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December 21, 2016

Robert J. Martineau, Jr.
Commissioner
Tennessee Department of Environment and Conservation
William Snodgrass Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243

Via email to Bob.Martineau@tn.gov

Re: **TVA's Noncompliance with Federal Coal Ash Rule and State Law Governing Closure of Coal Ash Ponds; TDEC Oversight of TVA's Implementation of Federal Coal Ash Rule Pursuant to the Commissioner's Order, OGC15-0177**

Dear Commissioner Martineau:

We are calling on TDEC to exercise its authority under the Tennessee Solid Waste Disposal Act ("Disposal Act") and Section VII.D of the Multisite Commissioner's Order, OGC15-0177 ("Commissioner's Order" or "Order"), to immediately require the Tennessee Valley Authority ("TVA") to comply with the federal Coal Ash Rule, 40 C.F.R. §§ 257.50-107 ("Coal Ash Rule" or "Rule"), before TVA moves forward with closing any of the coal ash disposal areas that are subject to the Order.

The documents posted on TVA's compliance website,[1] or lack thereof, together with information we have compiled through various administrative processes, demonstrate that TVA is violating the Coal Ash Rule in four key ways. First, TVA fails to identify a significant number of inactive surface impoundments in Tennessee as subject to the Rule. Second, TVA fails to post closure plans and other required compliance documents for several inactive impoundments at Kingston, Bull Run, and John Sevier, despite its stated intention to close the ponds in the immediate or near future. Third, TVA improperly invokes the beneficial use exception to the Coal Ash Rule to engage in "sham disposal" at Bull Run without complying with the requirements that apply to new landfills. Finally, TVA fails to demonstrate that its plans to cap coal ash ponds in place satisfy the applicable performance standards under the Rule. This is evident in the handful of closure plans that TVA has posted for ash impoundments at the Cumberland Fossil Plant and others.

[1] TVA, CCR Rule Compliance Data and Information (December 16, 2016 3:24 pm), https://www.tva.gov/Environment/Environmental-Stewardship/Coal-Combustion-Residuals.

TVA's vague, cookie-cutter closure plans universally lack sufficient detail to allow the State and citizens to evaluate TVA's compliance. These wholly inadequate plans, in addition to TVA's failure to even post such plans for a significant number of ash impoundments in Tennessee, undermine the fundamental premise of transparency upon which enforcement of the federal Coal Ash Rule is based.[2] The Commissioner's Order shares the goal of establishing a "transparent, comprehensive process" for addressing TVA's coal ash pollution.[3] TDEC can and must exercise its authority under Section VII.D of the Order to require TVA to comply with the Coal Ash Rule.

Strong action by TDEC is particularly warranted because one stated purpose of Section VII.D of the Commissioner's Order is "to insure coordination and compliance with Tennessee laws and regulations that govern the management and disposal of CCR."[4] TDEC's own inspection reports, as well as other public documents, show that TVA is moving forward with closure-related construction at several of its ponds. If TVA does not adequately comply with the federal Coal Ash Rule, TDEC cannot meaningfully evaluate whether TVA's plans and actions are consistent with either the Disposal Act or the minimum federal requirements of the Rule itself.

Despite committing to closing its ash ponds eight years ago, TVA has dragged its feet, leaving these leaking, unlined pits to pollute our groundwater, rivers and streams. Now TVA proposes to do the same permanently, without complying with the bare minimum standards that EPA developed in response to TVA's massive coal ash spill at Kingston.

TDEC cannot continue to countenance TVA's blatant disregard for state and federal laws designed to protect our public health, our drinking water, and our state's water resources. The State must require TVA to halt closure-related construction at all sites, extensively supplement and revise its Coal Ash Rule-related plans and assessments, and comply with the Rule before it moves forward with permanently covering up its ash in unlined, leaking pits next to our rivers and streams.

I. To protect public health and the environment, TDEC should require TVA to comply with minimum requirements in the federal Coal Ash Rule.

Section VII.D of the Commissioner's Order provides for a "Department Review Process" to allow TDEC to review and evaluate TVA's "CCR rule related plans, demonstrations, and assessments, after they are placed on TVA's public CCR rule website."[5] Under the Order, TVA

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[2] U.S. EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, 80 Fed. Reg. 21,302, 21,339 (Apr. 17, 2015); as amended by Technical Amendments to the Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities—Correction of the Effective Date, 80 Fed. Reg. 37,988 (July 2, 2015) [hereinafter Coal Ash Rule] ("These transparency requirements serve as a key component by ensuring that the entities primarily responsible for enforcing the requirements have access to the information necessary to determine whether enforcement is warranted.").
[3] *In re Tenn. Valley Auth.*, No. OGC015-0177, 1 (Tenn. Dep't of Env't & Conservation Aug. 8, 2015) [hereinafter Commissioner's Order], https://tn.gov/assets/entities/environment/attachments/TVA_Order_8-6-15.pdf.
[4] *Id.*1.
[5] *Id.*9.

