



Submitted to  
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Dba CenterPoint Energy  
Indiana South (CEIS)  
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Drive, Evansville, IN 47708

Submitted by  
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August 11, 2023

CCR Certification:  
Initial Written Post-Closure Plan  
§257.104 (d)

for the

Lined CCR Pond

at the

A.B. Brown Generating Station

Revision 0

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## Executive Summary

This Coal Combustion Residuals (CCR) Initial Written Post-Closure Plan (Post-Closure Plan) for the Lined CCR Pond at the Southern Indiana Gas & Electric Company dba CenterPoint Energy Indiana South (CEIS), A.B. Brown Generating Station has been prepared in accordance with the requirements specified in the USEPA CCR Rule under 40 Code of Federal Regulations §257.104. These regulations require that the specified documentation, assessments, and plans for a new CCR surface impoundment be prepared no later than the date of the initial receipt of CCR, which is scheduled for no later than September 1, 2023.

This Post-Closure Plan meets the regulatory requirements as summarized in **Table ES-1**.

Table ES-1 – Certification Summary				
Report Section	CCR Rule Reference	Requirement Summary	Requirement Met?	Comments
<b>Post-Closure Plan</b>				
2.1	§257.104 (b)	<i>Post-Closure Care Maintenance Requirements</i>	Yes	Description of the post-closure care and maintenance activities that are required for the CCR unit.
2.2	§257.104 (c)	<i>Post-Closure Care Period</i>	Yes	Definition of the post-closure care period.
2.3	§257.104 (d)	<i>Written Post-Closure Plan</i>	Yes	Description of the monitoring and maintenance activities that are required for the CCR unit and the frequency of such activities.  Description of how the site will be used while it is in the post-closure period.  Description of the planned uses during post-closure.

The Lined CCR Pond at A.B. Brown Generating Station will be an active surface impoundment upon its first receipt of waste, scheduled for no later than September 1, 2023. Upon decision to close this surface impoundment and completion of closure activities at this surface impoundment, the Post-Closure Plan will be carried out as required in the CCR Rule.

# 1 Introduction

## 1.1 Purpose of this Report

The purpose of the Initial Written Post-Closure Plan (Post-Closure Plan) is to document that the requirements specified in 40 Code of Federal Regulations (CFR) §257.104 have been met to support the certification required under each of the applicable regulatory provisions for the Lined CCR Pond at A.B. Brown Generating Station. The Lined CCR Pond is a new coal combustion residuals (CCR) surface impoundment as defined by 40 CFR §257.53. The CCR Rule requires that the Initial Written Post-Closure Plan for a new CCR surface impoundment be prepared no later than its initial receipt of waste.

The Lined CCR Pond is an interconnected new CCR surface impoundment which consists of a north pool and a south pool. The following table summarizes the documentation required within the CCR Rule and the sections that specifically respond to those requirements of this plan.

Table 1-1 – CCR Rule Cross Reference Table		
Report Section	Title	CCR Rule Reference
2.1	Post-Closure Care Maintenance Requirements	§257.104 (b)
2.2	Post-Closure Care Period	§257.104 (c)
2.3	Written Post-Closure Plan	§257.104 (d)(1)

## 1.2 Brief Description of Impoundment

The A.B. Brown station is a coal-fired power plant located approximately 10 miles east of Mount Vernon in Posey County, Indiana and is owned and operated by Southern Indiana Gas & Electric Company, dba CenterPoint Energy Indiana South (CEIS) (hereinafter SIGECO). The A.B. Brown station is situated just west of the Vanderburgh-Posey County line and north of the Ohio River, with the Lined CCR Pond positioned south of the station, west of the coal pile.

The Lined CCR Pond is scheduled to be commissioned by September 2023. The south pool of the impoundment was constructed partially over the former South Side Runoff Pond (SSRP), which was initially constructed along with the plant in 1978. The north pool of the impoundment is incised and was constructed by excavation into the existing topography north of the SSRP. The Lined CCR Pond utilizes the existing earthen dike of the former SSRP on its south and west sides. Currently, the north pool and the south pool act as one CCR unit referred to as the Lined CCR Pond, which has a surface area of approximately 2.8 acres (within the liner anchor trench) and a water surface area of 1.9 acres.

