



August 10, 2016

Jeff Cown, Chief, Land Protection Branch
Georgia Environmental Protection Division
4244 International Parkway, Suite 104
Atlanta, GA 30354

Submitted via E-mail to: EPDComments@dnr.state.ga.us

Subject: CCR Rule amendments

Dear Mr. Cown:

The Georgia Water Coalition submits this letter in response to the Environmental Protection Division's (EPD's) proposed amendments to the Rules for Solid Waste Management (Georgia Comp. R. & Regs. 391-3-4) related to coal combustion residuals (hereinafter, "CCR" or "coal ash").

The Georgia Water Coalition (GWC) is a group of more than 230 organizations representing well over a quarter of a million Georgians including farmers, homeowner and lake associations, business owners, sportsmen's clubs, conservation organizations, professional associations and religious groups. The Georgia Water Coalition's mission is to protect and care for Georgia's water resources, which are essential for sustaining Georgia's prosperity, providing clean and abundant drinking water, preserving diverse aquatic habitats for wildlife and recreation, and strengthening property values. A list of coalition members is provided as Attachment 1.

We commend EPD for initiating a rulemaking process to address CCR wastes and appreciate the opportunity to comment, as well as EPD's decision to hold two public hearings. The GWC also appreciates that EPD incorporated certain suggestions we included in our comments on the strawman proposal in these proposed rules. However, we have a number of outstanding concerns and recommendations.

We urge EPD to address the following critical issues:

- Coal ash waste cannot be safely disposed of in unlined, leaking pits adjacent to our rivers, lakes, and streams or above significant groundwater recharge areas. Georgia Power has announced its intent to leave the vast majority of its coal ash on-site, in unlined pits. At several sites, coal ash contaminants have already been detected in groundwater beneath coal ash ponds. We call on EPD to ensure that all coal ash is appropriately disposed of in lined, permitted facilities away from drinking water sources, and not in leaking, unlined pits.

- EPD must impose more stringent groundwater monitoring requirements on owners and operators of CCR sites, municipal solid waste landfills, and commercial and industrial landfills accepting CCR waste. We request that groundwater monitoring occur on a monthly, rather than semi-annual, basis. We further request that boron be added to Appendix IV, and that regular detection monitoring include all pollutants in Appendix III and IV. Enhancing groundwater monitoring requirements will ensure that leaks are detected, assessed, and remedied quickly.
- EPD must expand the scope of its proposed CCR regulations to include municipal solid waste landfills and commercial and industrial landfills that accept, or have accepted, CCR waste. These facilities will accept the same waste and should therefore be held to the same standards. Further, communities must be informed when neighboring landfills begin to accept CCR and when leaks occur.
- EPD must ensure the public is notified of CCR storage and disposal plans and has an opportunity to participate and provide input. EPD is proposing to exempt “private industry solid waste disposal facilities” from public hearing requirements under Georgia’s solid waste regulations. This proposed exemption creates ambiguity in the regulations. If CCR units are included in the definition of “private industry solid waste disposal facilities,” this exemption will eliminate a critical means for public participation in communities where CCR is disposed of and stored.

These issues and additional recommendations are discussed in detail below.

I. EPD must consider Georgia Power’s coal ash pond closure plans and preliminary groundwater monitoring data in the development of CCR rules in Georgia

In June 2016, Georgia Power declared its intention to stop accepting coal ash at all 29 of its coal ash ponds in the next 3 years and to close all of its coal ash ponds in the years that follow.¹ Around the same time, Georgia Power released groundwater monitoring results for six coal ash sites, pursuant to requirements under the federal CCR rule.² EPD should use this newly available, relevant information in the development of these CCR rules.

A. Cap-in-place will not stop unlined, leaking coal ash pits from polluting Georgia’s ground and surface waters

According to Georgia Power’s coal ash pond closure plans, the vast majority of ash will remain buried on-site in unlined landfills, indefinitely. Massive amounts of coal ash will be buried forever in unlined pits adjacent to waterways at Plants Bowen, Branch, Hammond, McDonough, Scherer, Wansley, and Yates. These facilities span the state and are located along rivers, lakes, and streams in the Coosa River basin, Altamaha River basin, Chattahoochee River basin, and Savannah River basin.

Cap-in-place closure is not ‘clean-up’ and will not stop ground and surface water pollution. Examples of continued groundwater pollution at sites closed by capping coal ash in place are included in GWC’s comments on the strawman rules, which are included as Attachment 2. And, as discussed in our

¹ Georgia Power Ash Pond Closures Update, June 2016, available at https://www.georgiapower.com/environment/docs/CCR/1601738_ASHPOND_CLOSURES.pdf.