must notify TDEC when it posts "CCR-related documents on its CCR rule public website."[6] The Order also provides, "The Department in its discretion may request that TVA provide it electronic or paper copies of specific documents."[7] TDEC has 60 days to inform TVA whether it has comments on the plans. If TDEC has comments, TVA and TDEC will meet within 30 days after TDEC notifies TVA, and thereafter TVA "shall appropriately modify its plans, demonstrations, or assessments to respond to the Department's final comments...."[8] TVA may not move forward with its plans until 30 days after it resubmits its plans, and it may only do so if it has not heard otherwise from TDEC.[9] Thus, under Section VII.D of the Order, TDEC can and should exercise oversight of TVA's compliance with the minimum standards set forth in the federal Coal Ash Rule.

Ensuring TVA's compliance with the Rule's requirements for analyzing stability risks and evaluating the ability of a particular site to satisfy performance standards for closure *before* TVA caps its ponds in place is particularly crucial to protect the public from undue risks while TDEC performs a more extensive investigation under Section VII.A of the Commissioner's Order. In addition to protecting public resources like our drinking water, requiring compliance with the Coal Ash Rule may also save TVA ratepayers the expense of paying for a cover system that will not work to protect the public from pollution and catastrophic dam failure, only to have to pay again later for clean up after a spill or continuing violations of the state or federal laws designed to protect our clean water.

II. TVA is violating the federal Coal Ash Rule by failing to post required closure plans and other information for many coal ash disposal areas in Tennessee.

The Coal Ash Rule is designed to be self-implementing, meaning owner/operators are required to comply and provide the public, including the State, with specific required information demonstrating their compliance by posting that information on a public website. The State and private citizens can then enforce the Rule as necessary.[10] Below we explain that TVA is violating the Rule because it has not posted required information for several categories of surface impoundments in Tennessee.

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[6] *Id.*
[7] *Id.*
[8] *Id.* 9-10.
[9] *Id.* 10.
[10] Under section 2301 of the "Water Infrastructure Improvements for the Nation Act," which amends section 4005 of the Resource Conservation and Recovery Act, EPA may also enforce the Rule. The amendments are available at https://www.congress.gov/bill/114th-congress/senate-bill/612/text#toc-H91A0B3DCF1D14C6C92588DDAA897B03B.

A. TVA fails to identify and post information for several surface impoundments subject to the Rule.

Under the federal Coal Ash Rule, a "CCR surface 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."[11] A "CCR landfill" means "an area of land or an excavation that receives CCR and which is not a surface impoundment…."[12] An "inactive CCR surface impoundment" means a CCR surface impoundment that no longer receives CCR after October 19, 2015 and still contains both CCR and liquids on or after October 19, 2015.[13] Inactive surface impoundments are subject to all of the requirements applicable to existing CCR surface impoundments.[14]

The Rule applies to both existing and inactive surface impoundments.[15] As the Rule explains: "There is little difference between the potential risks of an active and inactive surface impoundment: both can leak into groundwater, and both are subject to structural failures that release wastes into the environment."[16] The Rule does not, however, apply to "CCR landfills that have ceased receiving CCR prior to October 19, 2015."[17] The Preamble recognizes that some surface impoundments were previously closed as landfills under state solid waste programs.[18] EPA makes clear, however, that only surface impoundments that "no longer contain water and can longer impound liquid" are "closed" within the meaning of the Rule.[19] Thus, identifying whether a particular CCR unit is an inactive surface impoundment or a landfill that ceased receiving CCR prior to October 19, 2015, is the key to determining the applicability of the Rule.

TVA appears to take the erroneous view that any CCR unit that has obtained a state landfill permit is a "landfill" rather than an "inactive surface impoundment," and, if it ceased receiving CCR prior to October 19, 2015, is exempt from the Rule. But many CCR units in Tennessee that have state landfill permits were "designed to hold an accumulation of CCR and liquids," store or dispose of CCR, and still contain both CCR and liquids, making them inactive surface impoundments within the meaning of the Rule. In many cases, these permitted landfills were constructed as surface impoundments and still contain coal ash waste submerged in groundwater. Examples include the following:[20]

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[11] 40 C.F.R. § 257.53.
[12] *Id.*
[13] *Id.*
[14] 40 C.F.R. § 257.100(a).
[15] 40 C.F.R. § 257.50(b)-(c).
[16] 80 Fed. Reg. 21343.
[17] *Id.* § 257.50(d).
[18] Coal Ash Rule, 80 Fed. Reg. 21343.
[19] *Id.*
[20] This letter does not address Coal Ash Rule and state solid waste law compliance issues at Gallatin Fossil Plant because that plant is not identified as a site subject to the Commissioner's Order. *See* Commissioner's Order, Section VI. We are still in the process of reviewing documents related to the environmental investigation plans for the John Sevier and Watts Bar Plants. TDEC has not yet set due dates for environmental investigation plans for the Allen and Johnsonville Plants.

