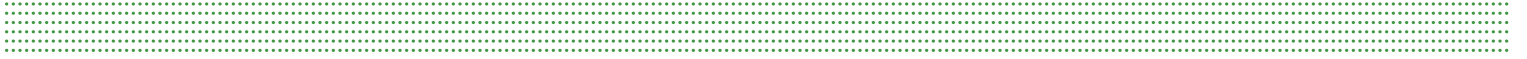




Meramec Energy Center
CCR Surface Impoundment MCPE
(Pond 489)
CCR Unit Post-Closure Plan



**Meramec Energy Center
CCR Surface Impoundment MCPE
(Pond 489)
CCR Unit Post-Closure Plan**

Prepared for

**Ameren Missouri
Project No. 90683
Ameren, Missouri**

**Revision 0
April 2017**

Prepared by

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

COPYRIGHT © 2017 BURNS & McDONNELL ENGINEERING COMPANY, INC.

INDEX AND CERTIFICATION

**Ameren Missouri
Meramec Energy Center
CCR Surface Impoundment MCPE (Pond 489)
CCR Unit Post-Closure Plan**

Report Index

<u>Chapter Number</u>	<u>Chapter Title</u>	<u>Number of Pages</u>
1.0	Introduction	1
2.0	Details of Post-Closure	2
3.0	Revisions and Amendments	1
4.0	Record of Revisions and Updates	1
Appendix A	Site Aerial Figure	1

Certification

I hereby certify, as a Professional Engineer in the state of Missouri, 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 Ameren Missouri or others without specific verification or adaptation by the Engineer. I certify that this Post-Closure Plan document satisfies the requirements presented in 40 CFR §257.104(d).



04/27/17 1:35 PM

Scott A. Martin, P.E.
License Number 2010019572
License renewal date: December 31, 2018.
Pages or sheets covered by this seal: As noted above

TABLE OF CONTENTS

Page No.

1.0 INTRODUCTION 1-1

2.0 DETAILS OF POST-CLOSURE 2-1

 2.1 Post-Closure Compliance..... 2-1

 2.1.1 Groundwater Monitoring 2-1

 2.1.2 Site Inspections 2-2

 2.2 Post-Closure Contact 2-2

 2.3 Property Use During Post-Closure Care Period..... 2-2

 2.4 Completion of Post-Closure Care 2-2

3.0 REVISIONS AND AMENDMENTS 3-1

4.0 RECORD OF REVISIONS AND UPDATES 4-1

APPENDIX A – SITE AERIAL FIGURE

LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
Ameren	Ameren Missouri
BMcD	Burns & McDonnell
CCR	Coal Combustion Residual
CCR Rule	EPA Coal Combustion Rule
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
MCPE	CCR Surface Impoundment MCPE or Pond 489
Meramec	Meramec Energy Center

1.0 INTRODUCTION

Ameren Missouri (Ameren) is subject to the CCR Rule and is required to develop a Post-Closure Plan for existing CCR surface impoundments per 40 Code of Federal Regulations (CFR) §257.104. This document serves as Ameren's Post-Closure Care Plan for the CCR Surface Impoundment MCPE (Pond 489) at the Meramec Energy Center (Meramec), which was affected by the August 5, 2016 CCR Rule revisions. The Post-Closure Plan is required to contain the following per §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 (if capped in place), 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 §257.90 through §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 §257.104, or if the owner or operator of the CCR unit demonstrates that the disturbance (including any removal of CCR) will not increase the potential threat to human health or the environment.

2.0 DETAILS OF POST-CLOSURE

Meramec is located in southeast St. Louis County, Missouri and consists of four generating units (a site aerial figure is included as Appendix A). Units 1 and 2 are fired on natural gas (fuel switching from coal to natural gas was completed in April 2016), and Units 3 and 4 are fired on coal. CCR generated at the facility includes fly ash and bottom ash.