² Georgia Power Groundwater Results Compared to Georgia Groundwater Standards for Regulated Substances (hereinafter “GPC Initial Groundwater Results”), June 2016, available at <https://www.georgiapower.com/environment/docs/CCR/GW-MONITORING-RESULTS-CHART.pdf>.

initial comments, some studies show that capping coal ash in place can increase contamination by creating an oxygen-free environment that exacerbates arsenic leaching.³

In all likelihood, these coal ash impoundments and landfills are already leaking. To comply with requirements under the federal CCR rule, Georgia Power has begun groundwater monitoring at six facilities (Plants Hammond, Yates, McIntosh, Wansley, Scherer, and Bowen). At half of these sites, Georgia Power detected violations of Georgia's Hazardous Site Response Act groundwater standards.⁴ At Plant Hammond, Georgia Power detected arsenic at more than 30 times the state hazardous site groundwater standard.⁵ It detected arsenic at more than 3 times the state standard at Plant McIntosh.⁶ At Plant Yates, results revealed exceedances of the groundwater standards for both beryllium and selenium.⁷

At all six of these sites, Georgia Power detected other common coal ash contaminants, including boron, calcium, chloride, cobalt, lithium, molybdenum, sulfate, and total dissolved solids.⁸ Much of this information is not yet publicly available, but an Open Records Act request revealed extremely high boron levels at both Plants Hammond and McIntosh; the highest found at Plant Hammond was 15.4 mg/L.⁹

EPD must seriously consider these groundwater monitoring results and should develop these rules with existing, known contamination in mind. Where groundwater contamination may already be caused by leaking coal ash ponds and landfills, EPD should not allow Georgia Power to use cap-in-place closure.

B. Moving coal ash to lined, permitted landfills is far more protective of Georgia's communities and drinking water supplies

The best way to dispose of coal ash is to excavate it from unlined, leaking pits and move it to lined, permitted landfills. Georgia Power is capable of doing this, and in fact, plans to do so with coal ash in 9 separate coal ash ponds. It has announced plans to excavate coal ash to permitted landfills at Plant Hammond (3 of 4 coal ash ponds); Plant Kraft (1 coal ash pond); Plant McManus (1 coal ash pond); Plant Mitchell (3 coal ash ponds); and Plant McIntosh (1 coal ash pond). Most of these are among the smallest of Georgia Power's coal ash ponds. For example, the coal ash pond at Plant Kraft is 8 acres – minuscule compared with some of the ponds that will be left in place, such as the ash pond at Plant Scherer, which spans 553 acres. Thus, the vast majority of Georgia Power's coal ash will be capped in unlined pits. Georgia Power has the ability to excavate and move ash, and we request that EPD push for excavation and removal at all coal ash ponds across the state, especially those ponds where Georgia Power's early groundwater monitoring is already detecting coal ash contaminants.

³ See, e.g., Grace E. Schwartz et al., *Leaching potential and redox transformations of arsenic and selenium in sediment microcosms with fly ash*, Applied Geochemistry 67 (2016): 177-185. DOI: 10.1016/j.apgeochem.2016.02.013.

⁴ GPC Initial Groundwater Results.

⁵ Georgia Power Hazardous Site Response Act Release Notification/Reporting Form for Plant Hammond, at 5 (June 27, 2016).

⁶ Georgia Power Hazardous Site Response Act Release Notification/Reporting Form for Plant McIntosh, at 5 (June 27, 2016).

⁷ GPC Initial Groundwater Results.

⁸ *Id.*

⁹ While Georgia does not have a groundwater standard for boron, several other states do; boron levels detected at Plants McIntosh and Hammond exceed those state standards in a number of wells. Drinking water guidelines for boron in other states are as follows: California: 1 mg/L; Wisconsin: .9 mg/L; Florida, Maine, New Hampshire: .63 mg/L; Minnesota: .6 mg/L. See U.S. Environmental Protection Agency Drinking Water Health Advisory for Boron, at 37 (May 2008), available at https://www.epa.gov/sites/production/files/2014-09/documents/drinking_water_health_advisory_for_boron.pdf.

As discussed in GWC's comments on the strawman rule, other utilities in the region are doing more to protect public health and the environment by excavating and moving coal ash to lined, permitted facilities, rather than capping existing CCR units in place. At a number of sites, utilities in North Carolina and South Carolina have agreed to remove coal ash from unlined impoundments to dry, lined storage away from waterways or to recycle the ash for concrete. In North Carolina, Duke Energy has committed to excavating ash from ponds and moving it to lined landfills at 7 sites.¹⁰ Coal ash removal is already underway in South Carolina, where utilities have agreed to clean up all 9 of their coal ash sites.¹¹ In South Carolina, excavated ash will be disposed of in lined, permitted commercial landfills.¹² In total, approximately 53 million tons of coal ash will be excavated and moved to lined landfills in the Southeast.

Again, we encourage EPD to consider CCR unit closure methods as it develops and implements Georgia's CCR regulations. Excavating coal ash from unlined pits along our state's waterways and moving it to lined, permitted facilities with appropriate safeguards affords a greater level of protection to Georgia's surface and groundwater resources and should be preferred over cap-in-place closure.

II. EPD must strengthen its proposed CCR rules to better protect Georgia's waterways and communities

The GWC encourages EPD to adopt the following specific recommendations on its proposed amendments to the Solid Waste Management regulations codified in Georgia Comp. R. & Regs. 391-3-4.