1) Bull Run: Bottom Ash Disposal Area
2) Bull Run: Gypsum Disposal Area
3) John Sevier: Dry Fly Ash Stack

SELC previously submitted technical comments to TDEC demonstrating that the two disposal areas at Bull Run contain ash submerged in 10-25 feet of groundwater and continue to hold both CCR and liquids.[21] Indeed, in its letter to TVA regarding the environmental investigation plan at Bull Run required by Section A of the Commissioner's Order, TDEC stated, with regard to these two disposal areas, "[T]he reservoir elevation and groundwater elevations in monitoring wells at the site indicate waste is probably submerged in groundwater at the lower levels of the fill."[22] At John Sevier, our initial review of documents provided by TVA to TDEC pursuant to Section A of the Commissioner's Order suggests that at least a portion of the Dry Fly Ash Stack may be below the water table.

Similarly, TVA assumes that even where it has no state landfill permit, as long as TVA drained the free water from a surface impoundment and stopped placing ash in the impoundment before October 19, 2015, that CCR unit is not subject to the Rule. That view is inconsistent with the plain language of the Rule. Several CCR units in Tennessee never obtained landfill permits, but were decanted or otherwise drained, ceased receiving CCR, but nevertheless continue to hold both ash and water. Examples include the following:

1) Kingston: Ball Field/Original Surface Impoundment
2) Kingston: Main Ash Pond
3) John Sevier: Site J
4) Allen: West Pond

SELC previously submitted technical comments to TDEC demonstrating that the Original Surface Impoundment/Ball Field and Main Ash Pond at Kingston are submerged in at least 20 and up to 40 feet of groundwater and continue to hold both CCR and liquids.[23] At John Sevier, our initial review of documents provided by TVA to TDEC pursuant to Section A of the Commissioner's Order suggests that at least a portion of Site J may be below the water table. We have not yet been able to review historical documents for the Allen West Pond, but based on its location adjacent to McKellar Lake and TVA's discussion of how the West Pond was drained in the EIS for Ash Impoundment Closure,[24] we believe it also contains coal ash submerged in groundwater. We anticipate that TDEC will conduct an investigation at Allen in the near future.

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[21] Letter to Chuck Head, TDEC, from Amanda Garcia, SELC, re: Bull Run Fossil Plant: Commissioner's Order; Final Ash Pond Closure Plan; Beneficial Use Determination (July 22, 2016), and accompanying attachments [hereinafter SELC Letter to TDEC re: Bull Run Fossil Plant].

[22] Letter from Chuck Head, TDEC, to Paul Pearman, TVA, re: TVA Bull Run Fossil Plant Environmental Investigation Plan Due Date- January 9, 2017 (September 13, 2016) [hereinafter TDEC Letter re: Bull Run EIP].

[23] Global Environmental, LLC, Technical Comments Regarding the Environmental Investigation Plan (Revision 0, September 16, 2016), TVA Kingston Plant, 11-15 (November 2016), prepared on behalf of SELC [hereinafter SELC Comments on Kingston EIP].

[24] *Compare* TVA, Draft Ash Impoundment Closure Environmental Impact Statement Part II (Allen), 1 (December 2015) (describing water being "pumped out" from the West Pond) [hereinafter DEIS] *with* TVA, Final Ash

The CCR units identified above are "inactive surface impoundments" that are subject to the Rule. TDEC must compel TVA to comply with the requirements of the Coal Ash Rule at these impoundments, including requirements to conduct stability-related assessments, perform monthly and annual inspections, develop groundwater monitoring systems, develop closure plans, satisfy performance standards for closure in place, and post all compliance documents to a publicly accessible website prior to undertaking any construction at these units.[25]

B. TVA fails to post closure plans and related information for several surface impoundments it plans to close in the immediate or near future.

In addition to improperly exempting some inactive surface impoundments from the Rule altogether, TVA also attempts to evade requirements in the Coal Ash Rule to post closure plans and related information for certain inactive surface impoundments that it plans to close in the immediate future.

As originally promulgated, the Coal Ash Rule included a provision that would exempt certain inactive surface impoundments that submitted a notice of intent ("NOI") to close by a date certain from design and operating criteria, groundwater monitoring and submission of closure and post-closure plans (the "early closure loophole"). TVA took advantage of this provision, submitting NOIs for the Fly Ash Pond and Sluice Channel at Bull Run, the Stilling Pond and Sluice Trench at Kingston, and the Bottom Ash Pond at John Sevier.

