



Bottom Ash Pond Closure Plan



**Kansas City
Board of Public Utilities**

**Nearman Creek Power Station
Project No. 88777**

**Revision 2
11/2/2018**



Bottom Ash Pond Closure Plan

prepared for

**Kansas City
Board of Public Utilities
Nearman Creek Power Station
Kansas City, Kansas**

Project No. 88777

**Revision 2
11/2/2018**

prepared by

**Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri**

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INDEX AND CERTIFICATION

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Certification

I hereby certify, as a Professional Engineer in the state of Kansas, that the information in this document was assembled under my direct personal charge. This report is not intended or represented to be suitable for reuse by the Kansas City Board of Public Utilities or others without specific verification or adaptation by the Engineer.



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License Renewal Date: April 30, 2019

Date: November 2, 2018

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
BMcD	Burns & McDonnell
Nearman Creek	Nearman Creek Power Station
CCR	Coal Combustion Residual
CCR Rule	Title 40 Code of Federal Regulations, Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule, April 17, 2015
CFR	Code of Federal Regulations
KCBPU	Kansas City Board of Public Utilities
CY	Cubic Yards
EPA	Environmental Protection Agency
KDHE	Kansas Department of Health and Environment
RCRA	Resource Conservation and Recovery Act
U.S.C.	United States Code

1.0 INTRODUCTION

On April 17, 2015, the Environmental Protection Agency (EPA) issued the final version of the federal Coal Combustion Residual Rule (CCR Rule) to regulate the disposal of coal combustion residual (CCR) materials generated at coal-fired units. The rule is administered as part of the Resource Conservation and Recovery Act ([RCRA, 42 United States Code [(U.S.C.) §6901 et seq.]), using the Subtitle D approach.

The Kansas City Board of Public Utilities (KCBPU) Nearman Creek Power Station (Nearman Creek) is subject to the CCR Rule. As such, KCBPU is required to develop a Closure Plan for the surface impoundment present at Nearman Creek (herein referred to as the Bottom Ash Pond) per 40 Code of Federal Regulations (CFR) §257.102. This report serves as the Closure Plan for the Bottom Ash Pond at Nearman Creek.

This Closure Plan is in addition to, not in place of, any other applicable site permits, environmental standards, or work safety practices.

2.0 PLAN OBJECTIVES

Per §257.102, the Closure Plan must contain the following:

- A description of how the CCR unit will be closed.
 - For closure through the removal of CCR: A description of the closure activities, including methods for achieving §257.102(c).
- An estimate of the maximum inventory of CCR ever stored in the CCR unit over its active life.
- A schedule for completing closure activities, including the anticipated year of closure and major milestones for permitting and construction activities.

Pursuant to 40 CFR 257.104(a)(2), the Bottom Ash Pond is not subject to the post-closure care requirements in §257.104.

Per §257.102(b)(4), KCBPU must obtain certification from a qualified professional engineer that the Closure Plan, and subsequent updates to the plan, meet the requirements of §257.102. This sealed document serves as that certification.

3.0 FACILITY INFORMATION

KCBPU operates a single, coal-fired unit at Nearman Creek, which is located on the south bank of the Missouri River in Wyandotte County, Kansas. The facility contains one CCR surface impoundment, the Bottom Ash Pond. The Bottom Ash Pond is permitted under Kansas Department of Health and Environment (KDHE) Solid Waste Permit Number 413.

The Bottom Ash Pond is hydraulically connected to the adjacent Clear Water Pond via a 24-inch reinforced concrete pipe. The Clear Water Pond is used to store “clean water” which is eventually recycled back to the plant. In this way, the pond system operates in a closed loop. The two ponds are operated to maintain a normal pool elevation of 758.8 feet. Each pond is bounded by earthen dikes which crest at an elevation of 763 feet. A site plan is included in Appendix A.

KCBPU is in the process of upgrading Nearman Creek’s bottom ash handling system and plans to discontinue placement of CCR in the Bottom Ash Pond in the spring of 2018. CCR is planned to be removed for the purposes of beneficial use during and following completion of the bottom ash handling system upgrades. Closure of the Bottom Ash Pond is anticipated to commence in late 2018, following the known final volume of CCR removal for beneficial use. The Bottom Ash Pond closure schedule is further discussed in Section 5.0 of this Closure Plan.

