



REGION 4 ADMINISTRATOR

ATLANTA, GA 30303

February 13, 2024

Mr. Jeffrey W. Cown
Director
Georgia Environmental Protection Division
2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334

Dear Director Cown:

The U.S. Environmental Protection Agency is writing this letter regarding the final coal combustion residuals (CCR) permit issued on November 13, 2023, by the Georgia Environmental Protection Division (GAEPD) for Plant Hammond's Ash Pond 3 (AP-3) (Permit). The final Permit and the accompanying Response to Comments document indicate that the GAEPD may be implementing the requirements of its partial federally approved CCR Permit Program in a manner that is less protective than the federal regulations require.

During several meetings prior to issuance of the final Permit, the EPA expressed concern with the adequacy of the closure plan and the groundwater monitoring plan included in the draft permit for AP-3. These concerns included the technical adequacy of the groundwater modeling performed in support of the closure and groundwater monitoring plans. The EPA informed the GAEPD that its concerns were based on the federal closure performance standards. Subsequently, the GAEPD issued the final Permit. The EPA has reviewed the final Permit and continues to believe that the concerns raised in our meetings were not adequately addressed. See Enclosure 1 (Plant Hammond AP-3 Final Permit – EPA's Initial Technical Concerns). Therefore, the final Permit may not be consistent with federal regulatory requirements.

In issuing the final Permit, the GAEPD concluded that the Permit meets the closure performance standards set forth in Ga. Comp. R. and Regs. 391–3–4-.10(7), which incorporates 40 C.F.R. § 257.102(d) by reference. The GAEPD's Response to Comments document includes detailed statements regarding several key provisions of the CCR closure regulations. These statements and the final Permit appear to conflict with the federal regulatory requirements.¹

¹ Additional information on the federal regulatory requirements relating to the closure of CCR units with waste in contact with groundwater can be found in the following documents: (1) *80 Fed. Reg. 21,302 (April 17, 2015) (EPA's Final CCR Rule)*; (2) *U.S. EPA. Denial of Alternative Closure Deadline for General James M. Gavin Plant, Cheshire, Ohio (November 18, 2022)*

The federal regulations establish several requirements for a unit to close with CCR in place, and four performance standards are particularly relevant to the current situation:

A CCR unit must be closed in a manner that will: (1) “control, minimize or eliminate, to the maximum extent feasible,” post-closure infiltration of liquids into the waste; (2) “control, minimize or eliminate, to the maximum extent feasible,” post-closure releases of CCR or leachate out of the unit to the ground or surface waters; (3) preclude the probability of future impoundment of water, sediment, or slurry; and (4) free liquids must be eliminated either by removing liquid wastes or solidifying the remaining wastes and waste residues, prior to installation of the cover system.

See 40 C.F.R. § 257.102(d). Each of these four performance standards must be met at every unit. The Agency is unaware of a circumstance where these standards could be, or have been, met when the waste in a closed, unlined impoundment remains in contact with groundwater that freely migrates in and out of the CCR remaining in the closed unit. See Gavin Decision at pg. 32.

Based on the Plant Hammond Permit record, it is not clear how these four standards were met. For example, the CCR regulations (State and federal) require the elimination of free liquids, including free liquids derived from groundwater, prior to installing a final cover system. See 40 CFR 257.102(d)(2)(i). In the case of the Plant Hammond Permit, at the time of closure, approximately 10% of CCR remained in contact with groundwater, which means that free liquids were not eliminated prior to installation of the final cover system.

In addition, the GAEPD’s Response to Comments document includes statements regarding the closure performance standards relating to closure in place, including interpretations of the terms “free liquids” and “infiltration,” that appear to conflict with the federal CCR requirements. As referenced above, the GAEPD’s interpretation of free liquids does not appear to include free liquids derived from groundwater. With respect to infiltration, the EPA has been clear that the term “infiltration” as used in the federal CCR regulations, refers to any kind of movement of liquid into a CCR unit from any direction, including the top, sides, and bottom of the unit. In contrast, the GAEPD asserts in its Response to Comments document that infiltration “does not include the lateral flow of groundwater.” Although the final Permit contemplates the use of certain engineering controls at Plant Hammond, the EPA’s initial assessment is that these controls are not sufficient to prevent the continued lateral flow of groundwater through the closed unit.

(Gavin Decision) at <https://www.regulations.gov/document/EPA-HQ-OLEM-2021-0590-0100>; (3) 88 Fed. Reg. 31,982 (May 18, 2023) (EPA’s Proposed Legacy Rule); and (4) 88 Fed. Reg. 55,220 (August 14, 2023) (EPA’s Proposed Denial of Alabama’s CCR Permit Program).

The EPA is committed to working with the GAEPD to resolve its concerns regarding program implementation, to ensure the GAEPD's permits and GAEPD's CCR program are consistent with federal requirements, and to find a path to address Plant Hammond's existing Permit. It is my understanding that the GAEPD has additional permit matters pending, so I suggest that our respective staff schedule a call to discuss these matters and next steps. To begin these discussions, please have your team contact Ramon Torres at torres.ramon@epa.gov or 404-562-8454.

Sincerely,

Jeaneanne M. Gettle
Acting Regional Administrator

Enclosure

Enclosure 1
Plant Hammond AP-3 Final Permit
EPA's Initial Technical Concerns

The EPA identified technical concerns with the groundwater model used to inform closure in place decisions. During our review, we also identified concerns with the groundwater monitoring system's ability to adequately monitor the uppermost aquifer. Based on the EPA's review of the final Permit and associated documents, the EPA has identified the following initial technical concerns:

Groundwater Model

Although Georgia Power updated its groundwater model in response to initial concerns raised by GAEPD, the updated groundwater model remains deficient in the following ways:

- a. Model calibration issues resulted in higher than acceptable "normalized root mean square" (NRMS) values;
- b. Model inputs did not include critical site-specific field measurements, such as hydraulic conductivity values, from each groundwater flow zone and current surface water elevations;
- c. The model failed to adequately investigate and consider possible conduit flow and vertical leakage associated with the highly weathered limestone bedrock and voids beneath AP-3;
- d. The model used transient modeling without first properly calibrating a steady state model;
- e. The model failed to account for uncertainty regarding the efficacy of the TreeWell® network, especially during drought conditions characteristic of the summer months or during dormant conditions during the winter months; and
- f. The model failed to predict the speed of post-closure groundwater flow.

Groundwater Monitoring System

In addition to the model deficiencies noted above, the groundwater monitoring system incorporated into the final Permit appears inadequate to characterize the uppermost aquifer and may not capture all contaminant pathways. The EPA's specific concerns with respect to the groundwater monitoring system include the following:

- a. Groundwater elevations are currently above most of the monitoring well screens, meaning that the uppermost portions of the uppermost aquifer are not being adequately monitored.
- b. There are limestone voids below the groundwater monitoring network, which are contaminant pathways that require monitoring. Georgia Power has asserted that these voids are likely filled with mud and GAEPD declined to require additional investigation based on this assertion; however, more definitive field investigative tools such as dye tracing and pump testing should have been conducted to adequately evaluate these potential pathways.
- c. Based on the EPA's review of the adjacent Ash Pond-1 groundwater data, some groundwater appears to flow in a southwestern to southern direction away from the southwestern corner of AP-3. There are no detection monitoring wells located along this southwestern waste boundary at the corner of AP-3.