However, as a result of partial settlement of litigation regarding the federal Coal Ash Rule currently pending in the United States Court of Appeals for the District of Columbia, the court granted an unopposed motion by EPA to vacate the early closure loophole.[26] EPA subsequently promulgated a direct final rule that amends the Rule to require inactive surface impoundments to comply with all of the requirements that apply to existing surface impoundments, including the design and operating criteria, groundwater monitoring and submission of closure and post-closure plans.[27] The direct final rule requires owners and operators who filed NOIs for early closure of inactive surface impoundments to prepare closure plans and a series of assessments to support design criteria and operating criteria "*no later than* April 17, 2018."[28] In contrast, inactive and active surface impoundments for which no NOI was

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Impoundment Closure EIS Part I-Programmatic NEPA Review and Part II-Site-Specific NEPA Review, Part II (Allen) 1 (June 2016) (asserting that the West Pond does not impound water) [hereinafter FEIS Part I and FEIS Part II]; SELC et al., Comments on Draft Ash Impoundment Closure Environmental Impact Statement 43 (Mar. 9, 2016) [hereinafter Comments on DEIS].

[25] *See* 40 C.F.R. § 257.100(a); 40 C.F.R. §§257.71, 257.73, 257.80, 257.82, 257.83, 257.90-98, 257.102.

[26] Order, *Utility Solid Waste Activities Group v. Environmental Protection Agency*, No. 15-1219 (D.C. Cir. June 14, 2016).

[27] U.S. E.P.A., Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Extension of Compliance Deadlines for Certain Inactive Surface Impoundments; Response to Partial Vacatur, 81 Fed. Reg. 51802-51808 (August 5, 2016) [hereinafter Direct Final Rule].

[28] 40 C.F.R. § 257.102(e), as amended by the Direct Final Rule (emphasis added).

submitted are required to prepare closure plans and accompanying assessments by "no later than" October 17, 2016.[29]

Although the direct final rule extends the final date by which owner/operators must prepare closure plans and the accompanying stability assessments, other provisions of the Rule make clear that these plans and assessments must be completed *before* an owner/operator begins to close its impoundments. Most importantly, the Rule contains minimum performance standards that apply to closing surface impoundments in place, including provisions that require an owner/operator to minimize releases to ground and surface water to the maximum extent feasible, preclude the probability of future impoundment of water or sediment, include measures to provide for major slope stability, and minimize the need for further maintenance.[30] An owner/operator is required to explain in its closure plan how it will satisfy these performance standards.[31] The accompanying stability-related assessments, including the history of construction, safety factor, hazard classification, and stability assessments, are critical analyses that inform the question of whether an impoundment can be safely and responsibly closed in place. Without this information, the enforcers of the Rule, including the State and private citizens, cannot properly evaluate *ex ante* whether the owner/operator will satisfy the performance standards in the Rule. If an owner/operator does not post a closure plan and the accompanying stability-related assessments prior to beginning closure, it will undermine critical citizen enforcement of the Rule, including by TDEC.[32]

Additional provisions of the Rule similarly suggest that EPA anticipates closure plans to be in place before an owner/operator undertakes closure. The Rule requires CCR units to commence closure within 30 days of final receipt of CCR waste, or, for idle units, within two years of the last receipt of CCR waste.[33] The Rule explains that in order to commence closure, the owner/operator must cease placing CCR waste in the unit and "take[] any steps necessary to implement the written closure plan required by paragraph (b) of this section" or submit a completed permit application to a state agency or take other steps required by the state as a prerequisite to closing the facility.[34] The Preamble further explains that because any steps such as applying for permits or otherwise complying with state law should be included in the written closure plan, those steps are included under the umbrella requirement to "implement the written closure plan required by the rule."[35] The Rule also authorizes the amendment of closure plans and requires it in certain circumstances, including when "[b]efore or after closure activities have

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[29] *See, e.g.,* 40 C.F.R. § 257(b). TVA posted closure plans for eight impoundments, including the East Ash Disposal Area at Allen Fossil Plant, the Bottom Ash Pond, Stilling Pond (including Retention Pond) at Cumberland Fossil Plant, Ash Pond A, Middle Pond A, Bottom Ash Pond and Ash Pond E at Gallatin Fossil Plant, and the Active Ash Pond at Johnsonville. *See* TVA, CCR Rule Compliance Data and Information (December 16, 2016 3:24 pm), https://www.tva.gov/Environment/Environmental-Stewardship/Coal-Combustion-Residuals.

[30] *See* 40 C.F.R. § 257.102(d); *see also* Section I.C below.
[31] *See* 40 C.F.R. § 257.102(b).
[32] *See* Coal Ash Rule, 80 Fed. Reg. 21338 ("Mandated documentation and transparency of the owner or operator's actions to comply with the rule. . . will help to minimize the potential for abuse.")
[33] 40 C.F.R. § 257.102(e)(1)-(2).
[34] 40 C.F.R. § 257.102(e)(3).
[35] 80 Fed. Reg. 21418.

commenced, unanticipated events necessitate a revision of the written closure plan."[36] These provisions of the Rule anticipate that a closure plan will be prepared before closure begins.

