Notice of Intent to Close

Bottom Ash CCR Surface Impoundment - Stanton Station

Submitted to:

Great River Energy
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Submitted by:

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1.0 INTRODUCTION

The purpose of this document is to comply with the notification and certification requirements in accordance with the federal EPA Coal Combustion Residual (CCR) rule, 40 CFR Part 257.

Section §257.102(g) of the EPA CCR Rule requires that a notification of intent to close a CCR unit be placed in the facility's operating record upon initiation of closure activities. This notification must also include a certification by a qualified professional engineer for the design of the final cover system as required by section §257.102(d)(3)(iii), if applicable. This document serves as the notice of intent to close the Bottom Ash Impoundment at Great River Energy's Stanton Station located near Stanton, North Dakota.

The Bottom Ash Impoundment consists of three cells. The north cell (approximately 3.7 acres of lined area), the center cell (3.3 acres of lined area), and the south cell (4.2 acres of lined area) have a combined total facility footprint of approximately 11.2 acres. The north and center cells of the Bottom Ash Impoundment will be closed by removal of CCR in accordance with §257.102(c), while the south cell is planned to be closed with CCR and other permitted material remaining in place in accordance with §257.102(d). The CCR and liner systems removed from the north and center cells will be used to achieve final grades within the south cell. Included with this document is a certification by a qualified professional engineer that the design of the final cover system to be used for the south cell of the Bottom Ash Impoundment meets the requirements of the federal CCR rule.

2.0 NOTICE OF INTENT TO CLOSE

Pursuant to §257.102(e)(1)(i):

> *The owner or operator must commence closure of the CCR unit no later than 30 days after the date on which the CCR unit …. receives the known final receipt of waste, either CCR or any non-CCR waste stream.*

The south cell of the Bottom Ash Impoundment is intended to receive final CCR and permitted non-CCR waste streams until October 30, 2019 concurrently with closure of the north and center cells by removal of CCR and restoration of the closed Stanton Station Power Plant Site.

Furthermore, in accordance with §257.102(e)(3)(ii):

> *Closure of the CCR unit has commenced if the owner or operator has ceased placing waste and …has submitted a completed application for any required state or agency permit or permit modification.*

A permit modification document including a revised Closure Plan for the Bottom Ash Impoundment was submitted to the North Dakota Department of Environmental Quality (NDDEQ) December 26, 2018 (approved August 16, 2019). With submittal and approval of the state permit modification document completed, the final receipt of waste within the south cell represents initiation of closure activities.

§257.102(g) requires the following:

> *No later than the date the owner or operator initiates closure of a CCR unit, the owner or operator must prepare a notification of intent to close a CCR unit. The notification must include the certification by a qualified professional engineer for the design of the final cover system as required by §257.102(d)(3)(iii), if applicable. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by §257.105(i)(7).*

Therefore, the purpose of this document is to serve as the Notice of Intent to Close the Bottom Ash Impoundment at Stanton Station. The above-referenced certification by a qualified professional engineer for the design of the final cover system is provided in Section 5.0.

3.0 CONSTRUCTION SCHEDULE

Pursuant to §257.102(f)(1)(ii):

> *Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure …for existing and new CCR surface impoundments, within five years of commencing closure activities.*

Final closure of the Bottom Ash Impoundment at Stanton Station is expected to be completed by October of 2020, in compliance with the above requirement.

4.0 FINAL COVER SYSTEM DESIGN CERTIFICATION

4.1 Design Requirements

Pursuant to §257.102(d)(3):

> *If a CCR unit is closed by leaving CCR in place, the owner or operator must install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of paragraph (d)(3)(i) of this section, or the requirements of the alternative final cover system specified in paragraph (d)(3)(ii) of this section.*

The prescriptive final cover system outlined in §257.102(d)(3)(i) requires the following:

- The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than $1x10^{-5}$ cm/sec, whichever is less.
- The infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.
- The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth.
- The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

The bottom liner system for the south cell of the Bottom Ash Impoundment consists of 2 feet of compacted clay rich material with a hydraulic conductivity of $1x10^{-7}$ cm/sec, overlain with a 60-mil high-density polyethylene (HDPE) geomembrane liner. The sideslopes of the Bottom Ash Impoundment cells consists of a 3-foot compacted clay material with a hydraulic conductivity of $1x10^{-7}$ cm/sec, overlain with a 60-mill HDPE geomembrane liner.

4.2 Final Cover Design

§257.102(d)(3)(ii) allows for the use of an alternative final cover system design, provided the alternative final cover system is designed and constructed to provide equivalent performance as the prescriptive final cover system outlined above with respect to infiltration, erosion, and settling and subsidence. The final cover system for the south cell of the Bottom Ash Impoundment at Stanton Station meets the alternative final cover system requirements with the following components (from bottom to top):

- A geosynthetic clay liner (GCL);
- A 60-mil HDPE geomembrane liner;
- A 30-inch plant root zone (growth medium) layer; and
- A 6-inch erosion layer that is capable of sustaining plant growth.

Disruption of the integrity of the final cover system will be inhibited by compacting the underlying CCRs to establish a firm and unyielding subgrade prior to installation of the final cover system and by establishing maximum slopes of 15% and minimum slopes of 3% to provide positive drainage off the facility, limit ponding, and mitigate the potential effects of settling and subsidence.

5.0 CERTIFICATION

The undersigned attest to the completeness and accuracy of this notice of intent to close the Bottom Ash Impoundment at Stanton Station, and certify that the final cover system design for the south cell of the Bottom Ash Impoundment meets the requirements of 40 CFR §257.102(d)(3)(i).

Golder Associates Inc.

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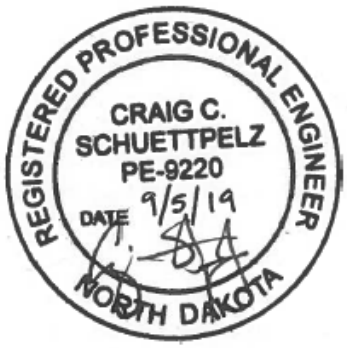

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