Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

February 9, 2017

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

Re: Letter from the Southern Environmental Law Center on Behalf of Itself and Other Environmental Advocacy Groups Concerning TVA's Compliance with the CCR Rule

Dear Commissioner Martineau:

We are writing in response to the December 21, 2016, letter to you from the Southern Environmental Law Center and various other environmental advocacy groups, including the Sierra Club, the Environmental Integrity Project, Earthjustice, the Southern Alliance for Clean Energy, and the Tennessee Clean Water Network (collectively SELC). SELC asserts that TVA is not complying with EPA's Coal Combustion Residual (CCR) Rule. It urges you to stop TVA from proceeding toward closure of its CCR impoundments while at the same time criticizing TVA for not closing its impoundments more quickly. As is common practice for SELC, it misstates information, invents "requirements" that it claims are being violated, and engages in hyperbole. We encourage you to reject SELC's request based on the following facts.

- First, TVA has correctly identified all of the CCR impoundments in Tennessee that are subject to the CCR Rule. SELC's claim ignores the distinction between inactive impoundments that are subject to the CCR Rule and closed impoundments and inactive landfills that are not subject to the Rule.
- Second, SELC ignores that EPA has extended the CCR Rule deadlines for inactive impoundments like TVA's that qualify for the extension. EPA extended these deadlines after entering into a settlement agreed to by, among others, the Environmental Integrity Project, the Sierra Club, and the Tennessee Clean Water Network. SELC has no legal basis for trying to accelerate the schedule for filing closure plans for inactive impoundments.
- Third, SELC attempts to make scandalous the unremarkable fact that TVA performed a beneficial use demonstration for bottom ash at TVA's Bull Run Fossil Plant. TVA performed the demonstration for its own internal decision-making purposes, and supplied the demonstration to SELC in response to a Freedom of Information Act request. Due to conversations with TDEC, TVA has determined at this time not to use bottom ash to close the

fly ash pond even though the beneficial use demonstration concluded that doing so would not be harmful to human health or the environment and would result in a net benefit to the environment by substituting for virgin materials, *i.e.*, borrow soil.

- Fourth, the closure plans that TVA has posted for impoundments that are subject to the Rule fully comply with the requirements of the CCR Rule, and SELC's claim to the contrary is based on a misreading of the Rule.

Background

To better understand TVA's CCR management activities, we think it is useful to put those activities in context. The December 2008 TVA Kingston ash spill prompted not only EPA's CCR Rule, but also a TVA commitment in 2009 to convert all of the wet CCR management processes at its plants to dry processes. This includes ceasing use of CCR impoundments and disposing of newly-generated CCR in lined landfills if the material cannot be beneficially sold or reused. This commitment was widely acclaimed, including by environmental advocacy groups. For example, a spokesman for the Southern Alliance for Clean Energy stated, "[w]e're glad that TVA is moving ahead with dry storage."[1] TVA's effort was sufficiently important that the Tennessee General Assembly directed TDEC to track TVA's progress toward meeting the commitment and to provide status reports annually to the legislature.

Since 2009, TVA has worked to meet this commitment at a cost of hundreds of millions of dollars. TVA has developed dry conversion plans at all of its plants, not only those in Tennessee. These plans necessarily are conceptual. As budgets are approved and environmental reviews are completed, TVA has been implementing conversion projects at its Tennessee plants. These include:

- At the **Bull Run Fossil Plant**, TVA has been dewatering all of its fly ash, bottom ash, and gypsum since 2015 and dry-placing it in an on-site landfill. A new CCR-Rule compliant landfill for production ash is being engineered and the permitting process has been initiated with the state. TVA has completed an Environmental Impact Statement (EIS) for the landfill.
- At the **Cumberland Fossil Plant**, approximately 70 percent of the fly ash is sold for beneficial reuse and the rest is dry-stacked in a permitted on-site landfill. Approximately 90 percent of the plant's gypsum continues to be sold for beneficial reuse to an adjacent wallboard plant. Bottom ash is still sluiced to an impoundment. On December 2, 2016, TVA published a Notice of Intent to prepare an EIS that will evaluate the closure alternatives for the existing Cumberland ash ponds, the impact of constructing and operating a bottom ash dewatering facility, and the construction and operation of a new on-site dry CCR landfill for future production CCR.
- At the **Gallatin Fossil Plant**, TVA has constructed and is operating a new CCR-Rule compliant landfill for production CCR material. The Sierra Club, among others, filed a