Moreover, EPA originally proposed to require closure plans to be prepared by the effective date of the Rule. In the final Rule, EPA provided owner/operators one year to develop closure plans, because it wanted to encourage consistency with the Effluent Limitation Guidelines ("ELGs") and "ensure that closure plans are well considered."[37] At this point, the requirements of the ELGs and the Rule are quite familiar to owner/operators. Accordingly, there is no reason not to require owner/operators to prepare and post closure plans and stability-related assessments prior to beginning closure. Indeed, such plans and assessments are critical to ensuring that closure occurs safely and in a manner that is consistent with the Rule.

TVA has stated its intention to close the impoundments for which it submitted NOIs in the near-to-immediate future. TVA appears to have already begun closure-related construction at Kingston, John Sevier, and Bull Run. In a timetable provided to the ranking Congressional committee member charged with oversight over TVA's activities, TVA reported the following schedules:[38]

	Closure Start Date	**Closure Finish Date**
Bull Run Sluice Channel	January 2017	September 2017
Bull Run Fly Ash Impoundment	April 2017	April 2018
Kingston Stilling Impoundment	March 2017	February 2018
Kingston Sluice Trench	August 2016	December 2018
John Sevier Bottom Ash Impoundment	September 2016	December 2017

Yet TVA has not posted the closure plans or stability-related assessments required by the Rule for any of these impoundments. Without this information, neither citizens nor TDEC can properly evaluate whether TVA's plans to close the ash ponds in place satisfy the performance standards in the Rule.

This is particularly troubling because these impoundments have characteristics that call into question TVA's plan to close them in place. We have previously submitted technical comments to TDEC demonstrating that the Sluice Channel and Fly Ash Impoundment at Bull Run and the Stilling Impoundment and Sluice Trench at Kingston contain ash submerged in several feet of groundwater.[39] TVA itself has admitted this fact.[40] Moreover, there are stability

[36] 40 C.F.R. § 257.102(b)(3).
[37] Coal Ash Rule, 80 Fed. Reg. 21411.
[38] Letter from Robert M. Deacy, TVA, to the Honorable Peter A. DeFazio, Ranking Member, Committee on Transportation and Infrastructure, U.S. House of Representatives 2 (September 19, 2016).
[39] SELC Letter to TDEC re: Bull Run Fossil Plant and accompanying attachments.
[40] FEIS Part I, Chapter A.2 Response to Comments at 27.

concerns at both the Fly Ash Impoundment at Bull Run and the Stilling Pond at Kingston.[41] Based on these facts, a thorough review of detailed closure plans and supporting documents is crucial to ensure the protection of public health and safety of citizens downstream from these impoundments.

TVA has no legitimate basis for not immediately providing to the public and the State the detailed closure plans and stability-related assessments for these impoundments required by the Rule. TVA prepared a final environmental impact statement regarding the closure of these impoundments ("EIS") and has issued a Record of Decision pursuant to the National Environmental Policy Act. We submitted detailed comments on the analysis presented in TVA's EIS, explaining that TVA did not, in that document, provide the site-specific analysis required by the federal Coal Ash Rule and NEPA itself to support TVA's selection of closure in place at these impoundments.[42] Nevertheless, even before the NEPA process closed, TVA issued drawings for construction at the Fly Ash Pond at Bull Run.[43] A recent TDEC inspection disclosed that a "major reconfiguration" of the Bull Run site is underway.[44] TVA may already be undertaking similar actions at Kingston and John Sevier in violation of the Rule.

In order to lawfully and responsibly develop such plans and drawings and begin construction, TVA should have already performed the stability analyses required by the Rule, developed closure plans, and placed these documents in the operating record for each impoundment.[45] Assuming TVA has been responsible in fulfilling these obligations, it is legally obligated to provide these plans and analyses to the public and the State by posting them on its compliance website.[46]

In order to protect the public health and the environment, TDEC must compel TVA to halt construction and comply with the requirements of the Coal Ash Rule *before* TVA undertakes closure-related construction at these impoundments, including requirements to conduct stability-related assessments, develop closure plans, satisfy performance standards for closure in place, and post all compliance documents to a publicly accessible website.[47]

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[41] *See* SELC Letter to TDEC re: Bull Run Fossil Plant and accompanying attachments; SELC Comments on Kingston EIP.
[42] SELC Comments on Final EIS 9-17.
[43] Global Environmental LLC, Technical Comments re: TVA CCR Disposal Unit Closure Plans, Various Fossil Plants in Tennessee, 5 and Ref. 1 and 2 (December 14, 2016) [hereinafter Quarles Report re: TVA Coal Ash Rule Closure Plans].
[44] Quarles Report re: TVA Coal Ash Rule Closure Plans, 5 and Ref.5.
[45] *See* 40 C.F.R. § 257.100(d),(e).
[46] 40 C.F.R. § 257.107.
[47] *See* 40 C.F.R. §§ 257.100(a) and (e), 257.71, 257.73, 257.80, 257.82, 257.83, 257.90-98, 257.102.

