

Hugo CCR Surface Impoundment Post-Closure Plan



Western Farmers Electric Cooperative

Project No. 85009

**Revision 0
October 14, 2016**

Hugo CCR Surface Impoundment Post-Closure Plan

Prepared for

**Western Farmers Electric Cooperative
Project No. 85009
Hugo, Oklahoma**

**Revision 0
October 14, 2016**

Prepared by

**Burns & McDonnell Engineering Company, Inc.
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INDEX AND CERTIFICATION

Western Farmers Electric Cooperative Hugo CCR Surface Impoundment Post-Closure Plan

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Certification

I hereby certify, as a Professional Engineer in the state of Oklahoma, that the information in this document was assembled under my direct personal charge. I am a "Qualified Professional Engineer" as defined by 40 C.F.R. § 257.53 by the fact that I have the technical knowledge and experience to make the specific technical certifications set forth herein. This Post-Closure Plan meets the requirements of 40 C.F.R. § 257.104. This Post-Closure Plan is not intended or represented to be suitable for reuse by Western Farmers Electric Cooperative or others without specific verification or adaptation by the Engineer.

Robert N. Owens P.E. (No. 21260)

Date: _____

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
ALM	Asset Life Management
BMcD	Burns & McDonnell
CCR	Coal Combustion Residual
C.F.R.	Code of Federal Regulations
CMMS	Computerized Maintenance Management System
EPA	Environmental Protection Agency
ESP	Electrostatic Precipitator
FGD	Flue Gas Desulfurization
NAVD 88	North American Vertical Datum of 1988
NGVD 29	National Geodetic Vertical Datum of 1929
OAC	Oklahoma Administrative Code
ODEQ	Oklahoma Department of Environmental Quality
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
USC	United States Code
USGS	United States Geological Survey
WFEC	Western Farmers Electric Cooperative

1.0 INTRODUCTION

Burns & McDonnell (BMcD) has compiled information and prepared this Written Post-Closure Plan (Plan) for the existing CCR Surface Impoundment (Impoundment) at the Western Farmers Electric Cooperative (WFEC) Hugo Power Plant (Plant). The purpose of this Plan is to comply with the United States Environmental Protection Agency's (EPA) Coal Combustion Residual Rule (CCR Rule), and the counterpart rules of the Oklahoma Department of Environmental Quality (ODEQ).

On April 17, 2015, EPA published the CCR Rule relating to the disposal of coal combustion residuals (CCR) materials generated at electric utilities' coal-fired units. The CCR Rule was promulgated pursuant to the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. §§ 6901 *et seq.*), using the Subtitle D approach and is found at 40 C.F.R. § 257.50 *et seq.* Additionally, ODEQ adopted counterpart regulations to the CCR Rule effective September 15, 2016, which are found at OAC 252:517.

The owner or operator of a CCR surface impoundment subject to the CCR Rule must provide Post-Closure care for CCR units which are closed by leaving CCR in place (40 C.F.R. § 257.104(b)). Owners or operators of surface impoundments must compile a Post-Closure Plan in accordance with 40 C.F.R. § 257.104(d)(1) and OAC 252:517-15-9 (d)(1). This Plan provides the required information for the Impoundment at the Plant. The Post-Closure Plan must contain the following per 40 C.F.R. § 257.104(d)(1):

- A description of post-closure care maintenance activities (and frequency of these activities) including the following:
 - 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.
 - Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 40 C.F.R. § 257.90 through 40 C.F.R. § 257.98.
- The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period.
- 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 system unless necessary to comply with 40 C.F.R. § 257.104 or if the owner or operator of the

Impoundment demonstrates that the disturbance (including any removal of CCR) will not increase the potential threat to human health or the environment.

