

CCR Retrofit Plan

Basin Electric Power Cooperative
Laramie River Station

Bottom Ash Pond 3

AECOM Project No.: 60664804
December 9, 2021

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Laramie River Station

Bottom Ash Pond 3

CCR Retrofit Plan Revision History

Revision No.	Revision Date	Section Revised	Summary of Revision(s)
0	12/9/2021		Original Document

Revisions are accomplished in accordance with Section 3.

1. Background

The purpose of this CCR Retrofit Plan (Plan) is to identify and describe the measures needed to retrofit the Laramie River Station Bottom Ash Surface Impoundment (BAP) 3 consistent with recognized and generally accepted good engineering practices and in accordance with the Coal Combustion Residuals Rule (CCR Rule). The following sections provide background information on the facility and related regulatory requirements.

1.1 Facility Information

Name of Facility	Laramie River Station (LRS)
Name of CCR Units	Bottom Ash Surface Impoundment 3 (BAP 3)
Name of Operator	Basin Electric Power Cooperative
Facility Mailing Address	347 Grayrocks Road, Wheatland, WY 82201
Location	Approximately five (5) miles northeast of Wheatland, WY
Facility Description	Laramie River Station (LRS) is owned by Missouri Basin Power Project (MBPP) and operated by Basin Electric Power Cooperative (Basin Electric). LRS consists of three (3) 570 megawatt (MW) units. Unit 1 went online in 1980, Unit 2 went online in 1981 and Unit 3 went online in 1982.

1.2 Regulatory Requirements

This plan has been developed for the LRS BAP 3 in accordance with 40 CFR 257.102 (k). The CCR Rule requires preparation of a retrofit plan for units that describes the steps necessary to retrofit the CCR unit consistent with recognized and generally accepted good engineering practices.

The owner or operator of a CCR unit must prepare a written retrofit plan that includes, at a minimum, the information specified in 40 CFR 257.102 (k) (2) (i)(A) through (E). These items and the section of this plan responsive to each as follows:

40 CFR 257.102 (k)(2) Written Retrofit Plan

- i. Content of the Plan
 - A. Narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with the CCR Rule.
 - B. A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.
 - C. An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.
 - D. An estimate of the largest area of the CCR unit that will be affected by the retrofit operation
 - E. A schedule for completing all activities necessary to satisfy the retrofit criteria in the CCR Rule, including an estimate of the year in which retrofit activities of the CCR unit will be completed.

In accordance with 40 CFR 257.102 (k)(1)(iii), BAP 3 will remain in compliance with applicable requirements of the CCR Rule including any corrective actions required for the Unit.

2. Retrofit Description

This Plan describes the steps needed to retrofit BAP 3 in accordance with the CCR Rule and recognized and generally accepted good engineering practices. Plan items required under the CCR Rule described in this section constitute the narrative description of the specific measures that will be taken to retrofit the CCR Unit, description of CCR removal procedures, estimated volume of CCR to be removed, estimated surface area of the Unit that will be affected by the retrofit, and a milestone schedule of retrofit activities. This initial or any subsequent Plan may be amended at any time.

2.1 Retrofit Description

The Plan will include the removal of all CCR and CCR impacted materials from the eastern portion of the footprint of BAP 3, construction of a new Central Berm in BAP 3, with liner constructed up both sides, consolidation of the CCR materials from the eastern portion of BAP 3 East into the western portion of BAP 3 (West Hill), and final covering of the West Hill. Materials to be removed include bottom ash and other CCR materials, the existing rip rap and cover material, the existing membrane liner system in the eastern portion and central berm area, and the bedding layer present below the liner system in the eastern portion and central berm area. Upon removal of these layers, the exposed subgrade will be visually inspected for the presence of any CCR materials or any other materials which need to be removed to prepare the subgrade for the proposed construction. Once the subgrade has been prepared, the central berm will be constructed and a liner system consisting of a geocomposite clay liner (GCL) and a synthetic membrane liner will then be installed to create a composite liner system for the eastern portion in accordance with section 257.71 of the CCR Rule.