Surface Impoundment MCPE (Pond 489) is located on the southwest side of the Meramec facility. MCPE has an existing high density polyethylene (HDPE) geomembrane liner with a nominal 60-mil thickness; however, the liner system is not in compliance with the CCR Rule as it does not contain a compacted soil liner, or approved equivalent base liner below the geomembrane. MCPE has been classified as an unlined CCR surface impoundment. A Closure Plan was prepared by Burns & McDonnell per section §257.102(b)(1) of the Federal CCR Rule. MCPE will be closed and capped in place as described in the Closure Plan, which will be available on Ameren's CCR website.

2.1 Post-Closure Compliance

Post-closure maintenance shall be as described in §257.104(b) of the CCR Rule. The requirements consist of 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.

Ameren will achieve compliance with the above requirements through final cover inspection and maintenance of MCPE, which will be conducted for a period of 30 years after the completion of closure activities. 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 2.1.2.

2.1.1 Groundwater Monitoring

Ameren will conduct sampling, analysis and reporting of the MCPE groundwater monitoring network per §257.90 through §257.98, for the entire 30 years of post-closure care. Per §257.104(c)(2), should any of the groundwater monitoring results cause MCPE to enter or remain in an Assessment Monitoring Program (§257.95) at the end of the 30-year post-closure care period, Ameren will continue monitoring the groundwater until MCPE is able to return to the Detection Monitoring Program (§257.94).

2.1.2 Site Inspections

Site inspections will be performed annually (at minimum) during the post-closure care period to confirm that the integrity and effectiveness of the final cover system is maintained per Section §257.104(b)(1). Maintenance of the final cover will include making repairs, as necessary, to correct the effects of settlement, subsidence, erosion, or other events, and to prevent run-on and run-off from eroding or otherwise damaging the final cover. During the site inspections, Ameren will also inspect groundwater monitoring wells to confirm that they are structurally intact and appear to be in good working condition.

2.2 Post-Closure Contact

Ameren will designate and list a contact person during the post-closure care period per §257.104 (d)(ii). The following individual will be Ameren's designated contact person for post-closure care of MCPE:

Contact	Ameren Missouri
Address	1901 Chouteau Avenue St. Louis, MO 63103
Phone No.	(800) 552-7583
Email	CCR@ameren.com

2.3 Property Use During Post-Closure Care Period

MCPE is located within a secured power plant facility, and access and use will be limited to inspection and groundwater monitoring activities. Future additional uses of the area can be evaluated for purposes that maintain the final cover and do not increase the potential threat to human health or the environment.

2.4 Completion of Post-Closure Care

No later than 60 days following the completion of the post-closure care period, Ameren shall prepare a notification verifying that post-closure care has been completed and place the notification in the facility's CCR Operating Record. The notification shall include the certification by a qualified professional engineer in the State of Missouri, that post-closure care has been completed in accordance with the written Post-Closure Plan in effect and the requirements of §257.104.

3.0 REVISIONS AND AMENDMENTS

This initial MCPE Post-Closure Plan shall be placed in the CCR Operating Record by April 17, 2018. The plan is required to be amended whenever there is a change in the operation of the CCR Unit that affects the current or planned post-closure activities.

The Post-Closure Plan shall be amended 60 days prior to a planned change in operation, or within 60 days following an unplanned change in operation. If a written Post-Closure Plan is revised after post-closure activities have commenced, it shall be amended no later than 30 days following the triggering event. The Post-Closure Plan and any amendments shall be certified by a qualified professional engineer in the State of Missouri for meeting the requirements of §257.104 of the CCR Rule. All amendments and revisions must be posted on the CCR public website within a reasonable amount of time following placement in the facility's CCR Operating Record. A record of revisions made to this document is included in Section 4.0 of this document. A record of revisions made to this document is included in Section 4.0.

APPENDIX A – SITE AERIAL FIGURE



MERAMEC RIVER

MCPE (POND 489)

MISSISSIPPI RIVER

COPYRIGHT © BURNS & MCDONNELL ENGINEERING COMPANY, INC.



0 200' 400'
SCALE IN FEET



FIGURE 1
AMEREN MISSOURI
SURFACE IMPOUNDMENT MCPE
SITE AERIAL



CREATE AMAZING.

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
O 816-333-9400
F 816-333-3690
www.burnsmcd.com