The liner system for the Lined CCR Pond consists of the following components (from bottom to top):

- Underdrain Layer – A 2-foot-thick aggregate (No. 57 Stone) layer with regularly spaced perforated drainage pipes. The underdrain layer is overlain and underlain by an 8 oz/yd<sup>2</sup> non-woven geotextile.
- Compacted Soil Liner (CSL) – A 1-foot-thick compacted cohesive soil layer with a maximum hydraulic conductivity of  $1.0 \times 10^{-5}$  cm/sec.
- Geomembrane – A textured 60-mil thick High-Density Polyethylene (HDPE) geomembrane installed over the CSL over the entire base and sideslopes that serves as a secondary barrier layer and separates the base of the liner system (GCL) from the underlying CSL and underdrain layer below.
- Geosynthetic Clay Liner (GCL) – Granular sodium bentonite bound by geotextile fabric and reinforced stitching. The GCL is installed in direct contact with the CSL across the entire base and sideslopes of the new CCR Pond. The GCL is the base of the liner system for purposes of compliance with 40 CFR 257.60.
- Geomembrane – A textured 60-mil thick High-Density Polyethylene (HDPE) geomembrane installed over the GCL over the entire base and sideslopes serves as the primary barrier layer.
- Cushion Layer – A geotextile cushion layer placed between the geomembrane and the overlying armoring layer to provide protection for the liner system over the entire base and sideslopes. The cushion layer consists of a 16 oz/yd<sup>2</sup> non-woven geotextile.
- Grout-filled Fabric – A grout-filled fabric installed as an armoring layer (placed directly over the cushion layer) over the entire base and sideslopes of the pond. The armoring layer protects the underlying geosynthetics and enables equipment to access the bottom of the pond for maintenance. This grout-filled fabric allows for the bottom and sides of the pond to be thoroughly cleaned of any residual CCR materials during closure and will also allow for inspection upon completion of cleaning.

The Lined CCR Pond earthen dike is approximately 630 feet long, 9.5 feet high, and has exterior side slopes varying from 2:1 to 2.5:1 (horizontal to vertical) covered with grassy vegetation. The dike crest elevation is 391.5 feet<sup>1</sup> and has a crest width of 15 feet. A Site Location Map showing the area surrounding the station is included as **Figure 1** of **Appendix A. Figure 2** in **Appendix A** presents the A.B. Brown Site Map.

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<sup>1</sup> Unless otherwise noted, all elevations in this report are in the NAVD88 datum.

## 2 Post-Closure Plan Description

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:*

The Post-Closure Plan for the Lined CCR Pond is described in this section. Information about operational and maintenance procedures was provided by A.B. Brown plant personnel. The A.B. Brown station follows an established maintenance program that quickly identifies and resolves issues of concern.

### 2.1 Post-Closure Care Maintenance Requirements

#### 2.1.1 Maintaining the Integrity and Effectiveness of the Final Cover System

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *(1) Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;*

The Lined CCR Pond will be closed by removal, and as such, will not have a final cover system. Therefore, it is not subject to the criteria of §257.104 (b)(1).

#### 2.1.2 Maintaining the Leachate Collection System

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *(2) If the CCR unit is subject to the design criteria under §257.70, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of §257.70; and*

The Lined CCR Pond is not a landfill and is therefore, not subject to the design criteria of §257.70.

#### 2.1.3 Maintaining the Groundwater Monitoring System

*Regulatory Citation: 40 CFR §257.104 (b); Post-closure care maintenance requirements*

- *(3) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§257.90 through 257.98*

The groundwater monitoring system will be maintained and groundwater will be monitored as required by §257.90 through 257.98 in accordance with the Lined CCR Pond Groundwater Monitoring Plan. Monitoring wells will be inspected during each groundwater sampling event. Monitoring wells and associated instrumentation will be maintained so that they perform to the design specifications throughout the life of the monitoring program. Groundwater monitoring frequency will be at least semi-annual, except as provided in §257.94(d).