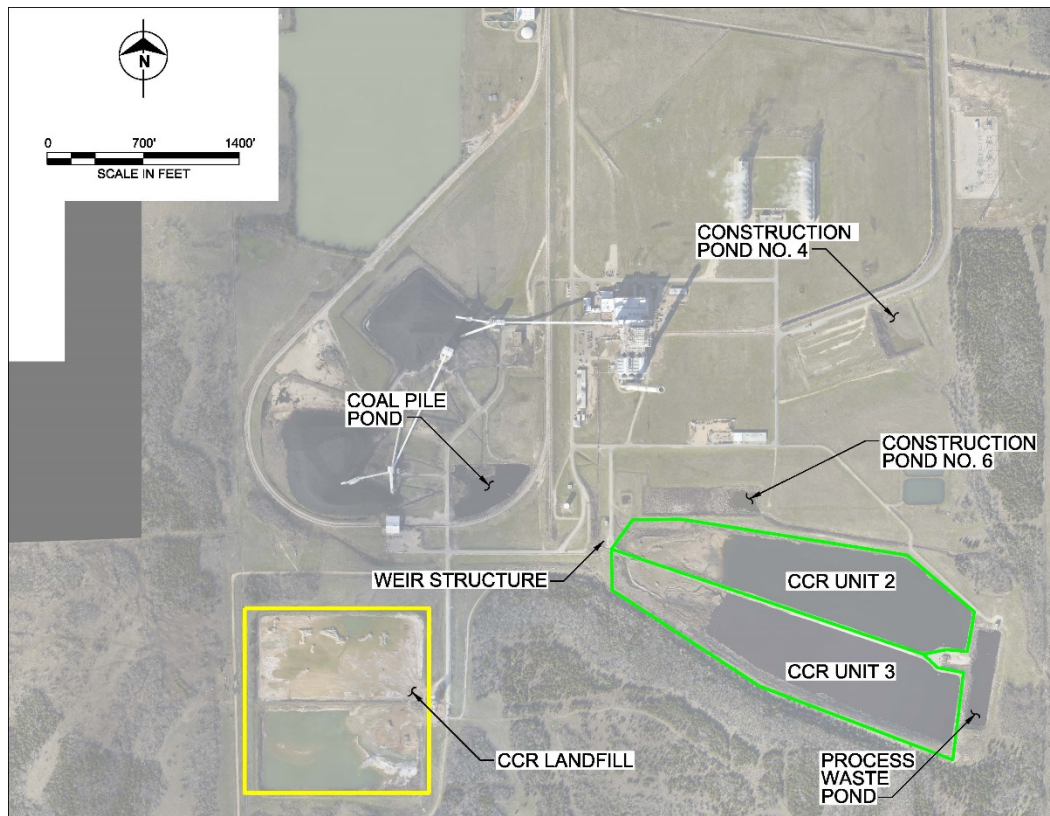
2.0 POST-CLOSURE PLAN

2.1 Impoundment Description

The Plant is a single, coal-fired unit rated at 450 MW. The Plant is located south of highway US-70, west of the Town of Fort Towson, Oklahoma, and is owned and operated by WFEC. Fly ash and economizer ash generated by the Plant are beneficially reused or managed in an on-site CCR landfill. Bottom ash is available for beneficial reuse and managed in two cells of the Plant's Impoundment as described below.

Bottom ash is handled wet and sluiced to one or both of two cells of the Impoundment. The northern cell is designated as CCR Unit 2 and the southern cell is designated as CCR Unit 3. See Figure 2-1 for general site plan. The Impoundment will be closed by a combination of complete removal of CCR from one cell and capping the CCR material in place in the second cell. CCR material from CCR Unit 2 will be removed and placed in CCR Unit 3. A cap will be placed on the CCR in CCR Unit 3. This Plan only relates to the closure in-place of CCR Unit 3. A Post-Closure Plan is not required if the Impoundment is closed through removal of CCR.

Figure 2-1 Hugo Site Plan



2.2 Post-Closure Compliance

Post-closure maintenance will be as described in 40 C.F.R. § 257.104(b) of the CCR Rule. This Section includes requirements for maintenance and inspection of the final cover system and groundwater monitoring activities for a period of 30 years.

2.3 Description of Post-Closure Activities

Final cover inspection and maintenance will be conducted for a period of 30 years after the completion of closure of CCR Unit 3. Inspection and maintenance activities will be monitored during annual inspections that will occur throughout the post-closure care period. Inspection activities are discussed further in Section 2.3.2. Groundwater monitoring will occur separate from the annual inspections and will be as described below. If, at the end of the 30-year post-closure care period, the Impoundment is operating under an Assessment Monitoring Program in accordance with 40 C.F.R. § 257.95, the Plant will continue to conduct post-closure care until the Impoundment returns to the Detection Monitoring Program in accordance with 40 C.F.R. § 257.95.

2.3.1 Groundwater Monitoring

The Plant will conduct sampling of the Impoundment groundwater monitoring network in accordance with Section 40 C.F.R. § 257.90 through 40 C.F.R. § 257.98 of the CCR Rule for the entire 30 years of post-closure care. Should any of the sampling activities cause the Plant to enter into an Assessment Monitoring Program at the end of the 30-year post-closure care period, the Plant will continue monitoring the groundwater until they are able to return to a Detection Monitoring Program in accordance with Section 40 C.F.R. § 257.95. Sampling for compliance with the CCR Rule will be performed according to a Sampling and Analysis Plan (SAP) for groundwater monitoring at the Impoundment.

2.3.2 Site Inspections and Repairs

Site inspections will be performed annually during the post-closure care period to confirm that the integrity and effectiveness of the final cover system is maintained in accordance with 40 C.F.R. § 257.104(b)(1). Maintenance of the final cover will include 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. During the site inspections, the Plant will also inspect groundwater monitoring wells to confirm that they are operable in accordance with the Groundwater Monitoring Plan.

2.4 Post-Closure Contact

The Plant will designate and list a contact person during the post-closure care period per 40 C.F.R. § 257.104(d)(ii). The following individual will be the Plant’s designated contact person for post-closure care at the Impoundment:

Name	Kent Fletcher
Affiliation	Environmental Coordinator Western Farmers Electric Cooperative
Address	P.O. Box 429 701 NE 7th Anadarko, OK 73005
Phone No.	(405) 247-4298
Email	k_fletcher@wfec.com

2.5 Use During Post-Closure Care Period

The closed CCR unit 3 will not be utilized for any purpose, but will be maintained as grassland during the post-closure care period. Such use and maintenance will not disturb the integrity of the final cover system or the groundwater monitoring system. The CCR Unit 3 is located within a secured power plant facility, and will only be accessed during inspection and groundwater monitoring activities.

2.6 Completion of Post-Closure Care

Following the completion of the post-closure care period, a notification verifying that post-closure care has been completed will be prepared and placed in the Plant’s Operating Record in accordance with the CCR Rule. The notification will include a certification by a qualified professional engineer in the State of Oklahoma that post-closure care has been completed in accordance with the written Closure Plan in effect and the requirements of 40 C.F.R. § 257.104.

3.0 REVIEW AND REVISIONS

This Plan will be placed in the Plant's Operating Record in accordance with the CCR Rule. Pursuant to the CCR Rule, if there is a significant change to any information compiled in the Plan, the relevant information will be updated and the revised document will be placed in the Plant Operating Record with notice and public accessibility as required by the CCR Rule. A record of revisions made to this document is included in Section 4.0



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