

# Annual CCR Landfill Inspection

Lansing Landfill  
2320 Power Plant Drive  
Lansing, Iowa 52151

Prepared for:

Interstate Power and Light Company  
Lansing Generating Station  
2320 Power Plant Drive  
Lansing, Iowa 52151

**SCS ENGINEERS**

25223070.00 | December 19, 2023

2830 Dairy Drive  
Madison, WI 53718-6751  
608-224-2830


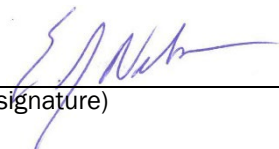
## Table of Contents

Section	Page
<b>PE Certification</b> .....	<b>iii</b>
<b>1.0 Introduction</b> .....	<b>1</b>
1.1 Background.....	1
<b>2.0 Summary of Results and Recommendations</b> .....	<b>1</b>
<b>3.0 Annual Inspection</b> .....	<b>2</b>
3.1 Operating Record Review.....	2
3.2 Visual Inspection .....	2
<b>4.0 Inspection Results</b> .....	<b>3</b>
4.1 Changes in Geometry.....	3
4.2 CCR Volumes .....	3
4.3 Appearance of Structural Weakness.....	3
4.3.1 Signs of Surface Movement or Instability .....	3
4.3.2 Inappropriate Vegetation Growth .....	3
4.3.3 Animal Burrows.....	4
4.3.4 Erosion Damage .....	4
4.3.5 Unusual Surface Damage Caused by Vehicle Traffic .....	4
4.4 Disruptive Conditions .....	4
4.4.1 Existing Disruptive Conditions .....	4
4.4.1.1 Current Inspection.....	4
4.4.1.2 Previous Inspection.....	4
4.4.2 Potentially Disruptive Conditions.....	4
4.4.2.1 Current Inspection.....	4
4.4.2.2 Previous Inspection.....	5
4.5 Other Changes Since Previous Annual Inspection .....	6
<b>5.0 Future Inspections</b> .....	<b>6</b>
5.1 Existing CCR Landfill.....	6
5.2 New CCR Landfills and Lateral Expansions .....	6

I:\25223070.00\Deliverables\2023 LAN Fed Inspection\_LF\231219\_LAN Annual CCR Landfill Inspection\_Final.docx

[This page left blank intentionally]

## PE CERTIFICATION

	<p>I, Eric J. Nelson, hereby certify that this Annual CCR Landfill Inspection Report meets the requirements of 40 CFR 257.84(b)(2), was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p>
	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">               (signature)         </div> <div style="text-align: center;">             12/19/2023              (date)         </div> </div>
	<p style="text-align: center;"><b>Eric J. Nelson</b></p> <p>(printed or typed name)</p>
	<p>License number <u>23136</u></p> <p>My license renewal date is December 31, 2024.</p> <p>Pages or sheets covered by this seal:</p> <p>Annual CCR Landfill Inspection, Lansing Landfill,</p>
	<p>December 19, 2023</p>

[This page left blank intentionally]

## 1.0 INTRODUCTION

SCS Engineers (SCS) completed an annual inspection of the Interstate Power and Light Company (IPL) Lansing (LAN) Landfill in Lansing, Iowa. The annual inspection was completed in accordance with the U.S. Environmental Protection Agency (U.S. EPA) Coal Combustion Residuals (CCR) rule, 40 Code of Federal Regulations (CFR) 257 Subpart D, in particular, 257.84(b)(1). According to 40 CFR 257.84(b)(1), an annual inspection by a qualified professional engineer is required for all existing and new CCR landfills, and any lateral expansion of a CCR landfill. The purpose of the annual inspection is to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

- A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and
- A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

This report has been prepared in accordance with 40 CFR 257.84(b)(2) to document the annual inspection.

## 1.1 BACKGROUND

The LAN facility includes an active CCR landfill, which currently consists of a single CCR unit. The LAN Landfill has received CCR both before and after the effective date of the CCR Rule.

The inspection requirements in 40 CFR 257.84(b)(1) applied to the existing CCR unit listed above while it was active since the previous inspection. However, the LAN Landfill was closed in October 2023 not long after the 2023 field inspection was completed. The Certification of Closure, dated October 16, 2023, is available on Alliant Energy's CCR Rule Compliance Data and Information website.

## 2.0 SUMMARY OF RESULTS AND RECOMMENDATIONS

SCS identified no deficiencies or releases during the annual inspection of the LAN Landfill. Deficiencies and releases must be remedied by the owner or operator as soon as feasible and the remedy documented.

SCS did identify conditions during the annual inspection that are not considered deficiencies but have the potential to become a deficiency if left unaddressed. Each condition and the recommendations provided by SCS to address them are summarized in the table below. These conditions, remedial recommendations, and remedial actions completed are described in further detail in **Section 4.0**.

