



Air Preheater (APH) Pond Liner Construction Certification

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

February 2021

Prepared For

NRG Texas Power LLC

REGULATORY REQUIREMENT

NRG Texas Power LLC (NRG) manages Coal Combustion Residuals (CCR) at the W. A. Parish Electric Generating Station in the Air Preheater (APH) Pond. The APH Pond is considered a CCR surface impoundment per the Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule (effective October 19, 2015) and subsequent Final Rules (CCR Rule), Title 40 Code of Federal Regulations (CFR) Part 257 Subpart D (§257). NRG completed the retrofit of the APH Pond as provided in 40 CFR 257.102(k) in January 2021.

Pursuant to 40 CFR 257.102(k), the APH Pond was retrofitted through the installation of a new composite liner system. Design criteria outlined in the CCR Rule (40 CFR 257.72) require that any new or retrofitted CCR surface impoundment be constructed with a composite liner system consisting of a 60-mil high density polyethylene (HDPE) geomembrane overlying, and in direct contact with, at least a two-foot layer of compacted soil. The compacted soil layer shall demonstrate a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec). The rule allows for an alternate composite liner system provided it performs no less effectively than the prescribed liner system.

LINER DESIGN

The APH liner design consists of the following, from top to bottom:

- A 60-mil-HDPE geomembrane; and
- Twenty-four (24) inches of native compacted clay with a maximum hydraulic conductivity of 1×10^{-7} cm/sec.

This design is in accordance with the new and retrofit liner requirements as outlined in 40 CFR 257.72.

CERTIFICATION

I, the undersigned Texas Professional Engineer, hereby certify that I am familiar with the technical requirements of 40 CFR 257.72. I also certify that it is my professional opinion that, to the best of my knowledge, information, and belief, that the composite liner was constructed in conformance with 40 CFR 257.72 design elements and in accordance with current good and accepted construction and engineering practice(s), standard(s) appropriate to the nature of the project, and the technical requirements of 40 CFR 257.72. 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, P.E.



Signature of Professional Engineer

135525

Texas License Number

2/12/2021

Date



FIRM #3775