391-3-4-.01 Definitions

- Proposed 391-3-4-.01(9) and (10): We recommend that the rules clarify that the definitions of "surface impoundment" and "CCR landfill" include closed CCR units (e.g., the already closed coal ash ponds and landfills at Georgia Power's Plant Arkwright):
 - EPD should revise the definition of "surface impoundment" as follows (proposed additions are provided in italics): "CCR surface impoundment or impoundment means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR. This definition includes both active and inactive surface impoundments, new and expanded surface impoundments, dewatered surface impoundments, *and* NPDES-CCR surface impoundments, *and* coal ash impoundments that have already been closed, including those closed by capping CCR in place."
 - EPD should revise the definition of "CCR Landfill" provided in proposed rule 391-3-4-.01(9) by amending the last sentence in the current proposed definition as follows (proposed edits in italics): "This definition includes both active and inactive landfills *and* CCR landfills

¹⁰ These include Duke's Riverbend, Asheville, Sutton, Dan River, Weatherspoon, Lee, and Cape Fear sites. Duke is also excavating two lagoons at its Cliffside facility.

¹¹ See, e.g., David Wren, *Coal ash removal at Santee Cooper's power plants years ahead of schedule*, The Post and Courier (Jan. 26, 2015), available at <http://www.postandcourier.com/article/20150126/PC05/150129537> (last accessed May 23, 2016); Barbara Vergetis Lundin, *SC utilities cleaning up their (coal ash) acts*, Smart Grid News (Aug. 4, 2015), available at <http://www.smartgridnews.com/story/sc-utilities-cleaning-their-coal-ash-acts/2015-08-04> (last accessed May 23, 2016). Bruce Henderson, *Most Duke Energy ash ponds are high-risk, draft report says*, The Charlotte Observer (Dec. 17, 2015), available at <http://www.charlotteobserver.com/news/local/article50267110.html>.

¹² S.C. Code § 58-27-255(A) (requiring CCR to be disposed of in a Class 3 commercial landfill unless the CCR is located on the generating unit site, intended for beneficial reuse, placed in beneficial reuse, or put in a landfill meeting the South Carolina Department of Health and Environmental Control Regulation 61-107, owned and operated by the entity that produced the CCR waste).

that have already been closed, including those closed by capping CCR in place.”

- Proposed 391-3-4-.01(19): The definition of “contaminant which is likely to pose a danger to human health” found in proposed 391-3-4-.01(19) is too narrow. Under this definition, a contaminant will not be found to pose a danger to human health unless it is found in Appendix I, II, III, or IV at a level above a groundwater protection standard. There are no groundwater protection standards in Georgia for a number of common coal ash contaminants, including boron. As such, under the proposed definition, boron could never fall within the definition of a “contaminant which is likely to pose a danger to human health” – regardless of the level at which it is present.
 - We propose that EPD edit proposed 391-3-4-.01(19) so that it reads: “Contaminant which is likely to pose a danger to human health means any contaminant found at levels confirmed above a groundwater protection standard or any contaminant found at a statistically significant increase above background levels.”

391-3-4-.02 Solid Waste Handling Permits

- Proposed 391-3-4-.02(4)(a): We support the inclusion of “lateral expansion of a CCR surface impoundment” in the list of “major modifications.” However, EPD should expand this further and change proposed 391-3-4-.02(4)(a)3 to read, “A modification which involves a lateral expansion of a CCR unit.” This change would ensure that all lateral expansions of CCR units are classified as major modifications.
- Proposed 391-3-4-.02(4)(a): We strongly recommend that EPD include the following as 391-3-4-.02(4)(a)7: “A modification which involves an existing landfill that accepts CCR in significant volumes—in 5% of daily tonnage or more than 12,400 tons per day.” CCR waste differs substantially from municipal solid waste in terms of the contaminants it contains. This change is critical to ensure that the public has an opportunity to participate in the permit modification process. See 391-3-4-.02(4)(a), explaining that major modifications “require closer review and public input than minor modifications.” This recommendation is supported by existing regulations. Under Rule 391-3-4-.01(43), municipal solid waste landfills (MSWLs) are defined to allow for only a “*small quantity*” of industrial solid waste. When significant volumes of industrial waste, including CCR, are accepted, a landfill ceases to fit EPD’s own definition of MSWL.
- Proposed 391-3-4-.02(4)(a): We recommend that EPD include the following as 391-3-4-.02(4)(a)8: “A change in status of any CCR unit constitutes a major modification.” This would include, but not be limited to, the dewatering of an existing CCR impoundment, the closure of a CCR impoundment or landfill, or the transition from a CCR impoundment to a CCR landfill. Changes in status must also be subject to public comment before a new or amended permit is issued.
- Proposed 391-3-4-.02(4)(c)6: We *strongly oppose* EPD’s proposed exception for “private industry solid waste disposal facilities” under this provision. All major modifications of solid waste handling permits trigger public hearing requirements. The definition of “private industry solid waste disposal facilities” already exists in the regulations and may be broad enough to include CCR units; however, ambiguity exists because EPD is proposing a new definition for CCR unit that may be separate and distinct from “private industry solid waste disposal facilities.” As such, we view this proposed exemption as a means of eliminating public notice and hearing requirements from CCR units. Due to the close proximity of private property, homes, and groundwater wells to CCR units, private industry solid waste disposal facility owners and operators must be required to hold a public hearing as well as certify that such a hearing was conducted. This language should be removed from proposed 391-3-4-.02(4)(c)6 as well as 391-3-4-.03(4) discussed below.