Condition	CCR Unit	Recommendation(s)	Report Section
Dry and dusty conditions on the access road to the landfill due to the tracking of soil onto the landfill haul road from ongoing final cover construction activities.	Landfill Access Road	<ul style="list-style-type: none"> <li>Continue to implement dust control measures and remove tracked material from haul roads per the fugitive dust plan.</li> <li>Monitor during 7-day inspections.</li> </ul>	4.4.2.1
Rill erosion in gully repair area adjacent to the landfill.	Landfill	<ul style="list-style-type: none"> <li>Repair rills and revegetate as part of landfill closure activities.</li> <li>Monitor during 7-day inspections.</li> <li>Monitor during post-closure care.</li> </ul>	4.4.2.1
Previously unidentified steel pipe.	Landfill	<ul style="list-style-type: none"> <li>Remove exposed steel pipe.</li> <li>Seal the remaining pipe to abandon it in place.</li> </ul>	4.4.2.1

### 3.0 ANNUAL INSPECTION

Mr. Eric Nelson of SCS completed an annual inspection of the LAN Landfill on July 21, 2023. Mr. Nelson is a licensed professional engineer in Iowa and holds a Bachelor of Science degree in Geological Engineering. He has over 20 years of experience in the design, construction, and operation of solid waste disposal facilities. The scope of the annual inspection is described in **Sections 3.1** and **3.2**. The results of the annual inspection are discussed in **Section 4.0**.

#### 3.1 OPERATING RECORD REVIEW

SCS reviewed the available information in the operating record for the LAN Landfill, in addition to the visual inspection discussed in **Section 3.2**. Information reviewed by SCS included operating record materials provided by IPL and the information posted on Alliant Energy’s CCR Rule Compliance Data and Information website for the LAN facility, as of the date of the inspection.

#### 3.2 VISUAL INSPECTION

SCS completed a visual inspection of the LAN Landfill to identify signs of distress or malfunction of the CCR unit.

The visual inspection included observations of the following:

- CCR placement areas including active filling areas, final cover areas, and exterior non-CCR berms or slopes.
- Contact water run-off management features including internal contact water drainage features and discharges to the LAN Upper Ash Pond.
- Non-contact storm water run-on and run-off control features including swales located adjacent to active fill areas.

## 4.0 INSPECTION RESULTS

The results of the annual inspection, along with a description of any deficiencies or releases identified during the visual inspection, are summarized in the following sections.

### 4.1 CHANGES IN GEOMETRY

No apparent changes in geometry were noted that would indicate distress or malfunction of the CCR unit at the facility. All changes in geometry observed during the annual inspection were the result of planned CCR filling and landfill closure activities.

At the time of the visual inspection, the last phase of final cover infiltration layer material placement was nearly completed. The final cover is already in place along nearly the entire south and east slopes, as it was during previous annual inspections beginning in 2018.

### 4.2 CCR VOLUMES

The approximate volume of CCR and other approved waste material contained in the landfill at the time of inspection is approximately 446,900 cubic yards (cy) based on closure construction daily reports. The landfill closure contractor completed the placement of CCR and other approved waste material on July 17, 2023. An estimated 20,269 cy of CCR has been placed since the last inspection on August 23, 2022.

### 4.3 APPEARANCE OF STRUCTURAL WEAKNESS

The inspection included a review of the appearance of an actual or potential structural weakness of the CCR unit. The visual inspection included a review of CCR fill areas including the top slopes, internal side slopes, external side slopes, and internal ramps/haul roads for the presence of the following conditions:

- Signs of surface movement or instability:
  - Sloughing, slumping, or sliding
  - Surface cracking
  - Slopes in excess of 3 horizontal to 1 vertical (3H:1V)
  - Toe of slope bench movement
  - Evidence of inadequate compaction of exposed CCR
- Inappropriate vegetation growth
- Animal burrows
- Erosion damage
- Unusual surface damage caused by vehicle traffic

#### 4.3.1 Signs of Surface Movement or Instability

No signs of surface movement or instability were noted during the inspection.

#### 4.3.2 Inappropriate Vegetation Growth

No inappropriate vegetation growth impacting the CCR unit was noted during the inspection.



### 4.3.3 Animal Burrows

No animal burrows were noted during the inspection.

### 4.3.4 Erosion Damage

No erosion damage in the landfill or existing final cover was noted during the inspection.

### 4.3.5 Unusual Surface Damage Caused by Vehicle Traffic

No unusual surface damage caused by vehicle traffic was noted during the inspection.

## 4.4 DISRUPTIVE CONDITIONS

### 4.4.1 Existing Disruptive Conditions

#### 4.4.1.1 Current Inspection

No existing conditions that were disrupting the operation and safety of the CCR unit were noted during the annual inspection.

