W.A. Parish Station, Units 5, 6, 7, and 8

CCR Surface Impoundments Retrofit Plan

W.A. Parish Electric Generating Station
Thompsons, Texas

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Prepared For
NRG Texas Power LLC

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Section 1
Introduction

NRG Texas Power LLC (NRG) owns and operates the W. A. Parish Station (Station). The Station currently operates the FGD Emergency Pond (E Pond) and the Air Preheater Pond (APH Pond), which meet the definition of coal combustion residual (CCR) surface impoundments under the United States Environmental Protection Agency (USEPA) Disposal of Coal Combustion Residuals From Electric Utilities Final Rule (CCR Rule). This Retrofit Plan (Plan) describes the activities associated with the retrofit of the impoundments to meet the requirements of 40 Code of Federal Regulations (CFR) 257.102(k)(2) in the CCR Rule. This Plan was prepared for NRG by TRC Environmental Corporation (TRC).

Section 2
Retrofit Plan

2.1 Retrofit Description

The current CCR surface impoundments will be retrofitted in compliance with 40 CFR 257.102(k)(1) through the removal of the existing liner materials and subsoils, and installation of a composite liner system compliant with 40 CFR 257.72. Retrofitting will be conducted in 2020/2021 as described below. NRG plans to execute the retrofit of each existing CCR surface impoundment by performing the following steps in succession:

1. Diversion of CCR, low volume waste, and/or stormwater streams to the appropriate Station facilities,
2. Dewatering of each CCR surface impoundment and the sufficient in situ stabilization to allow for removal of the CCR,
3. Removal of CCR from each CCR surface impoundment for transportation to and disposal in a permitted landfill or for beneficial use,
4. Removal of protective cover layers (*e.g.*, riprap, concrete) along the bottom of and/or side slopes of each CCR surface Impoundment,
5. Stripping, as required, of the in-situ material at the bottom of and/or side slopes of each CCR surface impoundment that became intermixed with CCR,
6. Restoring and establishing subbase grades,
7. Confirming 24-inch-thick compacted clay layer with a maximum hydraulic conductivity of 1×10^{-7} centimeters per second (cm/s),
8. Installing a 30-mil geomembrane liner or 60-mil high density polyethylene liner,
9. Installing liner protection, and
10. Restoring flows back to the CCR surface impoundments.

It is anticipated that the retrofit will be completed for both surface impoundments in early 2021.

2.2 CCR Removal Procedures

After ceasing flow into the surface impoundments, NRG will dewater each CCR surface impoundment and the CCR managed therein. The free liquid may be reused in plant operations or possibly discharged into the Coal Pile Run-Off Pond. Best management practices (BMPs) will be deployed. Perimeter drainage ditches may be cut through the in situ CCR within the surface impoundments to accelerate the dewatering process via gravity. CCR may be piled within the surface impoundments to further promote dewatering.

Once the CCR has been sufficiently dewatered for transportation and disposal purposes, mechanical excavators will remove the CCR, any protective layers (*e.g.*, riprap), and any in situ materials that became intermixed with the CCR within the impoundments. Excavated material will be deposited into haul trucks for disposal at a permitted landfill or a beneficial use project. At the time of closure, the Station may elect to dispose the excavated material into the on-site landfill, Solid Waste Management Unit 001. Excavation will advance until visual confirmation of the removal of contaminated soils and sediment plus an additional 12-inches.

2.3 CCR Removal Volume and Area Estimate

A conservative estimate of the maximum inventory of CCR that may be contained within each CCR surface impoundment was determined based on each impoundment's capacity. It is estimated that a maximum of 5,700 cubic yards (CY) and 11,500 CY of CCR material will be removed from the E Pond and APH Pond, respectively. This material will be excavated from an area of approximately .57 acres for the E Pond and 1.17 acres for the APH Pond. In total, approximately 2 acres will be affected by the retrofit operation.

