



**Amendment 2**  
**CCR Surface Impoundment Closure Plan**

**W. A. Parish Electric Generating Station  
Thompsons, Texas**

**January 2021**

***Prepared For***

**NRG Texas Power LLC**

CERTIFICATION

**Amendment 2 - CCR Surface Impoundment Closure Plan**

**W. A. Parish Electric Generating Station**

I, the undersigned Texas Professional Engineer, hereby certify that I am familiar with the technical requirements of Title 40 Code of Federal Regulations Part 257 Subpart D (§257). I certify that it is my professional opinion that this document meets the requirements for a written closure plan pursuant to 40 CFR 257.102. I certify that this document was prepared by me and that I am a registered professional engineer under the laws of the State of Texas.

For the purpose of this document, "certify" and "certification" shall be interpreted and construed to be a "statement of professional opinion". The certification is understood and intended to be an expression of my professional opinion as a Texas Licensed Professional Engineer, based upon knowledge, information, and belief. The statement(s) of professional opinion are not and shall not be interpreted or construed to be a guarantee or a warranty of the analysis herein.

Richard D. Varnell  
Printed Name of Professional Engineer



Signature of Professional Engineer

135525  
Texas License Number

1/13/2021  
Date



FIRM #3775

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## 1. INTRODUCTION & PURPOSE

### **Federal CCR Rule Reference: 40 CFR 257.102(b)**

Pursuant to 40 CFR 257.102(b), this document provides the written Amended Closure Plan for the following existing coal combustion residual (CCR) surface impoundments at NRG Texas Power LLC's (NRG) W. A. Parish Electric Generating Station (Station):

- FGD Emergency Pond (E Pond), and
- Air Preheater Pond (APH Pond).

NRG intends to close these existing CCR surface impoundments through removal of the existing CCR contained therein at the time of closure and decontamination of all areas affected by releases from the CCR units pursuant to 257.102(c). This Amended Closure Plan does not differentiate between the individual impoundments.

## 2. 2020-2021 POND RETROFIT

NRG is currently planning to retrofit both surface impoundments during 2020 and 2021. CCR will be removed from the surface impoundments as verified through visual observation. The underlying *in situ* clay or liner material and all areas affected by CCR releases will then be over-excavated a minimum additional depth of 6 inches to complete decontamination of the surface impoundments. Additional underlying material may also be excavated to achieve the required grades based on the surface impoundment retrofit plans. The excavated material will be transported to a permitted landfill or be beneficially reused. The Station may also elect to dispose of the excavated material at their on-site permitted industrial non-hazardous waste landfill (Unit 001).

Once decontamination is complete, new composite liner systems will be installed per 257.72 and the surface impoundments will continue use as CCR units at the Station. The retrofit of each surface impoundments will include installation of a new composite liner system, liner protection system, outlet structure (if applicable), and piping (if applicable). Retrofit will be performed in accordance with the retrofit plan.

*Amendment 2 – CCR Surface Impoundment Closure Plan* assumes that the closure activities described in this amended closure plan will be performed for the retrofitted CCR surface impoundments.

## 3. CLOSURE PLAN NARRATIVE DESCRIPTION

### **Federal CCR Rule Reference: 40 CFR 257.102(b)(1)(i), 40 CFR 257.102(b)(1)(ii), and 40 CFR 257.102(c)**

The anticipated closure by removal of CCR and decontamination of all areas affected by releases of CCR for the surface impoundments at the W. A. Parish Electric Generating Station will be performed in accordance with the following sequential steps:

1. Diversion of CCR, low volume waste, and/or storm water streams to the appropriate Station facilities.

2. Removal of process piping to the extent required to facilitate CCR removal and decontamination.
3. Dewatering of each CCR surface impoundment and in situ CCR sufficiently to allow for removal of the CCR.
4. Removal of CCR from each CCR surface impoundment for transportation to and disposal in a permitted landfill or to the on-site permitted industrial non-hazardous waste landfill (Unit 001), or for beneficial reuse.
5. Removal of any permeable or granular cover layers such as riprap or cover soil overlying the composite liner (where applicable) to expose the composite liner system. The composite liner system may include an overlying protective layer such as concrete. For the purposes of this amended closure plan, a protective concrete layer will be considered part of the composite liner system.
6. Decontamination of the composite liner system will be considered complete when CCR and granular cover material has been removed. Decontamination will address all areas affected by CCR releases. Decontamination will be verified through visual observation.
7. Compliance with Texas Commission on Environmental Quality (TCEQ) requirements for CCR surface impoundment closure (if applicable).
8. If groundwater monitoring at the former CCR surface impoundments is being conducted under 257.94 (detection monitoring), the ponds will be closed in accordance with item 9 below once surface impoundment decontamination is complete. However, if groundwater monitoring is being conducted under 257.95 (assessment monitoring), then groundwater monitoring will continue until a determination is made that concentrations do not exceed the groundwater protection standards (GWPS) established per 257.95 for the constituents listed in Appendix IV to 40 CFR Part 257.
9. Certification by a qualified professional engineer in the State of Texas that the closure has been completed in accordance with *Amendment 2 – CCR Surface Impoundment Closure Plan*.

## 4. REMOVAL & DECONTAMINATION PROCEDURES

### **Federal CCR Rule Reference: 40 CFR 257.102(b)(1)(ii) and 40 CFR 257.102(c)**

Closure of the existing CCR surface impoundments at the W. A. Parish Electric Generating Station will follow the sequential steps outlined in Section 3 of this *Amendment 2 – CCR Surface Impoundment Closure Plan*.

After discharge of CCR and non-CCR wastestreams into the surface impoundments has ceased, NRG will dewater each CCR surface impoundment and the CCR stored therein. The free liquid may be reused in plant operations or possibly discharged as allowed by the Texas Pollutant Discharge Elimination System (TPDES) permit in effect at the time of closure. Best management practices (BMPs) will be deployed. Perimeter drainage ditches may be cut through the *in situ* CCR within the surface impoundments to further passively dewater the material using gravity prior to removal. Also, CCR may be placed into piles within the CCR surface impoundments to promote dewatering.

Once the CCR within the surface impoundments has been sufficiently dewatered for transportation and disposal purposes, mechanical excavators will be used to remove the CCR, protective layers (e.g., riprap), and any cover soil, sediment, or other granular or liner material that became intermixed with

CCR within the surface impoundments. Based on visual observation for CCR, excavation will continue until CCR has been removed. The decontamination step will address all areas affected by CCR releases. TCEQ required closure activities will also be performed during the decontamination phase of the project if required.

The ongoing groundwater monitoring program for both surface impoundments is currently being performed per 257.94 (detection monitoring), which is anticipated to continue during the active life of each surface impoundment and during the closure activities described in this *Amendment 2 – CCR Surface Impoundment Closure Plan*. Following completion of the closure activities for each retrofitted surface impoundment, groundwater monitoring will continue to be performed per the CCR Rule.

## 5. ESTIMATED MAXIMUM INVENTORY OF CCR

### Federal CCR Rule Reference: 40 CFR 257.102(b)(1)(iv)

A reasonably conservative estimate of the maximum inventory of CCR within the CCR surface impoundments can be calculated by considering that 50 percent of each surface impoundment’s capacity is filled with CCR prior to being removed. This is conservative because NRG typically removes CCR from the surface impoundments as part of routine maintenance activities before the accumulation of CCR reaches this volume. Table 1 provides the estimated maximum inventory of CCR for each CCR surface impoundment.