[1] Times Free Press, TVA Moves to Dry Ash Disposal (May 15, 2010).

lawsuit challenging the adequacy of TVA's environmental review. That challenge was dismissed by the court. *See Tennessee Environmental Council v. TVA*, 32 F. Supp. 3d 876 (E.D. Tenn. 2014) (granting TVA's motion for summary judgment and dismissing plaintiffs' claims). TVA is in the initial phase of an environmental review for a dewatering facility that will dewater bottom ash. The dry bottom ash also will be placed in the new landfill.

- At the **Kingston Fossil Plant**, the transition to dry CCR management processes is almost complete. TVA has constructed and is operating a dewatering facility for all CCRs except bottom ash. A dewatering facility for bottom ash is approximately 65 percent complete. TVA sells approximately 60 percent of the dry fly ash, 25 percent of the gypsum, and 100 percent of the bottom ash for beneficial reuse. The CCR not beneficially reused is dry-stacked in a permitted, lined landfill.

This work has not been without difficulty. For example, TVA submitted to TDEC in January 2013 an application to modify the Kingston landfill permit to place fly ash and bottom ash in the Kingston landfill in addition to the gypsum already being placed there. TDEC's regulations provide for one public hearing and one notice and comment period on solid waste permitting decisions for new landfill facilities. Tenn. Comp. R. & Regs. § 0400-11-01-.02(3)(f). This regulation does not explicitly apply to the modification of an existing, active, permitted landfill. Nevertheless, TDEC granted *four* comment period extensions and scheduled *four* public meetings, which were requested by the same environmental advocacy groups now claiming that TVA is not moving fast enough in converting to dry storage. TDEC ultimately granted the permit modification, but not until September 2015, almost two years after TVA submitted its application.

TVA's efforts to meet its dry-storage commitment were underway when EPA proposed and promulgated its CCR Rule. Unlike other utilities, TVA was well along in CCR management planning activities and did not have to start from scratch when the CCR Rule was issued. Since the Rule's requirements were consistent with TVA's ongoing activities, TVA was able to modify its planning to support meeting its voluntary commitment and complying with the Rule. This included identifying those units that could be closed quickly.

1. *TVA has met its CCR Rule documentation requirements for all of its regulated impoundments; the CCR units described by SELC are not regulated by the CCR Rule.*

SELC's claim that TVA has not met CCR Rule requirements for certain impoundments is meritless. The units listed in SELC's letter are exempt from the CCR Rule, either because they are inactive landfills or because they are closed impoundments. By calling these units inactive impoundments, SELC is muddling the important distinction between the categories of units that are and are not regulated by the CCR Rule.

Concerning the categories of units that the CCR Rule was structured to regulate, EPA repeatedly observes in its preamble to the CCR Rule that the highest risk to human health and the

environment from CCR units results from the impoundment of water that increases downward and outward hydraulic pressures with the attendant increase in risks of groundwater contamination and structural instability:

- "And in the case of surface impoundments, the CCR is managed with water, *under a hydraulic head*, which promotes rapid leaching of contaminants into neighboring groundwater." 80 Fed. Reg. 21302, 21328 (Apr. 17, 2015).[2]
- "As noted, EPA's risk assessment shows that the highest risks are associated with CCR surface impoundments *due to the hydraulic head imposed by impounded water*." 80 Fed. Reg. at 21342.
- "Dewatered CCR surface impoundments *will no longer be subjected to hydraulic head* so the risk of releases, including the risk that the unit will leach into the groundwater, would be no greater than those from CCR landfills." *Id.*
- "Upon further evaluation of the comments, the Agency has amended the definition of CCR surface impoundment to clarify the types of units that are covered by the rule. After reviewing the comments, EPA reviewed the risk assessment and the damage cases to determine the characteristics of the surface impoundments that are the source of the risks the rule seeks to address. Specifically, these are units that contain a large amount of CCR *managed with water, under a hydraulic head that promotes the rapid leaching of contaminants*." 80 Fed. Reg. at 21357.

Because not all CCR units impound water, the CCR Rule applies to CCR units—landfills and impoundments—to different degrees. The Rule does not apply to inactive landfills at all. *See* 40 C.F.R. § 257.50(d) (2016) ("[t]his subpart does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015."). According to EPA, this exemption exists because inactive landfills do not pose the same risk to human health and the environment as impoundments. Comparing landfills to dewatered impoundments, EPA states that dewatered impoundments are "no longer subjected to hydraulic head so the risk of releases, including the risk that the unit will leach into the groundwater, would be no greater than those from CCR landfills." 80 Fed. Reg. at 21342. Specific to inactive landfills, EPA then adds that "the Agency is not aware of any damage cases associated with inactive CCR landfills, and as noted, the risks of release from such units are significantly lower than CCR surface impoundments or active CCR landfills." *Id.* Inactive landfills, therefore, are not regulated by the CCR Rule.

EPA has explained that the CCR Rule does not regulate closed surface impoundments for the same reason that it does not regulate inactive impoundments—neither category impounds liquid.[3] In contrast to an inactive impoundment, EPA describes a closed impoundment as one that "would no longer contain water, although it may continue to contain CCR (or other wastes), and would be capped or otherwise maintained." 80 Fed. Reg. at 21343. EPA reiterates in this section of the

[2] Emphasis added here and throughout this letter unless otherwise noted.
[3] There also is a legal question concerning whether EPA has the authority to regulate inactive landfills and closed impoundments, given that no ongoing disposal of waste is occurring.

preamble that active and inactive surface impoundments are regulated because "there is little difference between the potential risks of an active and inactive impoundment; both can leak into groundwater, and both are subject to structural failures." *Id.* EPA then states, "[a]ccordingly, the final rule does not impose any requirements on any CCR surface impoundments that have in fact 'closed' before the rule's effective date—*i.e.*, those that no longer contain water *and can no longer impound liquid*." *Id.*

The Rule does apply, however, both to inactive and active impoundments. Both types of units impound water; the only difference is that inactive impoundments stopped receiving CCR prior to the effective date of the Rule. *See* 40 C.F.R. § 257.53 (2016) (defining the terms "inactive CCR surface impoundment," "existing surface impoundment," and "CCR surface impoundment"). Citing the Dan River spill from an inactive but impounded CCR unit, EPA explains its rationale in the preamble—both should be regulated because both impound water:

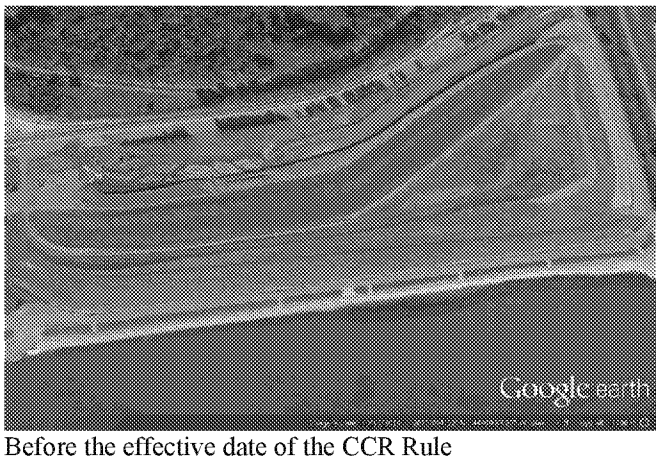
> EPA has documented several damage cases that have occurred due to inactive CCR surface impoundments, including the releases of CCR and wastewater from an inactive CCR surface impoundment into the Dan River . . . . As discussed in the proposal, the risks associated with inactive CCR surface impoundments do not differ significantly from the risks associated with active CCR surface impoundments; much of the risk from these units is driven *by the hydraulic head imposed by impounded units*. These conditions remain present in both active and inactive units, *which continue to impound liquid* along with CCR. For all these reasons, the Agency has concluded that inactive CCR surface impoundments require regulatory oversight.