2.4 Retrofit Schedule

Table 1 list the major milestones necessary to retrofit the existing CCR surface impoundments with an estimated duration. NRG anticipates that all retrofit activities for the existing surface impoundments at W. A. Parish will be started in 2020 and completed by 2021.

Table 1
Planning Level Schedule for Retrofit of Existing CCR Surface Impoundments

Task Description	Estimated Duration
Place Retrofit Plan into Station's Operating Record	1 Day
Send Notification of the Availability of Retrofit Plan to the Texas Commission of Environmental Quality (TCEQ) and Post the Retrofit Plan to NRG's CCR Website	1 Month
Final Engineering / State Closure Permit Application	3 Months
Retrofit APH Pond	
Termination of CCR, Low Volume Waste, and Storm Water Streams	1 Month
Dewatering of CCR Surface Impoundments and In Situ CCR	1 Month
Removal of CCR, Protective Cover Layer, and Materials Intermixed with CCR (If Applicable)	2 Months
Install CCR Compliant Liner System and Protection	2 Months
Certification of Completion of Retrofit by a Qualified Professional Engineer	1 Month
Place Notification of Retrofit Completion into the Station's Operating Record	1 Month
Send Notification of Retrofit Completion to TCEQ and Post Notification of the Retrofit Completion to NRG's CCR Website	1 Month

Table 1
Planning Level Schedule for Retrofit of Existing CCR Surface Impoundments

Task Description	Estimated Duration
Retrofit E Pond	
Termination of CCR, Low Volume Waste, and Storm Water Streams	1 Month
Dewatering of CCR Surface Impoundments and In Situ CCR	1 Month
Removal of CCR, Protective Cover Layer, and Materials Intermixed with CCR (If Applicable)	3 Months
Install CCR Compliant Liner System and Protection	2 Months
Certification of Completion of Retrofit by a Qualified Professional Engineer	1 Month
Place Notification of Retrofit Completion into the Station's Operating Record	1 Month
Send Notification of Retrofit Completion to TCEQ and Post Notification of the Retrofit Completion to NRG's CCR Website	1 Month

2.5 Amendment to the Retrofit Plan

NRG will amend this Plan prior to a change in the operation of any of the existing CCR surface impoundments that would substantially affect the written Retrofit Plan in effect or after an unanticipated event necessitates a revision to the written Retrofit Plan. If this written Retrofit Plan is revised, NRG will retain a qualified professional engineer licensed in the State of Texas to provide written certification that amendments to this Plan meet the requirements of 40 CFR 257.102(k).

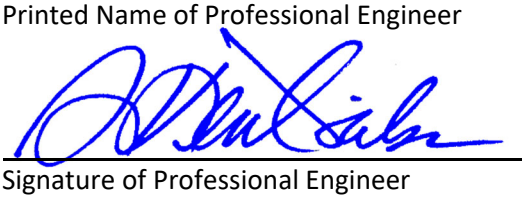
2.6 Notifications

In accordance with the CCR Rule [40 CFR 257.102(k)], NRG will post an Intent to Initiate Retrofit notice to the operating record prior to initiating retrofit activities. This Plan will become part of the Station's operating record. In addition, a Notification of Completion of Retrofit with an engineer's certification will be posted to the operating record within 30 days of completion of retrofit activities [40 CFR 257.102(k)]. The Retrofit Plan and notifications will also be posted to NRG's publicly accessible internet site.

Section 3
Certification

I, the undersigned Texas Professional Engineer, hereby certify that I am familiar with the technical requirements of 40 CFR 257.102. I also certify that it is my professional opinion that, to the best of my knowledge, information, and belief, that the activities outlined in this Retrofit Plan are in accordance with current good and accepted engineering practice(s) and standard(s) appropriate to the nature of the project and the technical requirements of 40 CFR 257.102 (k)(2).

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 retrofit activities.

R. Kent Nilsson	107021
Printed Name of Professional Engineer	State of Texas License Number
	March 13, 2020
Signature of Professional Engineer	Date