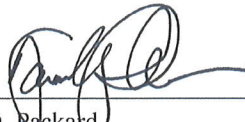
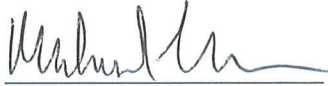





Closure Plan for Existing CCR Surface Impoundment

Prepared for Interstate Power and Light Company
Lansing Generating Station
Lansing, IA

Issue Date: February 14, 2018
Issue Purpose: For Use

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Certification and Seal:

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Revision: 1

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2/14/2018

Sargent & Lundy, L.L.C.



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1. INTRODUCTION

Interstate Power and Light Company (IPL) – a wholly owned subsidiary of Alliant Energy – operates the Lansing Generating Station (LAN), located 3 miles southeast of Lansing, Iowa. Units 1 through 3 have been retired and Unit 4 is the only unit in operation, with a 275MW capacity. To comply with the requirements of the USEPA Final CCR Rule (40 CFR 257.50 thru 257.107), Alliant Energy, on behalf of its subsidiary IPL, submits the following Closure Plan applicable to the Upper Ash Pond, detailing the steps to be undertaken to close the existing CCR surface impoundment by leaving the CCR in place, in accordance with §257.102(b) of the CCR Rule.

This document provides the following required information:

- Facility information
- Estimate of the maximum inventory of CCR on-site
- Proposed CCR surface impoundment closure procedure
- Description of the proposed final cover system over the CCR material
- Schedule for completing all closure activities

LAN currently operates 3 surface impoundments at the site, of which the Upper Ash Pond is managed as an existing CCR impoundment under the provisions of the CCR Rule. Additionally, LAN also manages a CCR landfill that receives both bottom ash and fly ash. Further details are included in the following paragraphs. The overall layout of the facility is shown in Figure 1.

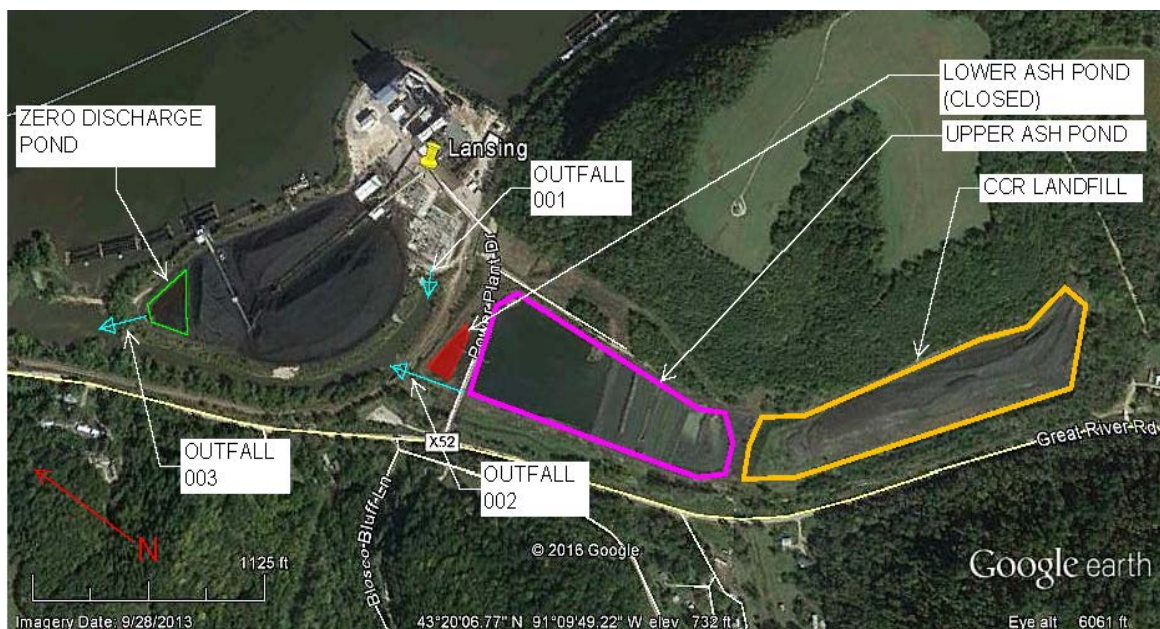


Figure 1: Current Layout at Lansing Generating Station

Of the 3 impoundments present at LAN, only one (the Upper Ash Pond) is regulated as an existing CCR surface impoundment per the CCR Rule. This pond receives Unit 4 bottom/economizer ash; Unit 4 hydrovevor water; sluiced fly ash, contact runoff water from the adjacent landfill; air heater washes; RO reject water; demineralizer regeneration wastewater; and Unit 4 boiler sump discharge. Its overall area, including the bottom ash dredging area on the southern end of the pond, is approximately 17 acres.

The Lower Ash Pond was permanently closed in September 2015 through removal of the CCR, prior to the effective date of the Rule. The Zero Discharge Pond receives coal pile and storm water runoff and is not considered a CCR unit per the provisions of the Rule. These two ponds are not subject to the Closure Plan requirement of the CCR Rule and are not discussed further in this plan.

The onsite CCR landfill, located upstream (South) of the Upper Ash Pond, occupies an area of approximately 16 acres and contains bottom ash, fly ash and scrubber by-product. A portion of the landfill has already been closed by installing a cover system that exceeds the current cover system requirements of the CCR Rule. Closure of the remaining portion of the landfill is discussed in a separate Closure Plan document and is not discussed further in this plan.