III. TVA is improperly invoking the beneficial use exception to the Coal Ash Rule to engage in "sham disposal" at the Bull Run Plant.

At the Bull Run Plant, TVA proposes to cap the Fly Ash Pond and the Sluice Channel in place.[48] TVA also proposes to dump additional arsenic-laden bottom ash and other toxic sediments into these unlined, leaking pits before capping them.[49] TVA has issued final construction drawings that incorporate this illegal plan.[50] TVA claims that dumping additional ash into the Fly Ash Pond and Sluice Channel constitutes "beneficial use" under the federal Coal Ash Rule and therefore is not "disposal" that requires TVA to comply with the regulations for new landfills.[51]

But as SELC explained at length in a letter to TDEC dated July 22, 2016, dumping additional ash into an unlined pit in a river is not authorized under state or federal law.[52] We will not repeat those arguments here. The bottom line is that TVA's proposal to dump more coal ash into the Fly Ash Pond and the Sluice Trench before covering those areas is "disposal" under the minimum requirements of the Coal Ash Rule. If TVA wants to dispose of additional ash in the Fly Ash Pond and the Sluice Trench, it needs to comply with the requirements that apply to new landfills. Among other requirements, under the Coal Ash Rule, TVA is prohibited from creating a new landfill without a buffer of at least five feet between coal ash and the water table.[53] TVA's ash disposal would plainly violate this provision by placing ash below the water table.[54]

In a letter dated September 13, 2016, TDEC notified TVA of its obligation under the Disposal Act to seek the State's approval for any plans to move coal ash from one impoundment to another one. Citing section 68-211-106(j) of the Tennessee Code, TDEC informed TVA that "…if anyone plans to use coal ash as fill material… at wastewater treatment units or for disposal in connection with [this] use[], the Department must first approve the action."[55] Referring specifically to TVA's plans at the Bull Run Plant, TDEC further clarified: "TVA shall not implement a plan for CCR material management, other than disposal at a properly permitted landfill; at any [*sic*] the TVA BRF Fossil Plant site until the plan is approved by TDEC. This

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[48] *See* FEIS Part II (Bull Run) 11-12; *see also* TVA Bull Run Fossil Plant Ash Pond Closure Plan Final 6-8 (Revision 2-March 2, 2016)[hereinafter Final Plan].

[49] *Id.*; *see also* SELC Letter to TDEC re: Bull Run Fossil Plant, Att. 4, AECOM, Report CCR Beneficial Use Demonstration, TVA Bull Run Fossil Plant 10-11 and Tables 4, 5, 6, and 7 (June 6, 2016) [hereinafter Beneficial Use Demonstration].

[50] Quarles Report re: TVA Coal Ash Rule Closure Plans, 5 and Ref. 1 and 2. Nearly one year ago, the Tennessee Department of Environment and Conservation ("TDEC") authorized TVA to begin "temporarily storing" bottom ash in the "dry area" of the Fly Ash Pond. Letter from Glen Pugh, TDEC, to Sam Hixon, TVA (August 6, 2015). TVA has not adequately demonstrated that this "temporary storage" should be exempt from obtaining a solid waste permit. *See* TN Rule 0400-11-01-.02(b)(3)(xvi)(requiring operators intending to reuse materials to, upon request from the Commissioner, demonstrate that a viable market exists and that the material is being stored in a manner to minimize the potential for harm to the public health and environment). Nor can it, because its proposed "reuse" is not authorized by state or federal law.

[51] Final Plan, 6.

[52] SELC Letter to TDEC re: Bull Run Fossil Plant, 6-22.

[53] 40 C.F.R. § 257.60.

[54] Final Plan, Attachment C, Figures B and C.

[55] TDEC Letter re: Bull Run EIP, 6.

includes the movement of CCR material from one surface impoundment to another, other than the mechanisms that transport CCR material from one surface impoundment to another as part of an NPDES permitted activity."[56]

TVA's NPDES permit authorizes TVA to discharge wastewater associated with coal ash storage areas at the Bull Run Plant.[57] The permit does not authorize TVA to move large quantities of coal ash from pond to pond for permanent disposal. TVA previously sought permission from the Division of Solid Waste to "stockpile" the ash in the Fly Ash Pond. [58] TDEC made clear at that time that it "is not able at this time to make a determination that the use of bottom ash in the closure of the Fly Ash Pond is a beneficial use."[59] TDEC further instructed TVA: "A justification or rationale for a beneficial use determination should be included in the detailed closure plan for the Bull Run Fly Ash Pond."[60]

As explained in Section II above, TVA is improperly evading the requirement to post a detailed closure plan under the Coal Ash Rule for the Fly Ash Pond at Bull Run. TDEC should immediately require TVA to prepare and post a detailed closure plan as required by the Rule.