391-3-4-.03 Public Participation

- Proposed 391-3-4-.03(4): As noted in our above comments on proposed 391-3-4-.02(4)(c)6, we oppose EPD's proposed language excepting "private industry solid waste disposal facilities" from the public participation requirements in 391-3-4-.03(4). We strongly oppose removing any public notice and hearing requirements that may apply to CCR units. Any city, county, group of counties, or authority beginning a process to select a site for a municipal solid waste disposal facility shall first call a public meeting as described in this section. Due to the close proximity of private property, homes, and groundwater wells to CCR units, private industry solid waste disposal facility owners and operators should be required to hold a public hearing as well as certify that such a hearing was conducted. Private industry solid waste disposal facility owners and operators should not be exempt from this important requirement.
 - At the July 27, 2016 public hearing, EPD indicated that "private industry disposal facilities" are exempt from the hearing requirement by statute. We disagree and urge EPD to eliminate this proposed change to existing regulations. Private industry disposal facilities, which include CCR units, should be subject to the same public participation requirements as municipal solid waste landfills. The federal CCR rule requires certain information to be posted online; however, this requirement does not provide, and is no substitute for, an opportunity for actual public participation. Public hearings and comment opportunities are needed to fill that void.

391-3-4-.07(4) Landfill Design and Operations

- Existing 391-3-4-.07(4)(a): Under existing 391-3-4-.07(4)(a), Industrial Waste Disposal Facilities can seek a variance from the Director to avoid installation of liners, leachate collection systems and other requirements. We support EPD's change to exempt CCR units from this section and instead require CCR units to meet the requirements of 391-3-4-.10. While CCR sites are exempt from this section, we remain concerned about the conditions and opportunities for variances in 391-3-4-.10(11).

391-3-4-.07(5) Landfill Design and Operations

- Proposed 391-3-4-.07(5): The proposed rule will require owners and operators of MSWUs and commercial and industrial landfills to incorporate a "CCR management plan." We generally support the idea of requiring a CCR management plan but cannot meaningfully evaluate this language without any information describing what a CCR management plan is or what it will do. We request that EPD provide more information as to exactly what a CCR management plan will require. EPD could define "CCR management plan" in its proposed regulations. For example, CCR management plans should include, at a minimum, details about treatment of leachate for coal ash contaminants, groundwater monitoring plans, procedures for reporting and notifying the public of any releases, and plans for remediation and clean-up following any releases. Plans should also include background information about the site, an explanation of how it satisfies siting requirements and location restrictions, and operation and design changes incorporated as a result of the decision to accept CCR.
 - GWC also urges EPD to classify the submission and incorporation of a CCR management plan as a "major modification." To make this change, EPD should modify proposed 391-3-4-.07(5) by replacing the "minor modification" with "major modification." EPD should also include submission and incorporation of a CCR management plan in the list of activities that constitute a "major modification" under 391-3-4-.02(4)(a).

391-3-4-.10(1) Applicability

- Proposed 391-3-4-.10(1): At the July 27, 2016 public hearing, EPD represented that Georgia's proposed CCR rules would apply to all CCR units, including those that are already "closed" by cap-in-place. EPD should expressly include in proposed 391-3-4-.10(1) closed CCR units, including those that have already been closed by capped in place. For clarity, EPD should also exclude 40 C.F.R. 257.50(d) and (e) from incorporation into its state CCR regulations.
- Proposed 391-3-4-.10(1): We strongly urge EPD to apply its CCR regulations to MSWLs and commercial and industrial landfills that receive CCR and for EPD to eliminate the exemption for MSWLs in proposed 391-3-4-.10(1)(b)4. To make this change, EPD should add MSWLs and commercial and industrial landfills to the list of facilities required to comply with the regulations under proposed 391-3-4-.10(1)(a).
 - EPD stated at the July 27, 2016 public hearing that all requirements applying to CCR units already apply to MSWLs. The GWC believes this is oversimplified and untrue. For example, as proposed, there is no public notice when a MSWL begins to accept CCR. The federal CCR rule requires a number of materials to be posted on a publicly available website; no similar requirement exists for MSWLs. The federal CCR rule and proposed state CCR rule require that fugitive dust controls be put in place; as we understand it, no similar requirement exists for MSWLs.
 - Electric utilities in Georgia understand the risks involved with hazardous waste stream management. As parties currently or previously responsible for sites listed on the Georgia EPD's *Hazardous Site Inventory* (HSI), they now seek to manage CCR within a new, additional regulatory framework as potentially responsible parties.¹³ CCR stored on utility property or at municipal solid waste landfills could theoretically result in a property's inclusion on the state's HSI. Given energy utility operators' history and experience with hazardous waste management in Georgia, it would seem reasonable that MSWL operators should be subject to the same regulatory framework and protections and not be exempted from the CCR portion of the proposed rules. Furthermore, given the state's experience regulating former energy and landfill sites on the HSI, we think the state should require that MSWLs that accept CCR strictly adhere to and comply with all CCR requirements. Aside from CCR's designation as a solid waste, municipal solid waste and CCR are not the same, but they share the same liability.
 - If EPD chooses not to apply its new CCR rules to MSWLs and commercial and industrial landfills accepting CCR, in the alternative, GWC strongly urges EPD to:
 - Ensure public notice and participation by allowing acceptance of CCR, at least in certain quantities, to trigger a major modification. We have suggested language that would address this issue.
 - Require MSWLs and commercial and industrial landfills that accept CCR to comply with 40 C.F.R. § 257.80, which details fugitive dust control requirements. Air quality concerns related to CCR exist not only at CCR units as defined in the federal and proposed state rules, but also at landfills where CCR is accepted. Adding this requirement would minimize airborne CCR originating from the landfills, roads, and other management and handling activities on-site.

