

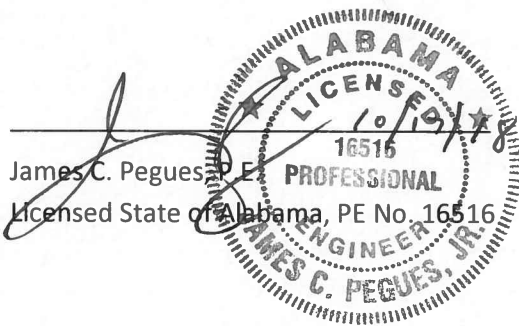
**LOCATION RESTRICTION DEMONSTRATION**  
**FAULT AREAS (40 C.F.R. 257.62 and ADEM Admin. Code r. 335-13-15-.03(3))**  
**PLANT GORGAS GYPSUM POND**  
**ALABAMA POWER COMPANY**

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257, Subpart D) and the State of Alabama's ADEM Admin. Code Chapter 335-13-15 require the owner or operator of an existing CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. Per § 257.62 and ADEM Admin. Code r. 335-13-15-.03(3), the owner or operator must demonstrate that the facility is not located within 60 meters, or 200 feet, of the outermost damage zone of a fault that has had a displacement in Holocene time; otherwise, the Owner or Operator must demonstrate that an alternative setback distance of less than 60 meters, or 200 feet, will prevent damage to the structural integrity of the CCR unit.

The CCR surface impoundment located at Alabama Power Company's Plant Gorgas, also referred to as the Plant Gorgas Gypsum Pond, is located on Plant Gorgas property, near Parrish, Walker County, Alabama. A review of available publications from the USGS and the Geological Survey of Alabama indicate the CCR unit is not located within 200 feet of the outermost damage zone of a fault that has had a displacement in Holocene time.

I hereby certify that the fault area location restriction demonstration was conducted in accordance with and meets the requirements of 40 C.F.R. Part 257.62 and ADEM Admin. Code r. 335-13-15-.03(3).

James C. Pegues, P.E.  
Licensed State of Alabama, PE No. 16516




**LOCATION RESTRICTION DEMONSTRATION**  
**SEISMIC IMPACT ZONE (40 C.F.R. 257.63 and ADEM Admin. Code r. 335-13-15-.03(4))**  
**PLANT GORGAS GYPSUM POND**  
**ALABAMA POWER COMPANY**

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257, Subpart D) and the State of Alabama ADEM Admin. Code Chapter 335-13-15 require the owner or operator of an existing CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. Per § 257.63 and ADEM Admin. Code r. 335-13-15-.03(4), the owner or operator must demonstrate that the facility is not located within a seismic impact zone; otherwise, a demonstration must be made that all structural components including liners, leachate collection and removal systems and surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material for the site. A seismic impact zone is defined as an area having a 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 50 years.

The CCR surface impoundment located at Alabama Power Company's Plant Gorgas, also referred to as the Plant Gorgas Gypsum Pond, is located on Plant Gorgas property, near Parrish, Walker County, Alabama. The Peak Ground Acceleration for the facility location, as determined using the online USGS Unified Hazard Tool, Conterminous U.S. 2014 (v4.0.x) was determined to be 0.18. For purposes of this demonstration, we are assuming the horizontal component of the PGA exceeds 0.10g, indicating that the impoundment is in a seismic impact zone. The facility embankments were previously analyzed for seismic loading conditions, with a minimum factor of safety of 1.5 calculated, exceeding the required minimum factor of safety established by the regulations of 1.0. This analysis therefore indicates that the CCR unit meets the location restriction requirements for seismic impact zones.

I hereby certify that the seismic impact zone location restriction demonstration was conducted in accordance with and meets the requirements of 40 C.F.R. Part 257.63 and ADEM Admin. Code r. 335-13-15-.03(4).

  
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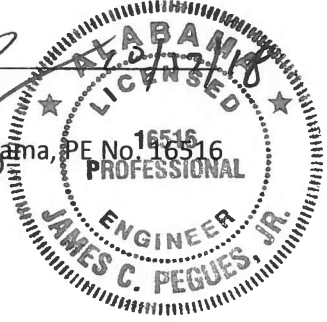
**LOCATION RESTRICTION DEMONSTRATION**  
**UNSTABLE AREAS (40 C.F.R. 257.64 and ADEM Admin. Code r. 335-13-15-.03(5))**  
**PLANT GORGAS GYPSUM POND**  
**ALABAMA POWER COMPANY**

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257, Subpart D) and the State of Alabama's ADEM Admin. Code Chapter 335-13-15 require the owner or operator of an existing CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. Per § 257.64 and ADEM Admin. Code r. 335-13-15-.03(5), the owner or operator must demonstrate that the facility is not located within an unstable area; otherwise, a demonstration must be made 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. An unstable area is defined in the regulations as a location that is susceptible to natural or human induced events or forces capable of impairing the integrity, including structural components of some or all 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.

The CCR surface impoundment located at Alabama Power Company's Plant Gorgas, also referred to as the Plant Gorgas Gypsum Pond, is located on Plant Gorgas property, near Parrish, Walker County, Alabama. The CCR unit is formed by excavations in previously placed mine spoil material as well as the construction of earthen embankments. The embankments have been properly constructed using mechanical stabilization and compacted to a density sufficient to withstand the range of loading conditions. Factor of safety assessments have indicated that the embankments meet the generally accepted minimum factors of safety. The foundation soils beneath the embankments and the CCR unit generally consist of previously placed mine spoils. Calculations at the time of original design documented that strains in the liner due to consolidation of the underlying mine spoil would be on the order of 1 percent or less, well within the manufacturer's tolerable strain limit of 4 percent. The Gypsum Pond is not located within karst terrain, and the site and its surrounding areas are not subject to mass movements (e.g. landslides).