2.2 CCR Removal

CCR and CCR contaminated soils and sediments will be removed from BAP 3 East by mechanical excavation or hydraulic dredging. The materials will be removed from within the footprint of BAP 3 East and will be disposed of within the western portion of BAP 3 West. Material which cannot be contained within the footprint of BAP 3 will be disposed of in the onsite landfill. All free water and entrained water which seeps out of the CCR will be removed from BAP 3 and will be pumped into Bottom Ash Pond 2 (BAP 2).

2.3 CCR Volumes

Based on bathymetric survey data collected in 2018, the estimated total volume of CCR and CCR impacted materials in BAP 3 is 1,940,000 CY. Final removal volumes may vary based on CCR which has been generated since the survey was completed, or due to variations in the elevations of the existing pond construction from the original design drawings for the facility. An estimated 960,000 CY of CCR is present within the Eastern portion of BAP 3 which will be relocated to the West Hill. An estimated 350,000 CY of CCR will be hauled to the onsite landfill.

2.4 CCR Unit Area

BAP 3 surface area is approximately 59 acres. The full surface area of the impoundment will be impacted by the retrofit operations and the newly constructed liner system will cover the eastern portion of BAP 3 and the Central Berm Area. The retrofit BAP 3 will have a footprint of approximately 36 acres.

The West Hill will have a surface area of approximately 23 acres. The solids within BAP 3 will be consolidated into the West Hill. Total volume of ash in the final buildout of the West Hill will be approximately 1,590,000 CY.

2.5 Retrofit Schedule

Retrofit construction activities for BAP 3 will be completed in 2022. Retrofit construction activities will commence in February of 2022. A milestone schedule for retrofit activities is as follows:

- Contractor Mobilization – February 2022
- BAP 3 Central Berm Area - CCR Removal and Dewatering – February 2022 to April 2022
- BAP 3 Central Berm Installation and Liner Installation – April 2022 to July 1, 2022
- West Hill final grading – July 1, 2022 to August 2022
- West Hill Final Cover Installation – August 2022 to September 1, 2022
- Completion of Retrofit Activities – September 1, 2022

3. Amendment of CCR Retrofit Plan

This initial or any subsequent written retrofit plan developed pursuant to 40 CFR 257.102 (k) may be amended at any time.

The Plan must be amended whenever:

- There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or
- Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.

The written retrofit plan must be amended at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written retrofit plan. If a written retrofit plan is revised after retrofit activities have commenced for a CCR unit, the current retrofit plan must be amended no later than 30 days following the triggering event.

A written certification from a qualified professional engineer that the initial and any amendment of the written retrofit plan meets the requirements of § 257.102 (k) must be obtained.

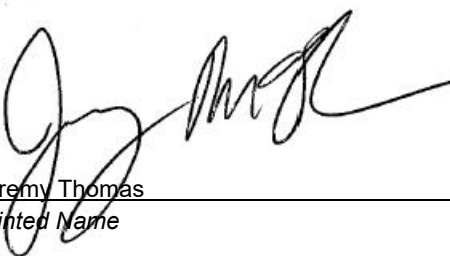
Plan changes will be documented using the Revision History which prefaces this Plan. Substantial changes to this plan will be certified by a Qualified Professional Engineer.

4. Engineering Certification

Certification Statement 40 CFR § 257.102(k)(2)(iv) – Activities for the Retrofit of an Existing CCR Surface Impoundment

CCR Unit: Basin Electric Power Cooperative; Laramie River Station; Bottom Ash Surface Impoundment 3.

I, Jeremy Thomas, being a Registered Professional Engineer in good standing in the State of Wyoming, 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 retrofit activities contained in the retrofit plan dated December 9, 2021 meet the requirements of 40 CFR § 257.102.



Jeremy Thomas
Printed Name

December 10, 2021
Date