¹³ Georgia Environmental Protection Division, *Hazardous Site Inventory* (July 1, 2016), available at <https://epd.georgia.gov/hazardous-site-inventory>.

- Require MSWLs and commercial and industrial landfills that accept CCR to comply with inspection requirements set forth in 40 C.F.R. § 257.84.
- Require MSWLs and commercial and industrial landfills that accept CCR to certify that leachate will be treated for coal ash contaminants, including heavy metals.
- Proposed 391-3-4-.10(1)(b)3: We recommend that EPD delete proposed provision 391-3-4-.10(1)(b)3, which proposes to exempt “CCR placement at active or abandoned underground or surface coal mines” from the rule’s scope. GWC is concerned about all CCR disposal and storage and its impacts on Georgia’s state waters.
- Proposed 391-3-4-.10(1)(c)1: We support the exclusion of 40 C.F.R. 257.104(a)(3). For clarity, we recommend that EPD similarly exclude 40 C.F.R. 257.100(b); the reference to 257.100(b) in 40 C.F.R. 257.100(a); and the exception for certain CCR impoundments under 257.100 in 40 C.F.R. 257.90.

Proposed 391-3-4-.10(1): EPD should include the following statement in its new CCR regulations: “Adoption of these state regulations governing CCR storage and disposal does not lessen or eliminate any obligations that owners and operators of CCR units have under federal law or regulations.” This statement will clarify that compliance with state regulations does not affect the owner or operator’s ongoing duty to comply with federal regulations.

391-3-4-.10(3) Location Restrictions

- Proposed 391-3-4-.10(3): We recommend that EPD improve the proposed location restrictions provisions by adding the following as 391-3-4-.10(3)(f): “CCR units shall not be situated within two miles upgradient of any surface water intake for a public drinking water source unless engineering modifications such as liners and leachate collection systems and groundwater monitoring systems are provided.” This language mirrors the restriction on landfills being sited near drinking water intakes in existing 391-3-4-.05(k)8. Georgia Power plans to consolidate and cap-in-place coal ash in an unlined pit at the Plant Branch site, adjacent to Lake Sinclair. The Sinclair Water Authority draws drinking water directly from the Oconee River arm of that lake. Coal ash ponds are likely located in close proximity to other drinking water intakes around the state as well. EPD must protect our drinking water sources by prohibiting coal ash disposal within two miles upstream of public drinking water intakes.

391-3-4-.10(4) Design Criteria

- Proposed 391-3-4-.10(4): We recommend that EPD define “lined impoundment” to include only composite liners (or alternative composite liners) and that the definition exclude liners consisting of soil cover only.

391-3-4-.10(5) Operating Criteria

- Proposed 391-3-4-.10(5)(a) and (b): We recommend that EPD amend the language in proposed 391-3-4-.10(5)(a) and (b) to require that inspections at all CCR units begin immediately. Increasing inspection frequency, and decreasing the time before compliance is required, could help reduce the risk of catastrophic failure at CCR surface impoundments. Further, EPD should require that CCR units be inspected after any unusual event, such as extreme rainfall events and flooding.

391-3-4-.10(6) Groundwater Monitoring and Corrective Action

- Proposed 391-3-4-.10(6): We support and appreciate EPD’s decision to apply groundwater monitoring and corrective action requirements to all CCR units. This requirement is critical to protecting Georgia’s waterways and ensuring releases are identified and addressed in a reasonable

timeframe. We recommend that this monitoring requirement extend to both shallow and deep aquifers. We additionally recommend that this monitoring also extend to contiguous surface water resources in addition to groundwater.

