CFR §257.60
40 CFR §257.61
40 CFR §257.62
40 CFR §257.63
40 CFR §257.64

Submitted to:
Northern Indiana Public Service Company LLC
Michigan City Generating Station
Michigan City, Indiana

Submitted by:
Golder Associates Inc.
15851 South US 27, Suite 50
Lansing, Michigan, USA 48906
+1 517 482-2262

Project No. 19121568

April 2020
CERTIFICATION
Professional Engineer Certification Statement [40 CFR §257.60-64(b)]

I hereby certify that, having reviewed the attached documentation and being familiar with the provisions of Title 40 of the Code of Federal Regulations, Sections 257.60 through 64 (40 CFR §257.60-64), I attest that this NIPSCO LLC Michigan City Generating Station Location Restrictions Certification Report is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of 40 CFR §257.60-64.

Golder Associates Inc.

[Signature]

April 1, 2020
Date of Report Certification

Tiffany D. Johnson, P.E.
Name

PE11500730
Indiana Professional Engineer Certification Number
# Table of Contents

CERTIFICATION .................................................................................................................................................. C-1

1.0 INTRODUCTION ............................................................................................................................................. 1

1.1 Background .......................................................................................................................................... 1

1.2 Purpose ................................................................................................................................................ 1

2.0 LOCATION RESTRICTIONS .......................................................................................................................... 1

2.1 Placement Above the Uppermost Aquifer [40 CFR §257.60] .............................................................. 1

2.2 Wetlands [40 CFR §257.61] .................................................................................................................... 1

2.3 Fault Areas [40 CFR §257.62] .................................................................................................................. 2

2.4 Seismic Impact Zones [40 CFR §257.63] ............................................................................................... 2

2.5 Unstable Areas [40 CFR §257.64] .......................................................................................................... 2

2.5.1 Petroleum Fields/Wells ................................................................................................................... 2

2.5.2 Sand and Gravel Pit ........................................................................................................................ 2

2.5.3 Active Mineral .................................................................................................................................. 2

2.5.4 Karst ................................................................................................................................................ 2

2.5.5 Liquefaction Potential ...................................................................................................................... 2

2.5.6 Surface Mine ................................................................................................................................... 3

2.5.7 Underground Mine .......................................................................................................................... 3

2.5.8 Steep Slope ..................................................................................................................................... 3

2.5.9 Abandoned Quarries ........................................................................................................................ 3

2.5.10 Differential Settlement .................................................................................................................. 3

3.0 CONCLUSION AND SUMMARY ....................................................................................................................... 3

4.0 REFERENCES ................................................................................................................................................ 3

Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Site Location Map</td>
</tr>
<tr>
<td>Figure 2</td>
<td>CCR Unit Location Map</td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION

1.1 Background

40 Code of Federal Regulations (CFR) Parts 257 and 261, “Hazardous and Soil Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule” (CCR Rule), as amended, and corresponding regulations under 329 Indiana Administrative Code (IAC) 10-9-1 place requirements on the location of CCR management units. Golder Associates Inc. (Golder) on behalf of Northern Indiana Public Service Company LLC (NIPSCO LLC) evaluated the location criteria and prepared this Location Restrictions Certification Report for Michigan City Generating Station (MCGS, Site) Primary 2 (the CCR Unit). MCGS is located at 101 Wabash Street, in Michigan City, LaPorte County, Indiana (Latitude 41° 43’ 15” N and Longitude 86° 54’ 30” W, see Figure 1). The Site, located in a mixed industrial, commercial, and residential area, is bounded to the east by Trail Creek, to the north by Lake Michigan, to the south by Chicago South Shore & South Bend Railroad (CSS) tracks and further south by West Michigan Street/Indiana Route 12 and commercial/residential properties, and to the west/southwest by the Indiana Dunes National Park (IDNP). Primary 2 is an approximately 3.4-acre (measured from the crest of the berm) surface impoundment located in the western area of the Site (Figure 2).

1.2 Purpose

The purpose of this Location Restrictions Certification Report is to provide demonstrations for the certification required by 40 CFR §257.60-64. Location Restrictions criteria include:

- §257.60 Placement above the uppermost aquifer
- §257.61 Wetlands
- §257.62 Fault areas
- §257.63 Seismic impact zones
- §257.64 Unstable areas

2.0 LOCATION RESTRICTIONS

The following sections outline NIPSCO LLC’s ("owner") requirements as presented in 40 CFR §257 Subpart D, Location Restrictions regulations.

