

CLECO POWER LLC
BRAME ENERGY CENTER
LENA, RAPIDES PARISH, LOUISIANA



CCR COMPLIANT UNSTABLE
AREAS ASSESSMENT

ASH MANAGEMENT LANDFILL
CELL 4

AGENCY INTEREST NO. 2922

D-079-0390/P-0379-R1-M3

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A Certification

1.0 INTRODUCTION

On April 17, 2015, the United States Environmental Protection Agency (EPA) issued the final version of the federal coal combustion residuals rule (CCR Rule) to regulate the disposal of CCR materials generated at coal-fired units. The rule is being administered as part of the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. §6901 et seq.), using the Subtitle D approach.

Cleco Power LLC (Cleco) operates an existing coal combustion residuals (CCR) landfill referred to as the Ash Management Landfill at the Brame Energy Center (BEC) located near Boyce, Rapides Parish, Louisiana. The landfill is considered a Type I Industrial Facility by the Louisiana Department of Environmental Quality and operates under solid waste permit P-0379-R1-M3. Cells 1-3 of the Ash Management Landfill were active prior to the effective date of the CCR Rule. On October 11, 2021, the Louisiana Department of Environmental Quality (LDEQ) approved a minor modification for design changes to Cell 4 to comply with CCR design requirements. These changes included raising the excavation grades in Cell 4, changes to final waste grades, raising the perimeter levee elevations, and reorientation of the leachate collection trenches. Cleco contracted and completed the design and construction of the lateral expansion for Cell 4 of the Ash Management Landfill. This report is to certify that Cell 4 of the Ash Management Landfill was designed, operates and meets the criteria outlined in 40 CFR 257.64(a).

Per 40 CFR §257.64(c), Cleco must obtain certification from a qualified professional engineer that the unstable areas assessment meets the requirements of 40 CFR 257.64(a) and is included in **Appendix A**.

2.0 UNSTABLE AREAS ASSESSMENT

40 CFR 257.64 (a) states:

An existing or new CCR landfill, existing or new CCR surface impoundment, or any later expansion of a CCR unit must not be located in an unstable area unless the owner or operator demonstrates by the dates specified in paragraph (d) of this section that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.

This assessment must, at a minimum, consider the following factors when determining whether an area is unstable:

- On-site or local soil conditions that may result in significant differential settling
- On-site or local geologic or geomorphologic features
- On-site or local human-made features or events (both surface and subsurface)

40 CFR 257.53 states that an unstable area means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including some or all of the structural components of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

2.1 On-site or Local Soil Conditions

Providence reviewed the existing soil borings that were completed for the initial design of Cell 4. Providence also completed soil borings within the existing levee associated with the landfill and reviewed other soil borings that were completed prior to construction of the landfill. Providence reviewed the soil conditions documented within the boring logs and determined that the soil conditions are stable and should not cause excessive differential settlement to the extent that the stability of the CCR landfill, or its associated features, will be compromised.

The clay liner also provides a foundation that prevents sudden differential movement resulting from CCR placement. These areas have not been subject to mass movement in the past and are not expected to be in the future.

2.2 On-site or Local Geologic or Geomorphic Features

Providence has inspected the site, reviewed geological reports, reviewed boring logs, and reviewed topographic maps to evaluate the local geologic and geomorphic features that could cause the CCR unit to be unstable. No features were found that would cause the CCR unit to be unstable. Cell 4 is not located in karst terrain, therefore sinkholes, vertical shafts, sinking streams, caves, seeps, large springs, and blind valleys are not expected.

2.3 On-site or Local Human-made Features or Events

Providence reviewed the man-made features and activities associated with the CCR unit with respect to cut and fill, installation of culverts and piping, and any associated man-made features of the Cell 4. The dikes were mechanically compacted to a density sufficient to withstand the range of loading conditions for the daily operation of the unit. The structural stability assessment was consistent with recognized and generally accepted good engineering practices. No anthropogenic features were found that would adversely affect the stability of the CCR unit.

Based on the above soil conditions and features from the unstable areas assessment, the Cell 4's on-site or local soil conditions, geologic or geomorphologic features, and human-made features or events, Providence concludes that the Cell 4 is not located in unstable areas. The landfill meets the requirements contained in 257.64 of the CCR regulations.

APPENDIX A
CERTIFICATION

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CERTIFICATION

I certify that this Unstable Areas assessment fulfills the minimum requirements of 40 CFR 257.64, as applicable. This certification is based on my review of the Cleco Brame Unstable Areas and operational information about the CCR unit.

Gary J. Leonards, P.E.

Name

30568

Registration No

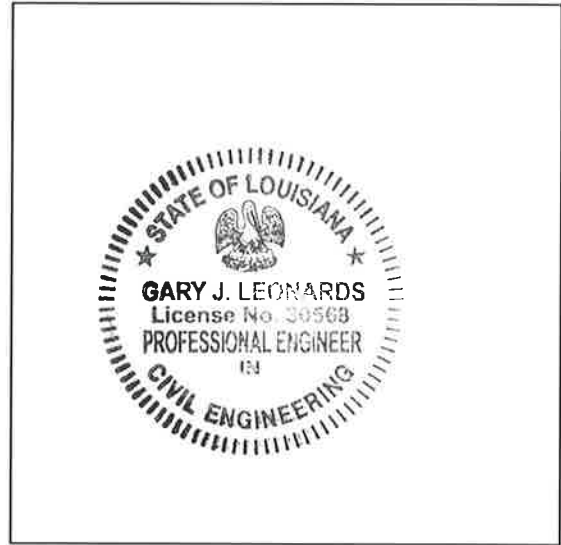
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Signature

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12/29/23



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