- Proposed 391-3-4-.10(6): We recommend that EPD require groundwater monitoring plans, results, groundwater standard violations, and corrective action plans to be posted on the owner or operator's CCR compliance website as soon as possible after the information is discovered or generated (e.g., EPD could require owners or operators to post groundwater monitoring plans within 14 days of their finalization).
- Proposed 391-3-4-.10(6): We recommend that EPD require the owner or operator of any CCR unit to monitor for both Appendix III and Appendix IV constituents during the active life of the CCR unit and the post-closure period, on at least a semi-annual basis as required by regulation, but preferably on a more frequent basis, as recommended below. Both Appendix III and IV contain constituents important to detecting leaks from CCR units, and therefore regular monitoring should not be limited to Appendix III constituents.¹⁴
- Proposed 391-3-4-.10(6)(b): We recommend that EPD include boron as a constituent in Appendix IV in addition to its inclusion in Appendix III. This important change would add boron to the list of pollutants that can trigger cleanup actions.
- Proposed 391-3-4-.10(6)(c): We recommend that EPD require the owner or operator of any CCR unit to conduct *monthly monitoring* during the active life of the facility (including closure) and the post-closure care period. Monthly monitoring reports should be submitted to EPD and made available to the public on the owner or operator's CCR compliance website as it becomes available (owners or operators are already required to establish such a website pursuant to 40 C.F.R. § 257.107).
- Proposed 391-3-4-.10(6): We recommend that EPD require all drinking water wells within one half mile of an active or inactive unlined CCR unit to be sampled annually for Appendix III and Appendix IV constituents by a neutral third party. If contamination is detected, the owner or operator of the CCR landfill, surface impoundment or unit should be required to supply an alternative drinking water source. Well-water sampling results should be posted on the owner or operator's CCR compliance website.
 - North Carolina's Coal Ash Management Act requires utilities to sample all drinking water wells within one half mile of unlined coal ash ponds for coal ash contaminants, and if such contaminants are detected, the owner or operator must supply the well owner with an alternate source of water.¹⁵ In North Carolina, the vast majority of wells near Duke Energy's unlined coal ash impoundments contained coal ash contaminants. Requiring utilities in Georgia to test for these contaminants and provide alternate drinking water if contamination is found appropriately puts the burden on the polluter, rather than citizens.
- Proposed 391-3-4-.10(6): We recommend that EPD include enforceable deadlines for completion of corrective measures in its groundwater monitoring and corrective action rule, 391-3-4-.10(6). To accomplish this, EPD could add the following language to its proposed rules at 391-3-4-.10(6)(h): "Within 90 days of EPD's approval of a corrective action plan, the owner or operator

¹⁴ See Jennifer S. Harkness, Barry Sulkin, and Avner Vengosh, "Evidence for Coal Ash Ponds Leaking in the Southeastern United States," *Environmental Science & Technology* (June 10, 2016), available at <http://pubs.acs.org/doi/abs/10.1021/acs.est.6b01727>.

¹⁵ North Carolina Coal Ash Management Act, Drinking Water Supply Well Survey and Provision of Alternate Water Supply, at 11 (2014), available at <http://ncleg.net/Sessions/2013/Bills/Senate/PDF/S729v8.pdf>.

shall implement corrective action under timelines approved in the corrective action plan, and shall provide annual progress reports to EPD regarding the implementation of the plan.” This addition would ensure that timely action is taken to implement clean-up plans.

- Proposed 391-3-4-.10(6): We recommend that in addition to the requirements of 40 C.F.R. 257.96 and 257.97, EPD require the owner or operator of a CCR unit to include an alternatives analysis in its corrective action plan. Requiring the owner or operator to assess alternatives will help ensure that the proposed remedy is the most appropriate means of clean-up at a particular site. The alternatives analysis should include a technical and economic assessment of alternatives.
- Proposed 391-3-4-.10(6): We request that EPD add the following language to its proposed groundwater regulations: “If any surface water or well sampling required under this permit is not conducted and/or comes up ‘dry,’ then such sample shall not count as a sample but merely a sample attempt, and every 30 days thereafter for up to the next 6 months, the permittee shall attempt to obtain a sample for analysis. If a sample is not obtained within 6 months, the permittee shall sample another representative location and/or install additional well(s) as necessary to obtain an adequate sample. The permittee shall consider use of under-pile groundwater sampling using horizontal drilling if necessary to determine whether CCR metals are leaching to groundwater.”

391-3-4-.10(7) Closure and Post-Closure Care

- Proposed 391-3-4-.10(7)(a): We support EPD’s application of permitting requirements and groundwater monitoring and corrective action requirements to all inactive surface impoundments. However, we recommend that EPD clarify the proposed rule’s language to explicitly apply these requirements to all surface impoundments, including dewatered surface impoundments and NPDES-CCR surface impoundments. These terms are defined separately, making it important to include each term in this provision.
- Proposed 391-3-4-.10(7): Public participation opportunities and notice requirements should be expanded. EPD should ensure that the public is notified of closure and post-closure care activities and has the opportunity to provide input on proposed actions approving closure and post-closure care activities. All deadline extensions for the closure of CCR surface impoundments should be subject to public input, and such extension requests should be posted on the CCR unit owner or operator’s CCR compliance website. CCR unit owner or operator requests to be released from post-closure care requirements should also be made publicly available on the owner or operator’s CCR compliance website. Similarly, EPD’s decision to release any CCR unit from post-closure care requirements should be publicly noticed and posted on the owner or operator’s CCR compliance website. Decisions on corrective actions should be subject to public comment.
 - In North Carolina, the state agency held public hearings to gather citizen input concerning coal ash pond closure plans. EPD should require the same surrounding Georgia Power’s coal ash pond closure plan development.
- Proposed 391-3-4-.10(7): We recommend that EPD require owners and operators of all CCR units to establish a date certain for closure of all unlined CCR landfills, surface impoundments or units. This requirement could be built into the CCR unit permitting process.

