

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

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Rule (40 C.F.R. § 257.100(e)(2)(i)) and ADEM's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" (ADEM Admin. Code r. 335-13-15-.07(1)(e)2.(i)) require the owner or operator of an inactive 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.

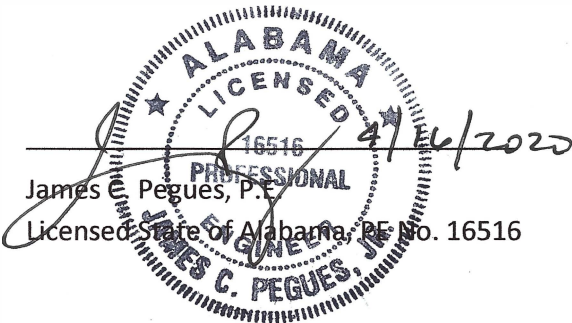
The CCR surface impoundment located at Alabama Power Company's Plant Gadsden, also referred to as the Plant Gadsden Ash Pond, is located on Plant property in Gadsden Alabama. The Plant Gadsden Ash Pond has undergone physical closure pursuant to the requirements of § 257.102(d) and ADEM Admin. Code r. 335-13-15-.07(3)(d). As a result, the Plant Gadsden Ash Pond no longer impounds free water nor receives CCR.

A review of available publications from the USGS and the Geological Survey of Alabama indicate the closed Plant Gadsden Ash Pond 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. § 257.62 and ADEM Admin. Code r. 335-13-15-.03(3).

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

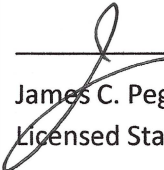
EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Rule (40 C.F.R. § 257.100(e)(2)(i)) and ADEM's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" (ADEM Admin. Code r. 335-13-15-.07(1)(e)2.(i)) require the owner or operator of an inactive 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 Gadsden, also referred to as the Plant Gadsden Ash Pond, is located on Plant property in Gadsden, Alabama. The Plant Gadsden Ash Pond has undergone physical closure pursuant to the requirements of § 257.102(d) and ADEM Admin. Code r. 335-13-15-.07(3)(d). As a result, the Plant Gadsden Ash Pond no longer impounds free water nor receives CCR.

An analysis to determine horizontal ground motions was performed. The input ground motions were selected based on sources identified using the interactive de-aggregation of the USGS-published 2014 Uniform Hazard Response Spectrum (UHRS) at a 2% Probability of Exceedance in 50 years. Site-specific design spectral accelerations, based on the risk-targeted maximum considered earthquake (MCE_R), were determined using the USGS US Seismic Design Maps and 2015 NEHRP Provisions for Site Class D. The median ground motions were then used to calculate a pseudostatic seismic coefficient using the approach suggested by Bray and Tavaslarou (2009). The procedure calculates the seismic coefficient for an allowable seismic displacement and a probability of exceedance of the displacement. For this analysis, an allowable displacement of 0.5 feet and a probability of exceedance of 16% were conservatively selected, providing a seismic coefficient of $k_h = 0.078g$ for horizontal acceleration in the

stability analysis. Based on this analysis, the closed Plant Gadsden Ash Pond is not located within a Seismic Impact Zone.

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. § 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 GADSDEN ASH POND
ALABAMA POWER COMPANY

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Rule (40 C.F.R. § 257.100(e)(2)(i)) and ADEM's "Standards for the Disposal of Coal Combustion Residuals in Landfills in Surface Impoundments" (ADEM Admin. Code r. 335-13-15-.07(1)(e)2.(i)) require the owner or operator of an inactive 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 Gadsden, also referred to as the Plant Gadsden Ash Pond, is located on Plant property in Gadsden, Alabama. The Plant Gadsden Ash Pond has undergone physical closure pursuant to the regulatory requirements of § 257.102(d) and ADEM Admin. Code r. 335-13-15-.07(3)(d). As a result, the Plant Gadsden Ash Pond no longer impounds free water nor receives CCR.

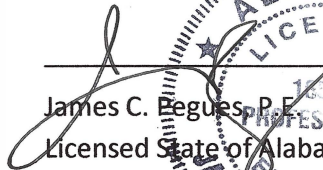
The Plant Gadsden Ash Pond was formed by engineered perimeter embankments and these embankments now form the boundaries of the closed facility. The perimeter embankments were properly constructed using mechanical stabilization and compacted to a density sufficient to withstand the range of loading conditions. Factor of safety assessments have indicated that the embankments meet the minimum factors of safety required under the federal and state CCR rules. The foundation soils beneath the embankments and the Plant Gadsden Ash Pond generally consist of stable and competent medium stiff to stiff clays and silts with occasional medium dense clayey sands, further underlain by

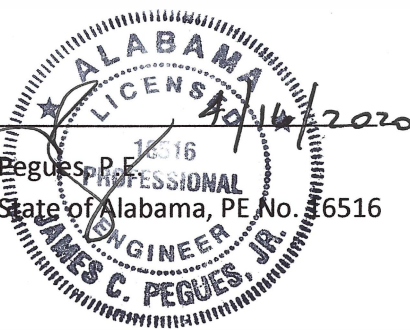
partially weathered to relatively unweathered shale. The site and its surrounding areas are not subject to mass movements (e.g. landslides).

