

**GROUNDWATER MONITORING SYSTEM CERTIFICATION**  
**40 CFR §257.91(f)**  
**PLANT WILLIAM C. GORGAS**  
**BOTTOM ASH LANDFILL**  
**ALABAMA POWER COMPANY**

The Environmental Protection Agency's "Disposal of Coal Combustion Residuals from Electric Utilities" Final Rule (40 CFR Part 257 and Part 261), 40 CFR §257.91(f) states:

*The owner or operator must obtain a certification from a qualified professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of this section [40 CFR §257.91].*

According to 40 CFR §257.91(a), the groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

1. Accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit; and
2. Accurately represent the quality of groundwater passing the waste boundary of the CCR unit.

40 CFR §257.91(b) states that the number, spacing, and depths of groundwater monitoring system wells must be determined based upon site-specific technical information that must include a characterization of:

- (1) Aquifer thickness, groundwater flow rate, groundwater flow direction, including seasonal and temporal fluctuations in groundwater flow; and
- (2) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

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40 CFR §257.91(c) requires the groundwater monitoring system to include the minimum number of monitoring wells necessary to meet the performance standard set forth in the rules. The monitoring system must contain a minimum of one upgradient and three downgradient monitoring wells, but consist of additional monitoring wells as necessary to accurately represent the quality of background groundwater that has not been affected by leakage from the CCR unit and the quality of groundwater passing the waste boundary of the CCR unit.

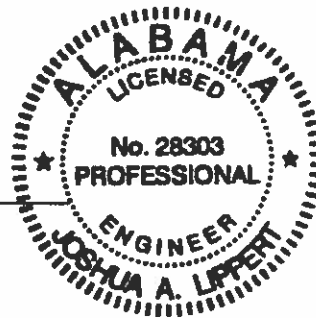
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**CERTIFICATION**

I, Joshua A. Lippert, certify that this report was prepared under my supervision and that the information contained herein is true and accurate to the best of my knowledge. Further, based on my experience and knowledge of the site, the groundwater monitoring network has been adequately designed and constructed to meet the requirements of 40 CFR 257.91.

*Joshua A. Lippert*

Joshua A. Lippert, P.E.  
Licensed State of AL, PE No. 28303  
10/17/2017



*Gregory B. Dyer*

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