2.1 Placement Above the Uppermost Aquifer [40 CFR §257.60]

NIPSCO LLC collected groundwater elevation data from monitoring wells surrounding Primary 2. The data indicate the maximum upper limit of the uppermost aquifer was approximately 594 feet mean sea level (msl). Golder advanced soil borings within Primary 2 and completed three geophysical lines to assess the presence and thickness of CCR and thus, the bottom elevation (base) of Primary 2 (Golder, 2019). Results of these activities indicate the bottom elevation of Primary 2 (and, thus, the base) is approximately 590 feet msl. This separation distance does not satisfy the requirements set forth in 40 CFR 257.60(a).

2.2 Wetlands [40 CFR §257.61]

To evaluate the location of Primary 2 relative to wetlands, Golder reviewed readily available information:

- US Geological Survey (USGS) topographic map
- National Wetland Inventory (NWI) map
US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey map
- Aerial imagery
- Federal Emergency Management Agency (FEMA) floodplain map

In addition to the desktop data review, Golder staff completed a field reconnaissance to evaluate the presence or absence of wetlands at the Site. Wetlands are mapped in areas adjacent to Primary 2 (NWI Map). Primary 2 is located in areas mapped as non-hydric soil types (NRCS Web Soil Survey). Visual observation during the Site visit indicated that there were no wetlands within the footprint of Primary 2. Based on Site reconnaissance and information compiled by Golder, Primary 2 is not located within wetlands and meets the requirements of 40 CFR §257.61.

2.3 Fault Areas [40 CFR §257.62]

Based on Gray and Steinmetz (2012), the closest fault that has displaced during Holocene time is the ‘Royal Center Fault’ which is located approximately 60 miles south of the MCGS. Therefore, Primary 2 is not located within 200 feet of the outermost damage zone of a Holocene fault and meets the requirements of 40 CFR §257.62.

2.4 Seismic Impact Zones [40 CFR §257.63]

The United Stated Geological Survey (USGS) reports peak horizontal ground acceleration (PGA) at MCGS to be approximately 0.05 g with a 2% probability of exceedance in 50 years using the values from the 2015 National Earthquake Hazards Reduction Program Recommended Seismic Provisions for New Buildings and Other Structures (USGS, 2018). Therefore, Primary 2 is not located within a seismic impact zone as defined by 40 CFR §257.63, thereby meeting this requirement.

2.5 Unstable Areas [40 CFR §257.64]

Based on research conducted through the Indiana Geological Survey information website (http://igs.indiana.edu), the USGS, and historical reports prepared by Golder and others for the MCGS site, the following unstable areas information was identified.

2.5.1 Petroleum Fields/Wells

There is an 860 feet deep dry petroleum well identified approximately 0.35 miles west of the Site.

2.5.2 Sand and Gravel Pit

There is an abandoned sand/gravel pit identified approximately 0.35 mile west of the Site.

2.5.3 Active Mineral

There are no active industrial mineral sites identified within three miles of the Site.

2.5.4 Karst

There are no karst terrain locations mapped near the Site.

2.5.5 Liquefaction Potential

Based on the historical information prepared for the site (Golder, 2018), Primary 2 embankments and foundation soils are not susceptible to seismically induced liquefaction.
2.5.6 **Surface Mine**
There are no surface coal mines identified near the Site.

2.5.7 **Underground Mine**
There are no underground coal mines identified near the Site.

2.5.8 **Steep Slope**
There are notable steep slopes, north of Primary 2, sloping down to Lake Michigan. Golder performed a slope stability analysis. Results of the slope stability analysis indicate that Primary 2 slopes have an acceptable factor of safety (Golder, 2012, 2018).

2.5.9 **Abandoned Quarries**
There are no abandoned quarries identified near the Site.

2.5.10 **Differential Settlement**
Differential settlement is not expected in the foundation soils for Primary 2 (Golder, 2012).

Based on Golder’s evaluation of the data resources available, Primary 2 meets the stability requirements under 40 CFR §257.64.

3.0 **CONCLUSION AND SUMMARY**
This report has been prepared in general accordance with normally accepted civil engineering practices to fulfill the reporting requirements of 40 CFR §257.60-257.64. Based on the review of the available information provided by NIPSCO LLC, Primary 2 does not meet the requirements for the minimum separation between the CCR Unit base and the upper limit of the uppermost aquifer and therefore is subject to 40 CFR §257.101(b)(1).

This report will be placed in the facility’s operating record in accordance with 40 CFR 257.105(e) and will be made available on the facility’s publicly accessible internet site in accordance with 40 CFR 257.107(e).

4.0 **REFERENCES**


Golder Associates Inc., “NIPSCO Michigan City Generating Station Primary Settling Pond No. 2 (Primary 2) Structural Stability and Safety Factor Assessment, Michigan City Indiana, Pursuant to 40 CFR 257.73(d) & 257.73(e)”, March 2018.

Indiana Geological website, [http://maps.indiana.edu/LayerGallery.html](http://maps.indiana.edu/LayerGallery.html), September 2018.