## 2.2 Post-Closure Care Period

### 2.2.1 Length of Post-Closure Care Period

*Regulatory Citation: 40 CFR §257.104 (c); Post-closure care period*

- (1) *Except as provided by paragraph (c)(2) of this section, the owner or operator of the CCR unit must conduct post-closure care for 30 years.*

Post-closure care will be conducted for a period of 30 years as required by §257.104 (c)(1), except as provided by §257.104 (c)(2).

### 2.2.2 Extended Length of Post-Closure Care Period

*Regulatory Citation: 40 CFR §257.104 (c); Post-closure care period*

- (2) *If at the end of the post-closure care period the owner or operator of the CCR unit is operating under assessment monitoring in accordance with §257.95, the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with §257.95.*

If at the end of the post-closure care period the CCR unit is operating under assessment monitoring, the post-closure care as described in this plan will continue until the CCR unit returns to detection monitoring.

## 2.3 Written Post-Closure Plan

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- (1) *Content of the plan. The owner or operator of a CCR unit must prepare a written post-closure plan that includes, at a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.*

### 2.3.1 Monitoring and Maintenance Activities

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- (1)(i) *A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed;*

The closed site will be inspected at least monthly as it will be repurposed to manage non-CCR flows. Noted evidence of damage to the grout-filled fabric armoring layer above the liner will be repaired. Vegetation will be maintained on the outer slopes of the pond's dike to provide long-term erosion control. Established vegetation will prevent potential erosion and damage that may be caused by run-off.

Repair activities for the grout-filled fabric armoring layer above the liner may include replacement of damaged portions as necessary. Repair activities for the pond's dike may include, but are not limited to, replacing and compacting soil, filling in depressions with soil, regrading, and reseeding areas of sparse vegetation, as necessary.

### 2.3.2 Post-Closure Care Contact

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- (1)(ii) *The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period; and*

The appropriate contact will be determined at the time post-closure care activities commence. An e-mail address will be included when the appropriate contact is identified.

Plant Manager  
CenterPoint Energy Indiana South  
211 Northwest Riverside Drive  
Evansville, IN 47708  
Phone: 812-491-4000

### **2.3.3 Planned Uses of the Property during the Post-Closure Period**

*Regulatory Citation: 40 CFR §257.104 (d); Written post-closure plan*

- *(1)(iii) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpart. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible Internet site.*

Following closure, the Lined CCR Pond will be repurposed for management of non-CCR flows. Post-closure use of the property will not disturb the function of the monitoring systems unless necessary to comply with the requirements of 40 CFR Part §257, Subpart D. Any other disturbance will be supported by the demonstration required by §257.104 (d)(1)(iii). Following closure of the CCR unit, a notation on the deed to the property, or some other instrument that is normally examined during title search, will be recorded in accordance with §257.102 (i). The notation will notify potential purchasers of the property that the land has been used as a CCR unit and its use is restricted under the post-closure care requirements per §257.104 (d)(1)(iii). Within 30 days of recording the deed notation, a notification stating that the notation has been recorded will be placed in the facility's operating record. The notification will be placed on the owner or operator's publicly accessible CCR Web site in accordance with §257.107.

### **2.3.4 Amendment to the Written Post-Closure Plan**

This initial Post-Closure Plan will be amended as required by §257.104 (d)(3).



### 3 Certification

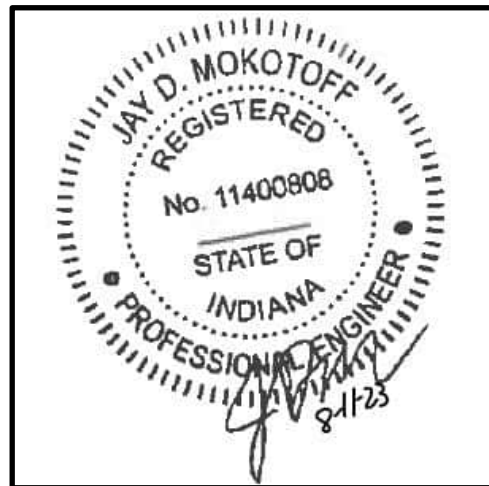
This Certification Statement documents that the Lined CCR Pond at the A.B. Brown Generating Station meets the Initial Written Post-Closure Plan requirements specified in 40 CFR §257.104 (d). The Lined CCR Pond is a new CCR surface impoundment as defined by 40 CFR §257.53. The CCR Rule requires that the Initial Written Post-Closure Plan for a new CCR surface impoundment be prepared no later than its initial receipt of waste.