In any case, TDEC has authority under the Commissioner's Order and the Coal Ash Rule to request and evaluate TVA's beneficial use determination. TVA is required, under the federal Coal Ash Rule, to provide documentation upon request, "that environmental releases to groundwater, surface water, soil and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use."[61]

Although TDEC has informed TVA of its obligation to obtain the State's approval to dump more ash into an unlined pit before closing it, we are not aware that TDEC has requested TVA's documentation of its compliance with this provision of the Coal Ash Rule. To the extent it has not already done so, TDEC should request TVA's beneficial use determination to evaluate whether TVA is complying with the minimum federal requirements set forth in the Rule at the Bull Run Plant.

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[56] *Id.*
[57] Tenn. Dep't of Envtl. & Conservation, Bull Run Fossil Plant, NPDES Permit No. TN0005410 at Part I.A (effective date Nov. 1, 2010, modified May 16, 2011).
[58] Letter from Glen Pugh, TDEC, to Sam Hixon, TVA (August 6, 2015).
[59] *Id.*
[60] *Id.*
[61] 40 C.F.R. § 257.53.

IV. TVA's few posted closure plans fail to provide sufficient site-specific analysis to demonstrate that closure in place will satisfy the minimum performance standards as required by the Rule.

Even in the few instances where TVA has prepared and posted the closure plans required by the Rule, they are so fundamentally deficient as to be useless to citizens seeking to evaluate TVA's compliance.[62] Among other requirements, a closure plan must "discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section."[63] Paragraph (d), in turn, includes three sets of performance standards relevant to closure in place: (1) environmental and public health standards; (2) drainage and stabilization standards; and (3) final cover standards.[64]

With respect to environmental and public health standards, an owner/operator must demonstrate that the CCR unit is closed in a manner that will:

> (i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;
> (ii) Preclude the probability of future impoundment of water, sediment, or slurry;
> (iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;
> (iv) Minimize the need for further maintenance of the CCR unit; and
> (v) Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.[65]

With respect to drainage and stabilization standards, an owner/operator must demonstrate the following:

> (i) Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.
> (ii) Remaining wastes must be stabilized sufficient to support the final cover system.[66]

With respect to the final cover standards, an owner/operator must demonstrate, among other things, that the final cover system is "designed to minimize infiltration and erosion."[67]

A discussion of how the closure of a particular impoundment will meet these standards must necessarily be site-specific.[68] Such a discussion must be site-specific because the conditions at each impoundment vary, in terms of the underlying geology and hydrogeology, the

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[62] Quarles Report re: TVA Coal Ash Rule Closure Plans, 3-9 and accompanying references.
[63] 40 C.F.R. § 257.102(b).
[64] *Id.* § 257.102(d).
[65] *Id.* § 257.102(d)(1).
[66] *Id.* § 257.102(d)(2).
[67] *Id.* § 257.102(d)(3).
[68] Quarles Report re: TVA Coal Ash Rule Closure Plans, 6.

history of construction of the dikes, and other features of the impoundment.[69] Indeed, the closure plan should reference and incorporate the site-specific information provided in the accompanying stability assessments and history of construction, along with any other site-specific technical analyses required to define the features of the site and demonstrate how the closure will meet the performance standards in light of those features. A technically thorough discussion of these site-specific conditions, and how they will affect issues such as releases to ground and surface water, the potential impoundment of water, and stability, is crucial to enable citizens to evaluate whether an owner/operator's plan satisfies the performance standards in the Rule.

The closure plans posted by TVA fall far short of providing this site-specific technical analysis to support its selection of closure in place. Indeed, TVA provides essentially the same cookie-cutter "conceptual" discussion regardless of specific site conditions, such as shallow groundwater and submerged waste or sinkholes beneath the unit, connection to nearby surface waters (or placement in surface waters), and lateral groundwater inflow conditions.[70] This is particularly concerning because we know that such conditions exist at many impoundments and "landfills" in Tennessee, calling into question the suitability of closure in place under the Rule.[71]

TVA's closure plans for the Cumberland Plant provide a useful example. The plans contain no discussion of site-specific conditions. Yet documents in the possession of TVA and provided to TDEC demonstrate that coal ash waste is submerged in at least 20 feet of groundwater, and that groundwater is hydrologically connected to Wells Creek and the Cumberland River.[72] These documents further reveal that TVA constructed some of the starter dikes for the impoundments with gravel, creating constant and rapid connectivity to Wells Creek.[73]

As applied to the closure plan for the Stilling Pond at Cumberland, these site-specific conditions at the Cumberland Plant have the following implications for compliance with the performance standards in the Rule. TVA blandly proposes that it will minimize releases to groundwater and surface water and preclude the impoundment of water by developing a site grading plan, cap system and stormwater management system.[74] This proposal will not control or minimize releases "to the maximum extent feasible,"[75] as required by the Rule, because the waste will be left perpetually submerged in groundwater that is hydrologically connected to the