I hereby certify that the unstable area location restriction demonstration was conducted in accordance with and meets the requirements of 40 C.F.R. Part 257.64 and ADEM Admin. Code r. 335-13-15-.03(5).

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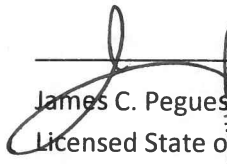
**LOCATION RESTRICTION DEMONSTRATION  
PLACEMENT ABOVE THE UPPERMOST AQUIFER  
(40 C.F.R. 257.60 and ADEM Admin. Code r. 335-13-15-.03(1))  
PLANT GORGAS GYPSUM POND  
ALABAMA POWER COMPANY**

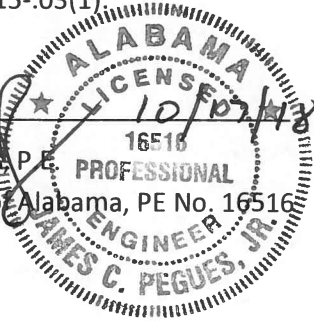
EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257, Subpart D) and the State of Alabama's ADEM Admin. Code Chapter 335-13-15 require the owner or operator of an existing CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. Per § 257.60 and ADEM Admin. Code r. 335-13-15-.03(1), the owner or operator must demonstrate that the facility has been constructed with a base that is located no less than 1.52 meters (5 feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).

The CCR surface impoundment located at Alabama Power Company's Plant Gorgas, also referred to as the Plant Gorgas Gypsum Pond, is located on Plant Gorgas property, near Parrish, Walker County, Alabama. At the time of siting and design of the facility, a series of borings were drilled and piezometers installed to establish normal and seasonal high groundwater levels. Groundwater level readings were taken over a period of several months at the site.

At the time of final design, the base of the facility was established so that it was greater than 5 feet above the measured seasonal high groundwater level, and the CCR unit was constructed in accordance with the design elevations. The highest measured groundwater level on the north end of the pond was approximately EL 373 feet, and the lowest base elevation of the disposal cell in this area was EL 420 feet. Similarly, towards the south end of the pond, the highest groundwater level was measured to be approximately EL 300 feet, with the base of the pond at EL 402 feet.

I hereby certify that the uppermost aquifer separation location restriction demonstration was conducted in accordance with and meets the requirements of 40 C.F.R. Part 257.60 and ADEM Admin. Code r. 335-13-15-.03(1).

  
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**LOCATION RESTRICTION DEMONSTRATION FOR WETLANDS  
PLANT GORGAS GYPSUM POND  
ALABAMA POWER COMPANY**

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 C.F.R. Part 257, Subpart D) and ADEM's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" (ADEM Admin. Code Chapter 335-13-15) require the owner or operator of an existing CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. Per § 257.61 and r. 335-13-15-.03(2), the owner or operator must demonstrate that the facility is not located within a wetland; otherwise, a demonstration must be made that certain criteria are met, as outlined in § 257.61(a)(1) and r. 335-13-15-.03(2)(a).

Federal regulations govern wetlands under Section 404 of the Clean Water Act (CWA) as among the set of waters included in the definition of "waters of the United States." 40 C.F.R. § 122.2. Those same regulations exclude "[w]aste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act." *Id.* & note 1. State regulations reference back to the federal program under CWA § 404. ADEM Admin. Code r. 335-13-15-.03(2).

The gypsum pond at Alabama Power Company's Plant Gorgas is a treatment pond designed to meet the requirements of the CWA. Therefore, the gypsum pond is neither a wetland nor in a wetland.


Because the gypsum pond is not located in a wetland, further demonstration under § 257.61(a)(1) and r. 335-13-15-.03(2)(a) is not required. Nevertheless, it has been determined that the facility does not cause or contribute to:

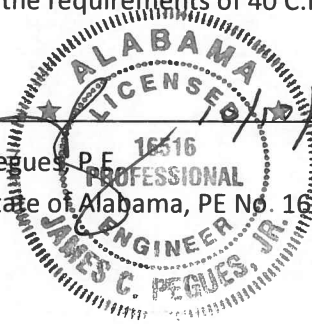
- A violation of any applicable state or federal water quality standard;
- A violation of any applicable toxic effluent standard or prohibition under CWA § 307;
- Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat protected under the Endangered Species Act of 1973;
- A violation of any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

To the contrary, the purpose of the pond is to facilitate compliance with the CWA and other applicable laws and regulations.

Separate documentation has demonstrated regular maintenance, inspection, and dust control practices, as well as perimeter embankments that are stable and meet all required minimum factors of safety outlined in the federal and state CCR rules. The gypsum pond has been designed to account for the volume of CCR and water contained in the facility. Therefore, there is no basis to find that the gypsum pond would cause or contribute to significant degradation of wetlands, including through erosion, stability, and migration potential of native wetland soils, muds and deposits or dredged and fill materials used to support the CCR unit; through the volume and chemical nature of the coal combustion residuals stored in the facility; through impacts to fish, wildlife or other aquatic resources or their habitat; or any other discernible factors.

I hereby certify that the wetlands location restriction demonstration was conducted in accordance with and meets the requirements of 40 C.F.R. § 257.61 and ADEM Admin. Code r. 335-13-15-.03(2).

  
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The seal is circular with a double-line border. The outer ring contains the text 'ALABAMA' at the top and 'JAMES C. PEGUES, JR.' at the bottom. The inner ring contains 'LICENSED' at the top and 'ENGINEER' at the bottom. In the center, the text reads 'PROFESSIONAL' and '16516'.