

FINAL, REVISION 1

# Closure Plan Coal Combustion Residual Inactive Surface Impoundments Ponds 4B-1, 4B-2, and 4B-3 Reid Gardner Generating Station

*Prepared for*

NV Energy

August 20, 2019

**JACOBS®**

2485 Village View Drive  
Suite 350  
Henderson, NV 89074

# Certification

This section contains the written certification by a qualified professional engineer required by §257.102(b)(4) of the U.S. Environmental Protection Agency's Coal Combustion Residual Rule.



This initial written closure plan for Ponds 4B-1, 4B-2, and 4B-3 meet the requirements of §257.102 of the Coal Combustion Residual Rule.

Revision Date	Certified By	Revision	Description of Changes
April 16, 2018	Nathan Betts, PE /Jacobs	0	Final Plan
August 20, 2019	Scott Dethloff, PE /Jacobs	1	Revised Final Plan -modified after pond closure, added closure notification/ certification April 2019

# Contents

Section	Page
<b>1 Introduction .....</b>	<b>1-1</b>
1.1 Site Description .....	1-1
1.2 Regulatory Background.....	1-1
1.3 Operational Background .....	1-2
<b>2 Impoundment Closure Activities.....</b>	<b>2-1</b>
2.1 Narrative Description.....	2-1
2.1.1 Initiation of Closure Activities.....	2-1
2.1.2 Closure Implementation .....	2-1
2.1.3 Completion of Closure Activities.....	2-1
2.2 Estimated Maximum CCR Inventory .....	2-2
2.3 Closure Schedule.....	2-2
2.4 References .....	2-2

## Tables

1	Non-CCR Rule Permits
2	Schedule for Completion of Closure Activities

# Introduction

This August 2019 revision to the April 2018 initial written closure plan presents the activities that have been and will be performed to close former Ponds 4B-1, 4B-2, and 4B-3, inactive coal combustion residuals (CCR) surface impoundments at the Reid Gardner Generating Station, in accordance with §257.102 of the U.S. Environmental Protection Agency's CCR Rule.

The initial written closure plan was placed in the Station's operating record on April 17, 2018 in compliance with §257.100(e)(6)(i), §257.102(b)(2)(i) and §257.105(i)(4). Within 30 days of placement, the State Director was notified as required by §257.106(i)(4) and §257.106(d). Also, within 30 days of placement, the plan was placed on a publicly accessible Internet site per §257.107(i)(4) and §257.107(d). The initial plan was certified by a qualified professional engineer (§257.102(b)(4)).

The closure plan may be amended at any time, but it must be amended when "there is a change in the operation of the CCR unit that would substantially affect the written closure plan" or when "unanticipated events necessitate a revision" (§257.102(b)(3)). The plan must be amended at least 60 days before a planned change in operations, and no later than 60 days after an unanticipated event triggers a revision. After closure has commenced the plan must be amended not more than 30 days after the triggering event. Amended plans have the same requirements for certification, record keeping, public posting, and notification as required for the initial plan. This amendment was not triggered by a specific event or change but serves to bring the description of closure activities and schedule up to date.

## 1.1 Site Description

The Reid Gardner Station (Station) is a retired coal-fired electric power generation facility that produced approximately 600 megawatts (MW) of power from four generating units. The Station is located approximately 50 miles northeast of Las Vegas, Nevada, within the Moapa Valley. The Station has been decommissioned and is undergoing demolition; thus, no longer generating electricity or producing new CCR.

## 1.2 Regulatory Background

Ponds 4B-1, 4B-2, and 4B-3 are inactive CCR surface impoundments that no longer contain CCR or lining systems. Notifications of intent to initiate closure were placed in the Station's operating record by December 17, 2015 and posted to the publicly accessible internet site by January 16, 2016 (CH2M, 2015a, 2015b, and 2015c). These notifications were prepared to satisfy the early-closure provisions in §257.100 of the CCR Rule. However, on June 14, 2016, the United States District Court of Appeals for the District of Columbia Circuit vacated, or removed, the early-closure provisions in §257.100. On August 5, 2016, the USEPA proposed revisions to §257.100 which required inactive CCR surface impoundments to comply with all requirements applicable to existing CCR surface impoundments, including the requirement for written closure plans and the closure of CCR surface impoundments in §257.102.

Former Ponds 4B-1, 4B-2, and 4B-3 are also regulated under the State permits summarized in Table 1. The activities and requirements associated with closure under these non-CCR Rule permits or any other active agreement with the state for the Station (e.g., Administrative Order on Consent signed in February 2008) are not described in this closure plan.

**Table 1. Non-CCR Rule Permits**

*Closure Plan, Coal Combustion Residual Inactive Surface Impoundments Ponds 4B-1, 4B-2, and 4B-3, Reid Gardner Generating Station*

Regulatory Agency	Permit Name	Permit Number
Nevada Division of Water Resources	Dam Permit	J-613 (B1)
		J-614 (B2)
		J-615 (B3)

## 1.3 Operational Background

According to record drawings, Ponds 4B-1, 4B-2, and 4B-3 were originally constructed with lined earthen embankments (Jacobs, 2018). The liner system consisted of two layers of high-density polyethylene geomembrane and interstitial leak detection and collection systems. The ponds stopped receiving CCR and non-CCR waste on October 14, 2015. Because the ponds contained CCR and liquids after October 14, 2015, they met the definition of inactive CCR surface impoundments per §257.53 of the CCR Rule.