3.1 CCR Inventory

The Bottom Ash Pond and Clear Water Pond cover approximately 21.5 acres and have approximately 300,000 cubic yards (CY) of storage capacity. This volume is an estimate of the maximum inventory of material that could potentially be stored in the impoundment over its active life. This estimated area is the largest area of the impoundment that should ever require a final cover. KCBPU beneficially uses CCR material from the Bottom Ash Pond periodically.

4.0 CLOSURE METHOD

The Bottom Ash Pond will be closed by the removal of CCR in accordance with §257.102(c), and the procedures planned for closure are described in detail herein.

4.1 Closure Description

The Bottom Ash Pond will be closed by the removal of CCR in accordance with 40 CFR 257.102(c). The closure process will consist of the following:

- CCR excavation and removal activities. CCR removed from the Bottom Ash Pond will be transported off-site and taken to a facility that is permitted to accept CCR including beneficial use.
- Demolition of existing structures and utilities as necessary to complete closure by removal.
- Visual observations will be conducted to assess that CCR has been removed from CCR unit and any impacted areas from the CCR unit.
- Following completion of CCR removal and decontamination, the following activities will occur:
 - Grading to design grades using soil to promote storm water drainage.
 - Installation of associated erosion control measures
 - Site restoration / vegetation establishment.

Closure is considered complete after CCR removal and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to § 257.95(h) for constituents listed in Appendix IV of the CCR Rule.

5.0 CLOSURE SCHEDULE

Per §257.102(f) of the CCR Rule, closure must be completed within five years of initiating closure activities. At this time, the anticipated closure trigger for the Bottom Ash Pond is the removal of the known final volume of CCR from the Bottom Ash Pond for the purpose of beneficial use. The anticipated date of closure for the Bottom Ash Pond is 2023, but this date is subject to change dependent on plant operations. The schedule below assumes the commencement of permitting / design date of April 17, 2018, which corresponds to the date Revision 1 of this Closure Plan was certified.

Table 5-1: Preliminary Closure Schedule

Closure Activity	Timeframe (Working Days)	Accumulated Duration (Working Days)
Preparation for Closure		
Permitting / design	250	250
Final Removal of CCR for Beneficial Use	80	330
Closure Construction		
Commence Closure, CCR Removal, Grading / Backfill of Impoundment, Seeding	1500	1830
Closure Completion		
Submit Notification of Completion of Closure	20	1850

Closure of the existing CCR surface impoundment will commence no later than 30 days after the removal of the known final volume of CCR for beneficial reuse [§257.102(e)], or no later than six months following the date on which a closure event is triggered [§257.101]. No later than the date KCBPU commences closure of the existing CCR surface impoundment, a Notification of Intent to Close the CCR surface impoundment will be issued to KDHE and placed in the facility’s CCR Operating Record. The notification will then be placed on KCBPU’s CCR public website within 30 days.

Within 30 days of completion of closure of the CCR surface impoundment, a Notification of Closure of the CCR surface impoundment will be prepared and placed in the facility’s CCR Operating Record and on KCBPU’s CCR public website. This notification will include a certification by a qualified professional engineer in the State of Kansas verifying that closure has been completed in accordance with this Closure Plan and the requirements of §257.102.