**CCR Unit:** Southern Indiana Gas & Electric Company; A.B. Brown Generating Station; Lined CCR Pond

I, Jay Mokotoff, being a Registered Professional Engineer in good standing in the State of Indiana, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR Unit, that the Initial Written Post-Closure Plan dated August 11, 2023 meets the requirements of 40 CFR § 257.104 (d).

Jay D. Mokotoff  
*Printed Name*

August 11, 2023  
*Date*



## 4 Limitations

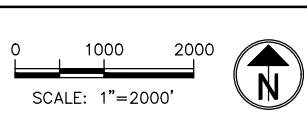
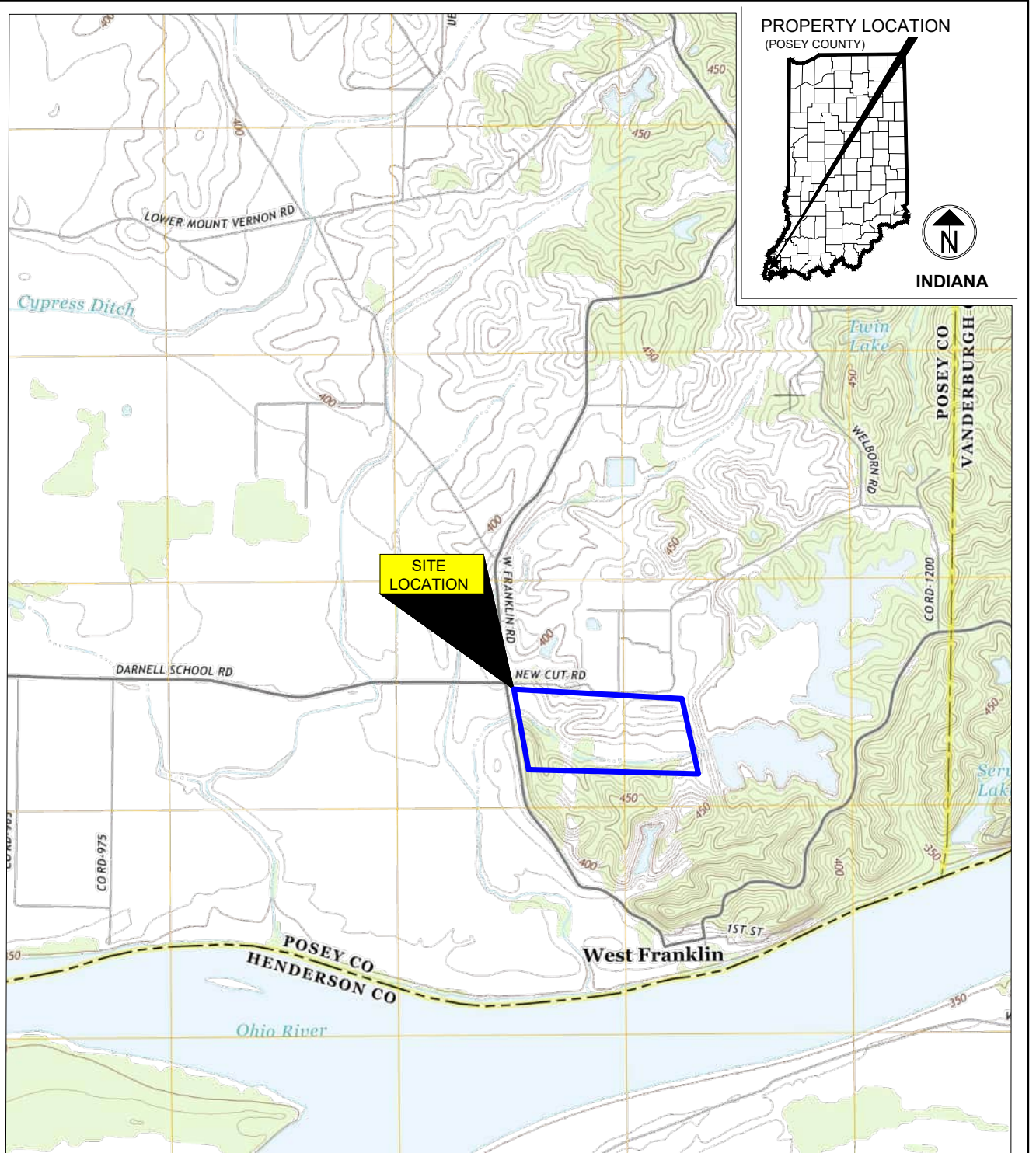
Background information, design basis, and other data which AECOM has used in preparing this report have been furnished to AECOM by SIGECO. AECOM has relied on this information as furnished and is not responsible for the accuracy of this information. Our recommendations are based on available information from previous and current investigations. These recommendations may be updated as future investigations are performed.