Field closure operations for Ponds 4B-1, 4B-2, and 4B-3 began in September of 2016. CCR and liner systems were removed from the ponds by the end of 2017. The Station no longer produces wastewater. In addition, the ponds have been rendered incapable of receiving wastewater. The inlet pipes to Ponds 4B-1, 4B-2, and 4B-3 have been disabled. The ends of the inlet pipes have been plugged and buried, the upstream valves nearest the ponds have been closed, and farther upstream a blind-flanged airgap has been installed in the conveyance pipeline.

# Impoundment Closure Activities

This section describes the actions performed at Former Ponds 4B-1, 4B-2 and 4B-3 to comply with the written closure plan requirements of §257.102(b) and to complete the “closure by removal of CCR” requirements described in §257.102(c).

## 2.1 Narrative Description

This section contains the narrative description required by §257.102(b)(1)(i) and §257.102(b)(1)(ii) of the CCR Rule.

### 2.1.1 Initiation of Closure Activities

As described in the background section, closure was initiated in 2015 when the notifications of intent were placed in the operating record.

### 2.1.2 Closure Implementation

Implementation of closure activities began as described in this document and in the notification of intent to initiate closure (CH2M, 2015a, 2015b, and 2015c).

### 2.1.3 Completion of Closure Activities

As noted above, field closure operations for Ponds 4B-1, 4B-2, and 4B-3 began in September of 2016; CCR and liner systems were removed from the ponds by the end of 2017.

The Closure Certification (Jacobs, 2019) for former Ponds 4B-1, 4B-2 and 4B-3 was placed in the operating record on April 17, 2019 and posted to the public-accessible CCR website on May 13, 2019, with notification provided to the state engineer on May 14, 2019.

As part of completing closure, existing groundwater monitoring data was reviewed to verify that groundwater quality meets requirements in the CCR Rule. The closure certification demonstrates that groundwater impacts in the area of former ponds 4B-1, 4B-2 and 4B-3 resulted from historical pond operations that both predated the construction and use of the former CCR surface impoundments 4B-1, 4B-2 and 4B-3 and also preceded the effective date of the CCR Rule.

### 2.1.4 Supplemental Activities

As a supplement to the April 2019 closure notification and certification of closure, groundwater data were collected from the CCR monitoring well network at Ponds 4B-1, 4B-2, and 4B-3 to complete the CCR rule §257.90 - §257.94 requirements for sampling, analyses and reporting through preparation of the first annual groundwater monitoring and corrective action report. These activities were conducted during and after the data review reported in the closure certification (Jacobs 2019). The supplemental activities completed include:

- Documenting and certifying the groundwater monitoring network
- Collecting background groundwater samples, determining background concentration values, and certifying the statistical approach
- Initiating a detection monitoring program and preparing the first annual groundwater monitoring and corrective action report

## 2.2 Estimated Maximum CCR Inventory

As described earlier, Ponds 4B-1, 4B-2, and 4B-3 no longer contain CCR.

## 2.3 Closure Schedule

The closure schedule required by §257.102(b)(vi) of the CCR Rule is shown in Table 2. Although the schedule includes some of the “major milestones” identified in the CCR rule as part of closure activities, it does not include all of the activities necessary to close the ponds in accordance with “other permits” and applicable state regulations.

**Table 2. Schedule for Completion of Closure Activities**

*Closure Plan, Coal Combustion Residual Inactive Surface Impoundments Ponds 4B-1, 4B-2, and 4B-3, Reid Gardner Generating Station*

Task	Approximate Completion Date
Stopped receiving CCR waste.	October 14, 2015
Placed notifications of intent to initiate closure in operating record.	December 15, 2015
Posted notifications of intent to initiate closure on the publicly accessible CCR website and notified the State Director.	January 8, 2016
Held kickoff meeting for pond closure design.	January 25, 2016
Designed the CCR removal project, performed regulatory coordination, procured construction services, and obtained required permits or regulatory approvals.	First, second, and third quarters, 2016
Began construction.	September 2016
Completed CCR removal.	December, 2017
Certification of Closure and Notification of Completion of Closure	April 17, 2019
Required date to complete closure	January 25, 2021
Supplemental Activities	
Complete supplemental collection of CCR prescribed data through first half 2019.	June 30, 2019
Annual Groundwater Monitoring and Corrective Action Report	August 1, 2019

## 2.4 References

CH2M. 2015a. *Notification of Intent to Initiate Closure, Pond B1, Reid Gardner Generating Station*. December 14.

CH2M. 2015b. *Notification of Intent to Initiate Closure, Pond B2, Reid Gardner Generating Station*. December 14.

CH2M. 2015c. *Notification of Intent to Initiate Closure, Pond B3, Reid Gardner Generating Station*. December 14.

Jacobs. 2018. *Construction History, Ponds B1, B2, and B3, Reid Gardner Generating Station*. April 11.

Jacobs. 2019. *Reid Gardner Generating Station, Inactive Coal Combustion Residual Surface Impoundments Ponds 4B-1, 4B-2, 4B-3, and E-1 Closure Certification*. Final. April 15.