2. PROPOSED CCR IMPOUNDMENT CLOSURE PROCEDURE

The proposed closure of the CCR impoundments at LAN will be done according to the following steps:

- Dewatering of Upper Ash Pond
- Consolidating, stabilization, and grading of in-situ CCR material
- Installation of cover system – see Section 3

The CCR material will be consolidated towards the north half of the Upper Ash Pond, allowing for a storm water detention basin to be constructed at the south edge the existing pond. Proposed final grades for the cover system will generally slope to the south, and range from a minimum 3% over the upper portion of the cap to a maximum of 3H:1V along the inboard edges of the perimeter berms.

Storm runoff from the cover system will be directed via ditches and culverts, as required, toward the detention basin. These ditches and outlets will be designed per the requirements of the Iowa Erosion Control Manual published by the Iowa Department of Natural Resources, latest edition.

3. PROPOSED COVER SYSTEM

The final cover will meet or exceed the minimum requirements of 40 CFR 257.102(d)(3)(i)(A) thru (D). It will consist, from bottom to top, of a compacted 18” thick “infiltration layer” of appropriate low-permeability material having a hydraulic conductivity of no more than 10^{-5} cm/s, overlaid with a 6” thick “erosion layer” of uncompacted soil capable of sustaining a vegetative cover, with a suitable seed mixture.



The materials of the cover system will be placed and compacted as required to minimize infiltration, limit erosion and future maintenance, and maintain positive drainage. Soil properties, compaction, permeability, and thickness testing will be performed to confirm compliance with the CCR Rule.

All other areas that are disturbed during the surface impoundment closure activities will be restored, either by providing a vegetative cover or an aggregate surface.

4. ESTIMATED MAXIMUM INVENTORY OF CCR

It is estimated that approximately 357,000 cubic yards of CCR are currently present in the Upper Ash Pond. This quantity was computed by considering the full 17 acres of the Upper Ash Pond, which includes the bottom ash handling area at its southern end, and comparing bathymetry data from 2015 to the original impoundment volume when constructed. This quantity does not include the volume of CCR in the existing CCR landfill adjacent to the impoundment.

5. ESTIMATED MAXIMUM AREA OF COVER

It is estimated that the proposed cover system will occupy an area equal to the area of the existing Upper Ash Pond, i.e. 17 acres.

6. SCHEDULE

Closure of the existing CCR surface impoundment is anticipated to require approximately 18 months. The schedule provided in Table 1 estimates a *closure* construction initiation date in March, 2021 following bottom ash handling conversion, with a completion of closure by December 2021. This construction phase is scheduled to take approximately 9 months. Alliant Energy will obtain certification from an Iowa licensed professional engineer that the site was closed in compliance with the approved closure Plan. The certification will be placed in the Station's operating record within 30 days of completing closure.

TABLE 1: PLANNING LEVEL SCHEDULE FOR CLOSURE-IN-PLACE OF UPPER ASH POND

Task Description	Anticipated Start Date	Anticipated Completion Date
Design / Bidding / Permitting		
Engineering / Preparation of Bid docs / IDNR Closure Permit Application	07/2020	10/2020
Issue Request for Bids	10/2020	12/2020
Bids due	01/2021	01/2021
Bid Evaluation Period	02/2021	02/2021
Issue Award and Notice to Proceed	03/2021	03/2021



Task Description	Anticipated Start Date	Anticipated Completion Date
Construction		
Place a <i>Notification of Intent to Close</i> the Surface Impoundment in the Station's Operating Record	04/2021	04/2021
Send <i>Notification of Intent to Close</i> to State Director and post Notification to the Station's Internet Website	05/2021	05/2021
Contractor Mobilization	03/2021	03/2021
Dewater Upper Pond through water treatment system	04/2021	06/2021
Consolidate and stabilize in-situ CCR, regrade and install cover system	07/2021	12/2021
Post-Construction Administration		
Certification verifying the completion of closure in accordance with the closure plan	1/2022	1/2022
Place a Notification of Pond Closure Completion in the Station's Operating Record	2/2022	2/2022
Send Notification of availability of Closure Completion to Relevant State Director / place Closure Completion to the Station's Internet Website	2/2022	2/2022
Record a Notation of the CCR Impoundment Closure on the Deed of the Property	2/2022	2/2022
Place a Notification of the Deed Notation in the Station's Operating Record	2/2022	2/2022
Send Notification of availability of Deed Notation to Relevant State Director / place Deed Notation to the Station's Internet Website	2/2022	2/2022
Place a Notification of Completion of the Post-Closure Care in the Station's Operating Record	12/2051	12/2051
Send a Notification of the availability of the Post-Closure Care to the Relevant State Director and place Post-Closure Care to the Station's Internet Website	01/2052	01/2052

7. COMPLETION OF CLOSURE ACTIVITIES

To confirm completion of the close-in-place operation, IPL will retain a qualified engineer licensed in the State of Iowa to verify that the existing CCR surface impoundments have been closed in accordance with this closure plan and the requirements of 40 CFR 257.102(d). The qualified engineer will provide IPL with a written certification stating compliance as required in 40 CFR 257.102(f)(3). The Post-Closure Plan is presented in a separate document.

8. CERTIFICATIONS

It is S&L's opinion that this written closure plan meets the requirements of 40 CFR 257.102(b).

It is also S&L's opinion that the proposed final cover system as described herein meets the design requirements of 40 CFR 257.102(d)(3)(i).

9. REFERENCES

1. 40 CFR Part 257, Subtitle D – Environmental Protection Agency Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, Federal Register, Vol. 80, No. 74.