The conclusions presented in this report are intended only for the purpose, site location, and project indicated. The provisions and recommendations presented in this report should not be used for other projects or purposes. Conclusions or recommendations made from these data by others are their responsibility. The conclusions and recommendations are based on AECOM's understanding of current plant operations, maintenance, stormwater handling, and ash handling procedures at the station, as provided by SIGECO. Changes in any of these operations or procedures may invalidate the findings in this report until AECOM has had the opportunity to review the findings and revise the report if necessary.

This development of the Post-Closure Plan was performed in accordance with the standard of care commonly used as state-of-practice in our profession. Specifically, our services have been performed in accordance with accepted principles and practices of the engineering profession. The conclusions presented in this report are professional opinions based on the indicated project criteria and data available at the time this report was prepared. Our services were provided in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representation is intended.

## **Appendix A Figures**

Figure 1 – Location Map  
Figure 2 – Site Map



<b>AECOM</b>				
<b>AB BROWN GENERATING STATION</b> POSEY COUNTY, IN				
<b>FIGURE 1 - LOCATION MAP</b>				
DRAWN BY: JET	CHECKED BY: DMB	PROJECT No: 60442676	DATE: 5/16/23	FIGURE No: 1





**LEGEND**

--- LINED CCR POND BOUNDARY



**PROJECT**  
Lined CCR Pond  
Post-Closure Plan

A.B. BROWN GENERATING STATION  
8511 Wellcom Rd  
Mount Vernon, IN 47620



**CLIENT**  
SIGECO DBA CENTERPOINT ENERGY  
INDIANA SOUTH  
P.O. Box 209  
Evansville, IN 47702  
800.227.1376 tel  
http://www.centerpointenergy.com

**CONSULTANT**  
AECOM Process Technologies  
9400 Armburglen Boulevard  
Austin, Tx 78729  
512.454.4797 tel 512.419.6004 fax  
www.aecom.com

**REGISTRATION**

**ISSUE/REVISION**

I/R	DATE	DESCRIPTION

**KEY PLAN**

**PROJECT NUMBER**

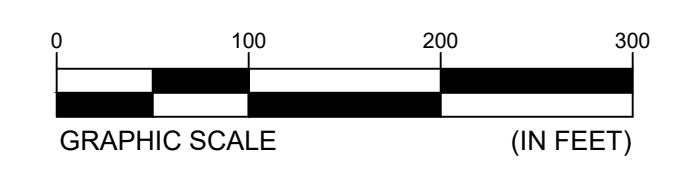
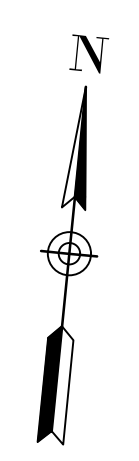
60583533

**SHEET TITLE**

FIGURE 2 - SITE MAP

**SHEET NUMBER**

2



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