391-3-4-.10(9) Permits

- Proposed 391-3-4-.10(9): We recommend that EPD include the following provision as 391-3-4-.10(9)(a): “Any proposed CCR unit permit will be subject to a 30-day comment period before a final permit is issued.”

- Proposed 391-3-4-.10(9)(a)2: We recommend that EPD change the timeline for owners and operators of all CCR units to submit a permit application from two years to one year. Owners and operators of CCR units have been aware of the federal CCR rule and its requirements for some time, and indeed have already begun complying with some of the rule's requirements. Two years is too long. Georgia Power has announced plans to close a number of ash ponds over the next three years, and closure is underway at some impoundments. Under the proposed rules, permits may not ever be issued for a number of CCR units before the units have completed, or are close to completing, closure activities.
- Proposed 391-3-4-.10(9)(a)3: We recommend that EPD revise the proposed language of 391-3-4-.10(9)(a)3 to read (additions in italics): "Owners and operators of CCR units with existing solid waste handling permits on the effective date of the Rule must submit an application for Major Modification. *The application must include the items required under 391-3-4-.10(9)(b)1-5 and relevant requirements of 391-3-4-.10(9)(c) of this section.*" This addition will ensure that the owner or operator of the already-permitted CCR unit complies with new permitting requirements under the state CCR rule.
- Proposed 391-3-4-.10(9)(a): We recommend that EPD include the following provision as 391-3-4-.10(9)(a)4: "Owners and operators of CCR units must submit a complete permit application prior to changing the status of any CCR unit." Many of the CCR units will be dewatered and closed in the coming years. This addition would ensure that EPD and the public are aware of changes that could have serious impacts on Georgia's state waters.
- Proposed 391-3-4-.10(9)(a): We recommend that EPD include the following provision as 391-3-4-.10(9)(a)5: "Owners and operators of CCR units shall make submitted permit applications publicly available on CCR compliance websites." We further recommend that EPD publish notice of receipt of any CCR unit permit application on its website.
- Proposed 391-3-4-.10(9)(b): We recommend that EPD include the following provision as 391-3-4-.10(9)(a)6: "Owners and operators of CCR units shall file, in conjunction with their application, a list of other permits held for the site, including but not limited to wastewater discharge permits and stormwater permits. Applications must also include a narrative summary of the measures in place on-site to protect surface waters adjacent to CCR units; this summary must include details on effluents limited by existing permits and monitored for at the site, as well as any other measures put in place to minimize and eliminate surface water pollution."
- Proposed 391-3-4-.10(9)(b): EPD should require a CCR unit owner or operator to include information detailing when the CCR unit was established, the total volume of CCR contained (or a reasonable estimate), and details about any past releases from the CCR unit (including both reported and unreported) in the CCR unit permit application. These requirements could be added as 391-3-4-.10(9)(b)6.
- Proposed 391-3-4-.10(9)(b): We recommend that EPD incorporate environmental justice considerations into its permitting activities for CCR units. These considerations must occur during permitting at all CCR units, including inactive and closed CCR units. This change is necessary to ensure that owners and operators of CCR units and EPD understand and consider the communities where coal ash waste is stored. EPD could accomplish this by including the following at 391-3-4-.10(9)(b)6: "A written statement incorporating environmental justice considerations that (1) identifies and addresses disproportionately high and adverse human health or environmental effects of coal ash storage and disposal on minority and low-income populations; (2) attempts to avoid or reduce potential environmental justice effects; (3) details opportunities for community engagement; and (4) considers cumulative impacts of waste disposal on low-income and minority

communities."