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[69] *Id.*
[70] *Id.* 5.
[71] *Id.* 6.
[72] *Id.* 6-8.
[73] *Id.* 8.
[74] Stantec, Closure and Post-Closure Plan, Bottom Ash Pond and Stilling Pond (including Retention Pond), EPA Final Coal Combustion Residuals (CCR) Rule, TVA Cumberland Fossil Plant, Cumberland City, Tennessee, prepared for TVA 5-6 (October 12, 2016), https://ccr.tva.gov/Plants/CUF/Surface%20Impoundment%20-%20Stilling%20Pond%20(including%20Retention%20Pond)/Closure%20-%20Post-Closure%20Plan/Closure%20Plan/257-102(b)_Written%20Closure%20Plan_CUF_Stilling%20Pond%20(including%20Retention%20Pond).pdf [hereinafter TVA Cumberland Closure Plan].
[75] 40 C.F.R. § 257.102(d)(i).

nearby creek and Cumberland River.[76] Nor will the proposal minimize or eliminate "the infiltration of liquids into the waste."[77] In fact, it is obvious that water will constantly enter and exit the saturated ash, leaching contaminants into the environment, indefinitely. Similarly, the proposal will not preclude the probability of future impoundment of water, sediment or slurry because the waste remains submerged in groundwater and the dikes are constructed in part with lower permeability soil that results in pore water remaining in an impounded state.[78] The closure plan cannot meet the performance standards in light of these conditions, and it makes no attempt to do so.

Nor does TVA explain how it will comply with the drainage and stabilization and final cover requirements. The closure plan states conclusorily that TVA will remove the free water and pore water and stabilize the remaining waste.[79] The closure plan does not explain how TVA will accomplish this when the ash is perpetually submerged in groundwater. The closure plan further does not address how the cover system will minimize infiltration and erosion given the condition of the dikes and the saturated ash.

Finally, nothing in the federal Coal Ash Rule suggests that a "conceptual" closure plan is adequate to demonstrate that a site will meet the performance standards. TVA appears to believe it need not provide the technical analysis required for an adequate closure plan under the Rule because it is required to comply with the National Environmental Policy Act before committing to a course of action. Yet TVA has already prepared a programmatic environmental impact statement, and in every closure plan it has posted, TVA has identified closure in place as its preferred alternative. TVA has already performed the stability assessments and detailed the history of construction for each site under the Rule. TVA has also collected this information and presented it to TDEC for purposes of complying with the Commissioner's Order.

In any case, the Rule provides for amendment of the closure plan if circumstances change.[80] Such circumstances might include the outcome of an environmental analysis performed under NEPA. Indeed, as EPA recently informed TVA, the site-specific analysis required by the Rule is also required to adequately comply with NEPA.[81] Thus, TVA's NEPA obligations do not present an obstacle to fully complying with the federal Coal Ash Rule now, as TVA is required to do.

TDEC must compel TVA to comply with the minimum requirements of the Coal Ash Rule by providing a site-specific discussion of how TVA's closure plans will meet the performance standards in the Rule given the existing conditions at each particular site. TVA's

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[76] Quarles Report re: TVA Coal Ash Rule Closure Plans, 6-8.
[77] 40 C.F.R. § 257.102(d)(i).
[78] *Id.* 8.
[79] TVA Cumberland Closure Plan, 8.
[80] 40 C.F.R. § 257.102(b)(3).
[81] *See* Letter from G. Alan Farmer, Director, Resource Conservation and Recovery Division, EPA Region 4, to Amy Henry, TVA, re: Letter of Clarification on Ash Impoundment Closures (October 18, 2016) ("If the TVA is unable to meet the requirements of the CCR Rule or any requirements from the states for the preferred alternative [closure in place], the EPA recommends that the TVA consider re-opening the NEPA process and potentially re-evaluating its preferred and selected alternatives for any of the specific impoundments that may be in question.").

deficient "conceptual" plans violate the requirements of the Rule and thwart citizen and State enforcement efforts.

In the Commissioner's Order, TDEC established an oversight role over TVA's compliance with the Coal Ash Rule, in part, to ensure consistency with the state Disposal Act and implementing regulations. TDEC cannot meaningfully ensure that TVA's closure plans are consistent with state law unless TVA provides the information required by the Rule outlined above.

In order to protect the public health and the environment, TDEC must compel TVA to halt any ongoing closure-related construction and comply with the minimum federal standards in the federal Coal Ash Rule and the requirements of the state Disposal Act before it begins to convert its ash impoundments to solid waste disposal facilities.

We respectfully request to be notified immediately if and when TDEC notifies TVA that TDEC has comments on TVA's Coal Ash Rule-related plans, demonstrations and assessments pursuant to Section VII.D of the Commissioner's Order. We further request to be notified of any other actions TDEC takes to halt TVA's illegal closure-related construction and require compliance with federal and state law before TVA proceeds to close its leaking, unlined ash ponds in place. As always, we welcome the opportunity to discuss these concerns further with you.

Sincerely,

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Attachments provided via Sharefile

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