80 Fed. Reg. at 21342. Thus, both inactive and active impoundments are regulated under the CCR Rule because both "continue to impound liquid along with CCR." *Id.*

These differences between inactive impoundments, inactive landfills, and closed impoundments are crucial to an understanding of each category's regulatory status, but SELC glosses over them with general assertions about TVA failing to post required information about its regulated surface impoundments. To the contrary, the CCR units that SELC claims are regulated "surface impoundments" do not impound water. They are either inactive landfills or closed impoundments, categories not regulated by the CCR Rule and categories that EPA's comprehensive investigation concluded do not pose a risk of harm to human health or the environment.

Pictured below are the CCR units listed in SELC's letter as regulated CCR surface impoundments even though they do not impound water and have not impounded water or received CCRs since before the effective date of the Rule:

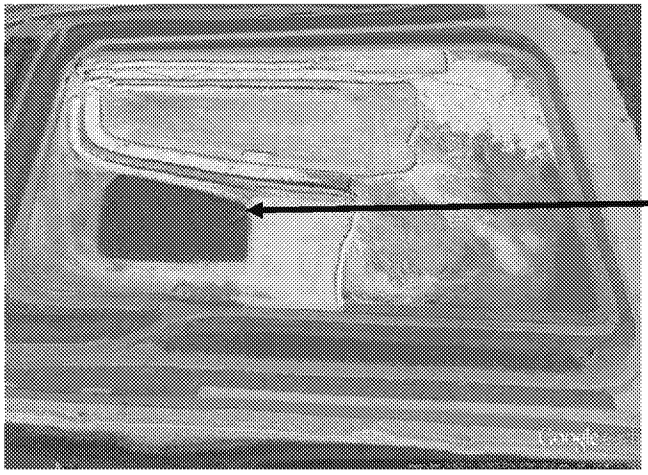
Bull Run Dry Bottom Ash Stack, an inactive landfill:

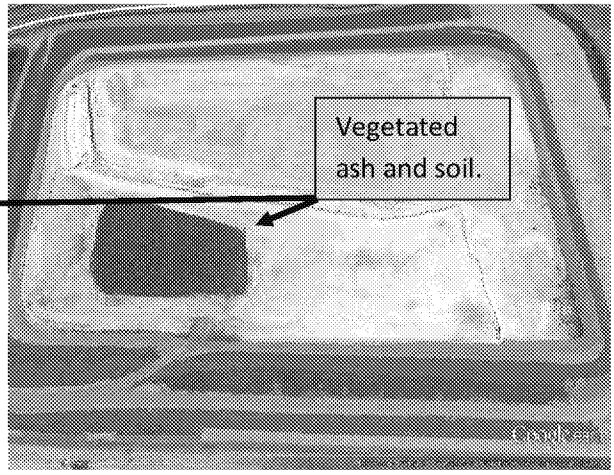


Before the effective date of the CCR Rule

Present-day condition

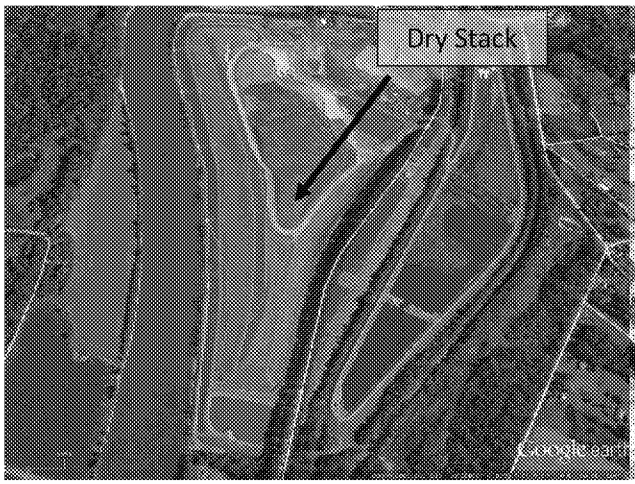
Bull Run Dry Gypsum Stack, an inactive landfill:


Before the effective date of the CCR Rule



Present-day condition

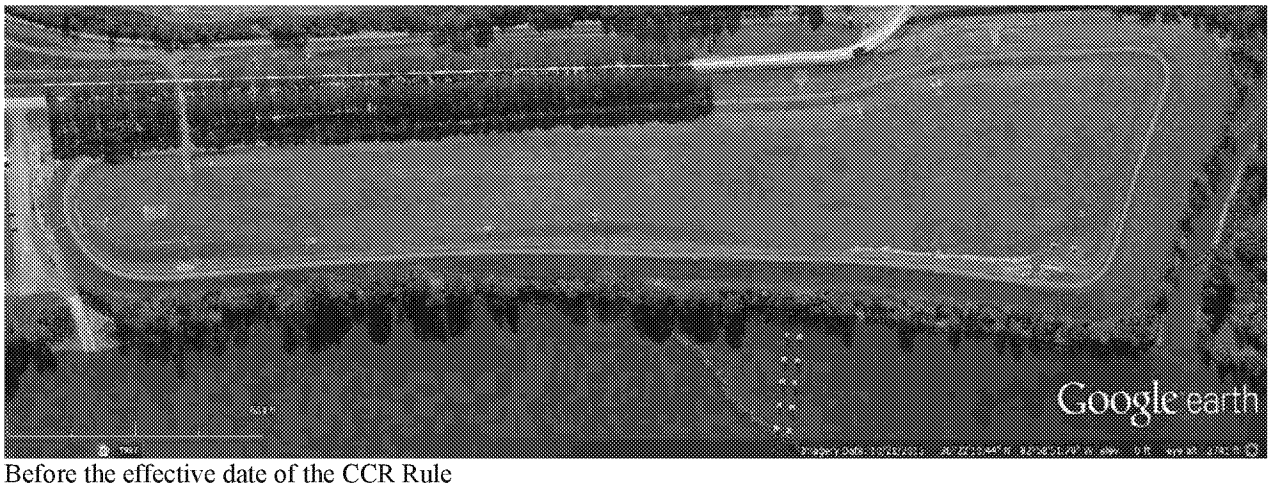
John Sevier Dry Stack, an inactive landfill:



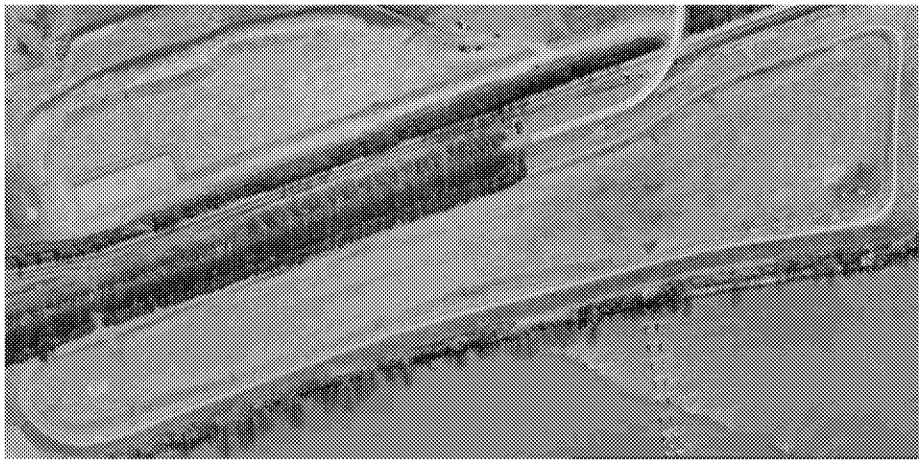
Before the effective date of the CCR Rule

Present-day condition pictured from the opposite direction. Dormant sod vegetation is brown in color.