- Proposed 391-3-4-.10(9)(c)6(v)(II): We support EPD's inclusion of a requirement to identify "any pipes, utilities, or other penetrations through or beneath the impoundment" for inactive surface impoundments and NPDES-CCR surface impoundments (see, e.g., proposed 391-3-4-.10(9)(c)6(v)(II)). However, we recommend that EPD include the same requirement for all CCR units, including dewatered surface impoundments; new, existing and inactive CCR landfills; and new and existing surface impoundments. Failure of a buried pipe at one of Duke Energy's inactive coal ash ponds caused the Dan River spill in 2014. Timely identification and inspection of all penetrations beneath all CCR units may help avoid future disasters.
- Proposed 391-3-4-.10(9)(c)6: EPD's proposed rule requires closure plans to include a narrative describing the specific closure method and how free liquids will be eliminated (see proposed 391-3-4-.10(9)(c)6). We recommend that EPD require the owner or operator of a CCR unit to provide more detailed closure plan information. Specifically, the owner or operator should be required to describe how coal ash wastewater will be eliminated and whether wastewater will be discharged to any waters of the state. If wastewater will be discharged, the owner or operator should be required to cite the permit (including specific provisions thereof) giving the owner or operator authority to discharge that wastewater. Further, the owner or operator should be required to disclose what constituents will be monitored for during the discharge of coal ash wastewater and the frequency of any such monitoring.
- Proposed 391-3-4-.10(9)(c): We recommend that EPD greatly strengthen the permitting requirements imposed on dewatered surface impoundments, addressed in proposed 391-3-4-.10(9)(c)8. EPD should clarify specific requirements that apply to dewatered surface impoundments, including whether the same groundwater monitoring requirements apply to these CCR units. We strongly encourage EPD to impose the same requirements set forth for NPDES-CCR surface impoundments in proposed 391-3-4-.10(9)(c)7 and inactive surface impoundments in proposed 391-3-4-.10(9)(c)8 on dewatered surface impoundments. Addressing this comment requires adding the following requirements to those already set forth in the proposed rule: (i) technical report of geological and hydrogeological units within the disposal site; (ii) potentiometric surface map of the water table; (iii) siting report which includes identification of wetlands, floodplains, and seismic impact zones; and (iv) a closure plan including a narrative description of the closure plan and identification of pipes, utilities or other penetrations through or beneath the impoundment. As proposed, the rule assumes that these impoundments would already be closed (see 391-3-4-.10(9)(c)(8)(i)). This is not necessarily the case; in fact, it may rarely be the case. Georgia Power has recently announced plans to close 29 ash ponds across the state and may have already dewatered some of these impoundments. Even after the impoundments are dewatered, they remain as open, unlined pits typically adjacent to rivers, lakes, and streams. Dewatered surface impoundments should be regulated in the same manner as other surface impoundments contemplated by the rules because they pose a threat similar to other CCR surface impoundments and CCR landfills.
- Proposed 391-3-4-.10(9): EPD should add the following to its proposed rules: "No permit will be issued if the permit applicant is presently in violation of any applicable Georgia or federal statute or regulation governing the handling or disposal of solid or hazardous waste."
- Proposed 391-3-4-.10(9): EPD should add to its proposed regulations the following provision: "No permit will be issued until the wastewater in CCR impoundments and ponds has been sampled for metals and Appendix III and IV constituents, and the results of such sampling are received from the permit applicant, examined by the agency, and made public. In the case of a permit applicant

subject to the federal CCR rules, the sampling results shall be made available to the public on the owner or operator's CCR Compliance website."

391-3-4-14 Groundwater Monitoring and Corrective Action

- Proposed 391-3-4-14(1): We recommend (in italics) that EPD edit the last sentence of proposed 391-3-4-14(1) so that it reads: "*CCR units and municipal solid waste landfills and commercial and industrial landfills that accept CCR* must meet all requirements in 391-3-4-10(6)." This addition will ensure that the same groundwater monitoring requirements (including frequency, reporting, corrective action) that apply to CCR units also apply to MSWLs and commercial and industrial landfills that accept CCR waste.

391-3-4-17 Measuring and Reporting Requirements

- Proposed 391-3-4-17(5): We support EPD's addition of proposed 391-3-4-17(5), requiring that CCR unit owners or operators measure the volume of CCR waste removed and diverted to beneficial use.
- Proposed 391-3-4-17(6): We support EPD's inclusion of proposed 391-3-4-17(6), requiring the owner or operator of a MSWL to notify authorities and the public of any releases of a contaminant likely to pose a danger to human health. However, we recommend that EPD also require the owner or operator of any CCR unit to comply with the same requirements in the event of any release from a CCR unit.
- Proposed 391-3-4-17(6): We request that EPD add the following provision: "If any landfill not already permitted pursuant to these CCR rules accepts CCR for disposal and or has accepted CCR in the past for disposal, then the landfill permittee shall cause a deed notice to be recorded with the Clerk of the Superior Court in the County(ies) where the landfill is located, which notice states that CCR wastes were accepted for disposal, and which states the disposal dates and amounts (if known), and which provides any sampling results for the CCR waste that was disposed. The notice shall be recorded within 30 days of the landfill's first acceptance of CCR waste."

Finally, we request that EPD extend the public comment deadline by at least 30 days. This additional time would allow the public and EPD to further review Georgia Power's coal ash pond closure plans, preliminary groundwater monitoring data, and available historical ground and surface water sampling data from CCR sites. This information is critical to ensure that EPD develops and implements strong, effective rules.

We appreciate the opportunity to provide feedback on the proposed amendments to Georgia's Solid Waste Management regulations. If you have any questions or would like to discuss any of our recommendations, please contact Gil Rogers at 404-521-9900 or grogers@selcga.org.

Sincerely,

Georgia Water Coalition