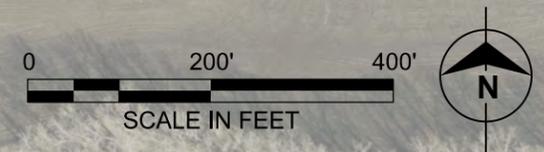
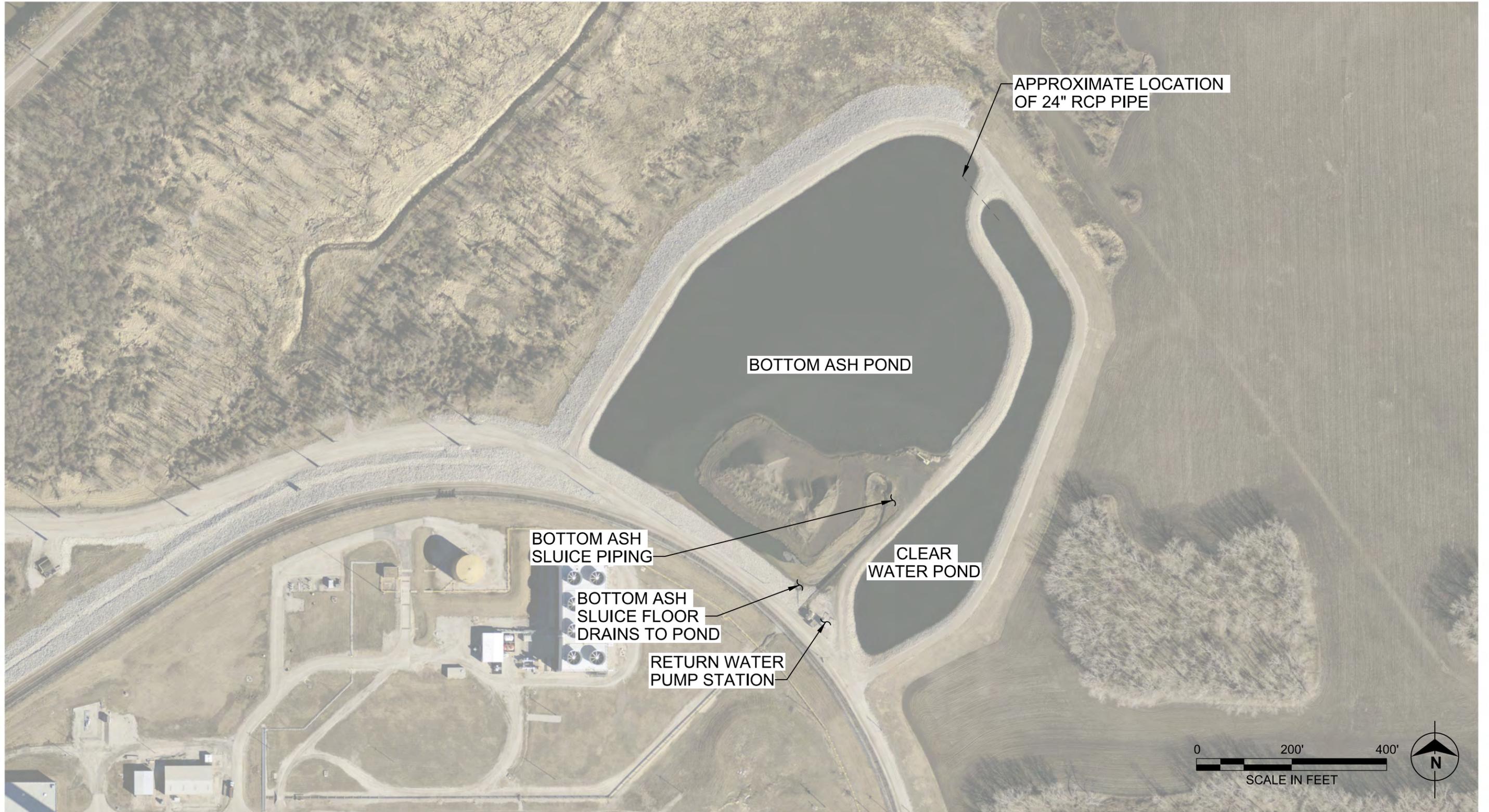
6.0 REVISIONS AND AMENDMENTS

The initial Closure Plan was placed in the CCR Operating Record on October 17, 2016. The Closure Plan will be amended whenever there is a change in operation of the CCR unit that affects the current or planned closure operations. The Closure Plan will be amended 60 days prior to a planned change in closure operation, or within 60 days following an unplanned change in operation. If a written Closure Plan is revised after closure activities have commenced, the written Closure Plan will be amended no later than 30 days following the triggering event. The initial Closure Plan and any amendment will be certified by a qualified professional engineer in the State of Kansas for meeting the requirements of §257.102 of the CCR Rule. All amendments and revisions will be placed on KCBPU's CCR publicly accessible internet site within 30 days following placement in the facility's CCR Operating Record. A record of revisions made to this document is included in Section 7.0 of this document.

7.0 RECORD OF AMENDMENTS

Revision Number	Date	Revisions Made	By Whom
0	10/17/2016	Initial Closure Plan	Burns & McDonnell
1	4/17/2018	Closure by Removal of CCR Material	Burns & McDonnell
2	11/2/2018	Revisions to Closure Schedule, Clarified headings on Table 5-1	Burns & McDonnell

APPENDIX A - SITE PLAN



NEARMAN CREEK
POWER STATION

 date 9/22/2016 designed A. MYERS	KCBPU NEARMAN CREEK POWER STATION EXISTING POND SYSTEM SITE PLAN	project	87813
		contract	-
		drawing no.	rev.
		SK - CIVIL - 001	0



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