The Plant Gadsden Ash Pond is not located within an area known for active karst geology. Based on the findings of borings drilled during various studies of the former surface impoundment, the parent bedrock is shale. The borings drilled within the CCR unit did not identify voids, cavities or other soil conditions that present a concern with regards to potentially damaging settlements or displacements.

Based on the above information, it has been determined that the closed Plant Gadsden Ash Pond is not located within an unstable area.

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


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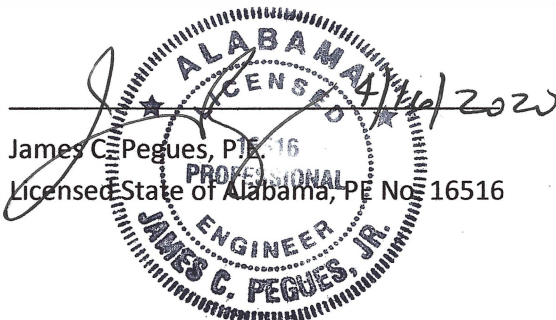
**LOCATION RESTRICTION DEMONSTRATION
PLACEMENT ABOVE THE UPPERMOST AQUIFER
(40 C.F.R. § 257.60 and ADEM Admin. Code r. 335-13-15-.03(1))
PLANT GADSDEN ASH POND
ALABAMA POWER COMPANY**

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Rule (40 C.F.R. § 257.100(e)(2)(i)) and ADEM's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" (ADEM Admin. Code r. 335-13-15-.07(1)(e)2.(i)) require the owner or operator of an inactive 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 Gadsden, also referred to as the Plant Gadsden Ash Pond, is located on Plant property in Gadsden, Alabama.

Based on a review of available groundwater data, the Plant Gadsden Ash Pond is absent the minimum 5-foot separation between the base of the CCR unit and the upper limit of the uppermost aquifer as required by 40 C.F.R. § 257.60 and ADEM Admin. Code r. 335-13-15-.03(1). The Plant Gadsden Ash Pond has undergone physical closure pursuant to the requirements of § 257.102(d) and ADEM Admin. Code r. 335-13-15-.07(3)(d). As a result, the Plant Gadsden Ash Pond no longer impounds free water nor receives CCR.

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LOCATION RESTRICTION DEMONSTRATION
WETLANDS (40 C.F.R. § 257.61 and ADEM Admin. Code r. 335-13-15-.03(2))
PLANT GADSDEN ASH POND
ALABAMA POWER COMPANY

EPA's "Disposal of Coal Combustion Residuals from Electric Utilities" Rule (40 C.F.R. § 257.100(e)(2)(i)) and ADEM's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" (ADEM Admin. Code r. 335-13-15-.07(1)(e)2.(i)) require the owner or operator of an inactive CCR surface impoundment to make a demonstration that the facility meets certain location restrictions. Per § 257.61 and ADEM Admin. Code 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)1.

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)(a)1.

The Plant Gadsden Ash Pond has undergone physical closure pursuant to the requirements of § 257.102(d) and ADEM Admin. Code. r. 335-13-15-.07(3)(d). As a result, the Plant Gadsden Ash Pond no longer impounds free water nor receives CCR. Prior to closure, the Plant Gadsden Ash Pond served as a treatment pond designed to meet the requirements of the CWA. Therefore, the ash pond is neither a wetland nor located in a wetland.

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

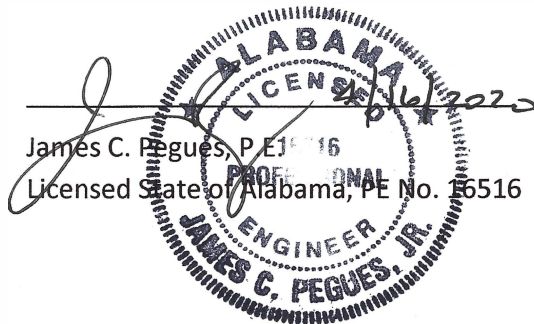
- A violation of any applicable state or federal water quality standard;
- A violation of any applicable toxic effluent standard or prohibition under CWA § 307;
- Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical 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, prior to closure, the purpose of the Plant Gadsden Ash Pond was 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 Plant Gadsden Ash Pond was designed to account for the volume of CCR and water contained in the facility. Therefore, there is no basis to find that the ash 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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