**Table 1: Estimated Maximum Inventory of CCR  
Within Each CCR Surface Impoundment**

CCR Surface Impoundment	Estimated Maximum Inventory of CCR <sup>1</sup> (cubic yards)
FGD Emergency Pond (E Pond)	1,500 <sup>2</sup>
Air Preheater Pond (APH Pond)	3,000 <sup>3</sup>

- Notes: 1) Assumes that surface impoundment dimensions do not change during retrofit.  
 2) Based on one-half of the 1.73 acre-foot volume of the FGD Emergency Pond reported in *Analysis of Hydrologic and Hydraulic Capacity for CCR Surface Impoundments, W. A. Parish Station, Units 5, 6, 7, & 8*, Sargent & Lundy LLC, September 30, 2016  
 3) Based on one-half of the 3.7 acre-foot volume of the APH pond reported by NRG.

## 6. CLOSURE SCHEDULE

### Federal CCR Rule Reference: 40 CFR 257.102(b)(1)(vi)

Closure of the existing CCR surface impoundments is estimated to require approximately one year from the date that CCR and non-CCR wastestreams cease being discharged into the surface impoundments. Table 2 identifies major milestones necessary to close the CCR units, with an estimated duration and an estimated year of completion for each milestone. NRG anticipates that all closure activities for the CCR surface impoundments will be complete by 2045.

Table 2: Planning Level Schedule for Closure of Existing CCR Surface Impoundments		
Task Description	Estimated Duration	Estimated Completion Year
Place <i>Amendment 2 – CCR Surface Impoundment Closure Plan</i> into the Facility Operating Record (FOR).	1 Day	2045
Send Notification of the Availability of <i>Amendment 2 – CCR Surface Impoundment Closure Plan</i> to the TCEQ and Post the Amended Closure Plan to NRG’s CCR Website.	1 Month	2045
Final Engineering / TCEQ Notification (if Required).	1 Month	2045
Termination of CCR, Low Volume Waste and Storm Wastestream Discharges.	1 Month	2045
Place Notification of Intent to Close into the FOR.	1 Month	2045
Send Notification of the Availability of Notification of Intent to Close to the TCEQ and Post the Notification of Intent to Close to NRG’s CCR Website.	1 Month	2045
Dewatering of the CCR Surface Impoundments and <i>In Situ</i> CCR.	1 Month	2045
Removal of CCR, Protective Cover Layer, and Intermixed Soils or Materials (If Applicable) and Decontamination of the Composite Liner Materials based on Visual Observation of CCR removal. Decontamination of All Areas Affected by CCR Releases by Overexcavation or similar means. Also Implement TCEQ Closure Requirements During this Period if Required.	2 Months	2045
Certification of Completion of Closure by a Qualified Texas Professional Engineer.	1 Month	2045
Place Notification of Completion of Closure into the FOR.	1 Month	2045
Send Notification of Completion of Closure to TCEQ and Post Notification of Completion of Closure to NRG’s CCR publicly accessible CCR Website.	1 Month	2045

## 7. AMENDMENTS TO CLOSURE PLAN

### Federal CCR Rule Reference: 40 CFR 257.102(b)(3)

NRG will amend *Amendment 2 – CCR Surface Impoundment Closure Plan* prior to a change in the operation of any of the existing CCR surface impoundments that would substantially affect the written *Amendment 2 – CCR Surface Impoundment Closure Plan* in effect or after an unanticipated event necessitates a revision to the written amended closure plan. If this written *Amendment 2 – CCR Surface Impoundment Closure Plan* is revised, NRG will retain a qualified professional engineer licensed in the

State of Texas to provide written certification that amendments meet the requirements of 40 CFR 257.102(b).

## 8. COMPLETION OF CLOSURE ACTIVITIES

### **Federal CCR Rule Reference: 40 CFR 257.102(f)(3)**

Upon completion of closure for each CCR surface impoundment, NRG will obtain a certification from a qualified professional engineer licensed in the State of Texas verifying that each CCR surface impoundment has been closed in accordance with the *Amendment 2 – CCR Surface Impoundment Closure Plan* in effect at the time of closure.