#### 4.4.1.2 Previous Inspection

No existing conditions that were disrupting the operation and safety of the CCR unit were noted during the previous inspection.

### 4.4.2 Potentially Disruptive Conditions

#### 4.4.2.1 Current Inspection

The following potentially disruptive conditions were observed during the current inspection.

- **Tracking of soil onto landfill haul road and resulting fugitive dust.** The tracking of soil onto the landfill access road was noted as a potentially disruptive condition. Tracking of soil onto the shared landfill access road from the adjacent CCR surface impoundment construction activities resulting in non-CCR fugitive dust generated by truck traffic was observed during the previous inspection.

The condition noted was addressed with the closure contractor at the time of the field inspection and is no longer considered a potentially disruptive condition nor is it an operating deficiency. The closure contractor addressed the immediate concern by watering the road, which was standard practice during construction. Additionally, soil tracked onto the shared landfill access road has been removed and the landfill has been closed.

- **Erosion was observed in a drainage gully** located between the landfill and the radio tower access road to the south of the landfill. Continued monitoring of this area is recommended. As discussed in previous inspection reports, IPL completed initial interim actions to maintain the stability of the gully. Vegetation has been established in the 2021 repair areas, but rill erosion was observed in the repair areas during the last two inspections.

The rill erosion in the repair area noted during the 2022 and 2023 inspections of the LAN Landfill is no longer considered a potentially disruptive condition nor is it an operating deficiency. The erosion was addressed during the final cover construction restoration activities completed in the fall of 2023.

- **Previously unidentified steel pipe.** A previously unidentified steel pipe was observed in the woods on the west slope of the landfill outside of the waste limits. The pipe was dry at the exposed end near the bottom of the slope adjacent to the landfill, and there was no indication of recent flow through the pipe due to an accumulation of rust/dust in the pipe. The pipe was traced visually up the slope where it terminates into the slope.

The condition noted during the 2023 inspection of the LAN Landfill is no longer considered a potentially disruptive condition nor is it an operating deficiency. The exposed pipe was removed and the section remaining below grade was sealed and abandoned in place as part of the landfill closure activities completed in 2023.

No other potentially disruptive conditions were noted during the annual inspection.

#### 4.4.2.2 Previous Inspection

The following potentially disruptive conditions were observed during the previous inspection.

- **Erosion was observed in a drainage gully** located between the landfill and the radio tower access road to the south of the landfill. Because similar conditions were noted in the 2023 inspection, these conditions were addressed in **Section 4.4.2.1** above.
- **Tracking of CCR onto landfill haul road.** The tracking of CCR onto the landfill access road was noted as a potentially disruptive condition. Tracking of CCR onto the shared landfill access road from the adjacent CCR surface impoundment construction activities was observed during the previous inspection.

The condition noted during the 2022 inspection of the LAN Landfill is no longer considered a potentially disruptive condition nor is it an operating deficiency. CCR tracked onto the shared landfill access road has been removed and the landfill has been closed. Additionally, IPL has ceased placement of CCR and other wastes in the LAN Upper Ash Pond, the CCR surface impoundment that shares the access road. On August 14, 2023, shortly after the annual field inspection of the LAN Landfill, IPL posted a Notice of Intent to Close the Upper Ash Pond.

- **Potential disruption of contact water flow or limited freeboard.** Localized areas of contact water runoff pattern disruption or limited freeboard in runoff features due to adjacent CCR grading within the landfill, risking proper contact water runoff, were observed in various locations along the boundary between the final cover and active landfill and the landfill access road.

The condition noted during the 2022 inspection of the LAN Landfill is no longer considered a potentially disruptive condition nor is it an operating deficiency. The LAN Landfill is no longer generating CCR contact water. The final cover system has been installed at the LAN Landfill and the landfill has been certified as closed in accordance with 40 CFR 257.102.

## **4.5 OTHER CHANGES SINCE PREVIOUS ANNUAL INSPECTION**

No other changes to site conditions that appear to have the potential to affect the stability or operation of the facility were noted during the inspection.

## **5.0 FUTURE INSPECTIONS**

### **5.1 EXISTING CCR LANDFILL**

As stated in 40 CFR 257.84(b)(4), the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the inspection report is the basis for establishing the deadline to complete the next subsequent inspection. Any required inspection may be conducted prior to the required deadline, provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record.

As of October 16, 2023, the LAN Landfill has been certified as closed. This is the last annual inspection and report anticipated by IPL under 40 CFR 257.84(b)(1) and (2).

### **5.2 NEW CCR LANDFILLS AND LATERAL EXPANSIONS**

The initial annual inspection for any lateral expansion in the future must be completed within 14 months of the initial receipt of CCR in the module per 40 CFR 257.84(b)(3)(ii).