

LOCATION RESTRICTIONS DEMONSTRATION
SEISMIC IMPACT ZONES 391-3-4-.10(3) and 40 CFR § 257.63
PLANT BRANCH CCR LANDFILL
GEORGIA POWER COMPANY

The US Environmental Protection Agency's (USEPA's) Final Rule for Disposal of Coal Combustion Residuals from Electric Utilities (40 CFR Part 257 and Part 261), § 257.63 and GA EPD CCR Rule, Chapter 391-3-4-.10(3), which incorporates the requirements of 40 CFR § 257.63 by reference, require that new CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in seismic impact zones unless 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. See Ga. Comp. R. & Regs. R. 391-3-4-.10(3)(a); 40 C.F.R. § 257.63(a).

USEPA 40 CFR § 257 defines a seismic impact zone as "an area having a 2 percent 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 United States Geological Survey (USGS) 2018 National Seismic Hazard Model Hazard Tool was used to estimate the maximum horizontal acceleration in the vicinity of the Plant Branch CCR Landfill. Site-specific coordinates were utilized for a site-specific peak ground acceleration corresponding to a seismic event with a 2,475-year return period (i.e., a 2 percent of greater probability of exceedance in 50 years). The results indicate that the estimated site-specific peak ground acceleration is 0.1466g. Therefore, the Plant Branch CCR Landfill (CCR Landfill) is located within a seismic impact zone.

The stability of the CCR Landfill and its structural components under seismic conditions were evaluated by performing Site Response Analysis, Pseudostatic Coefficient Calculations, Liquefaction Potential Evaluation, and Seismic Slope Stability Analysis, as described in the permit application and modification documents for CCR solid waste permit No. 117-008D(CCR). Geotechnical modeling software and relevant geotechnical material properties obtained from laboratory and in-situ testing at the CCR Landfill Site were used in the preparation of these analyses and calculations. Based on the results, the CCR Landfill and its structural components were deemed to be stable under the site-specific peak ground acceleration corresponding to a seismic event with a 2,475-year return period.

I hereby certify that the design for the CCR Landfill and its structural components at GPC's Plant Branch facility meets the requirements of GA EPD Rule 391-3-4-.10(3) and USEPA Rule 40 CFR § 257.63.



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Date