John Sevier Site J, a closed impoundment that does not impound water:



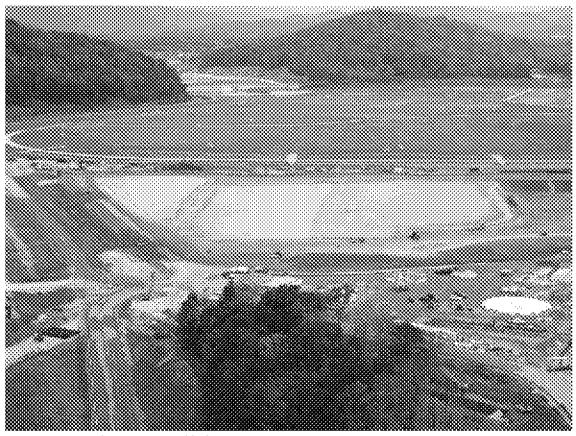
Before the effective date of the CCR Rule



Present-day condition

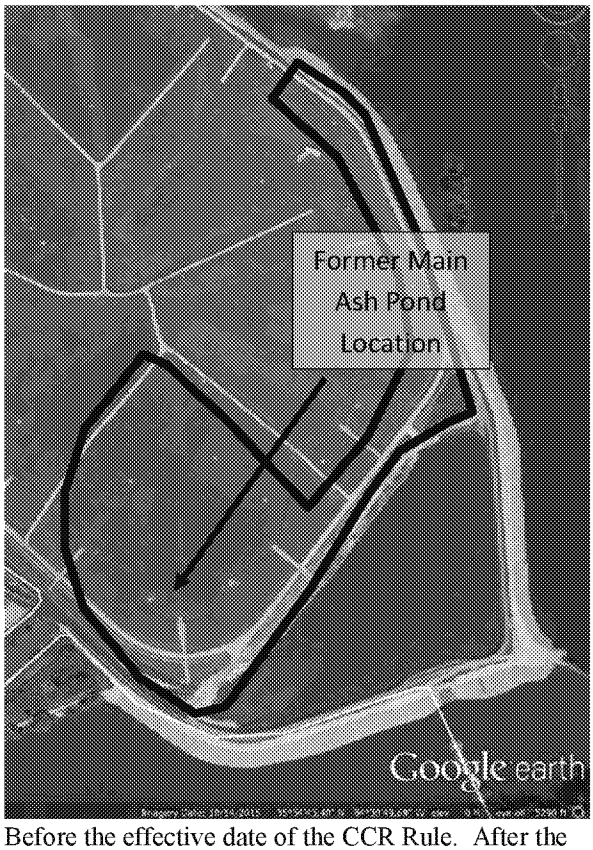
Kingston interim ash staging area (referred to by SELC as the "Ball Field"), an inactive landfill:

Before the effective date of the CCR Rule

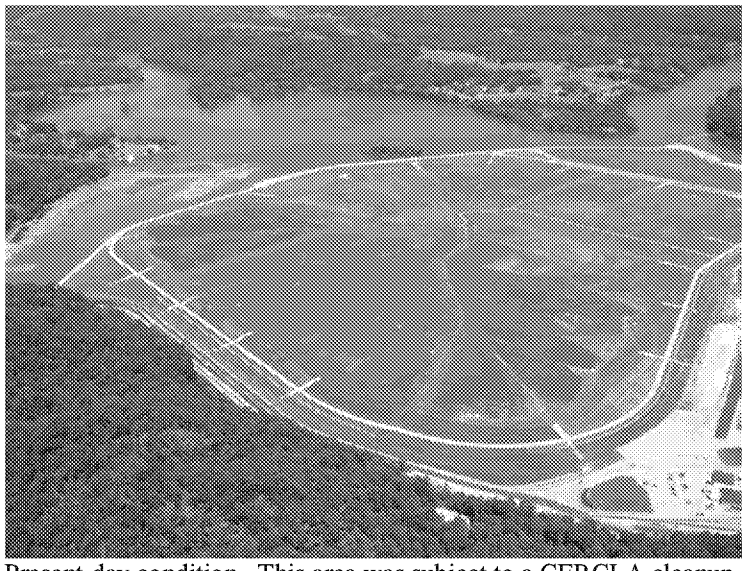


Present-day condition

Kingston Former Main Ash Pond, a closed landfill:



Before the effective date of the CCR Rule. After the Kingston spill, this area was redesigned and permitted as a landfill and then closed prior to October 19, 2015.



Present-day condition. This area was subject to a CERCLA cleanup following the 2008 ash spill and was the subject of a recent EPA announcement that the ecosystem affected by the Kingston spill has been restored to "pre-spill conditions." *See* EPA Region IV Press Release, *Watts Bar Reservoir Ecosystem Adjacent to TVA Kingston Facility Returns to Baseline Conditions*, available at https://www.epa.gov/newsreleases/watts-bar-reservoir-ecosystem-adjacent-tva-kingston-facility-returns-baseline (January 12, 2017).

Allen West Pond, a closed impoundment that does not impound water:

Before the effective date of the Rule

Present-day condition

In calling these areas regulated impoundments, SELC's exclusive focus is on the actual or potential presence of subsurface water in contact with the CCR beneath these otherwise dry units. That position imposes a requirement on TVA that does not exist in the CCR Rule, because EPA's focus was on whether the units impound water. Even if subsurface water were contacting CCR material in a unit, that condition is not the risk being regulated by the CCR Rule. In fact, EPA considered the potential implication of groundwater-saturated CCR and concluded that "this uncertainty is unlikely to have an appreciable effect" on its risk assessment. Human and Ecological Risk Assessment of Coal Combustion Residuals, EPA, 5-10 to 5-11 (December 2014).

Further, EPA has provided guidance that CCR units undergoing closure on the effective date of the CCR Rule would not be regulated under the Rule, as long as the unit "is maintained during the closure process so that it can no longer impound liquids . . . ." Top 20 Questions, EPA Response No. 2 to questions posed by the Utility Solid Waste Advocacy Group, included as **Attachment A**. Thus, the test is not whether the unit contains subsurface water like pore water—which no doubt would be present in a unit that had not yet completed closure—but whether the unit is able to collect and impound water.

While the seven CCR units depicted above are not regulated under the CCR Rule, they *are* regulated under other federal and state authorities. As EPA observed in its preamble discussion, EPA still has "significant enforcement opportunities available under existing law, namely the 'imminent and substantial endangerment authority' under RCRA section 7003 to take action against any CCR unit that pose[s] a risk to human health and the environment . . . ." 80 Fed. Reg. at 21335. Likewise, under Commissioner's Order OGC15-0177, TVA and TDEC are implementing a comprehensive process for the investigation, assessment, and remediation of unacceptable risks resulting from the management and disposal of CCR at TVA's coal-fired plants in Tennessee.

2. *TVA has until April 17, 2018, to prepare the closure plans referenced in SELC's letter.*

SELC claims that TVA is evading a CCR Rule requirement to post to TVA's website closure plans for five inactive impoundments: (1) the Bull Run Sluice Channel; (2) the Bull Run Fly Ash Impoundment; (3) the Kingston Stilling Impoundment; (4) the Kingston Sluice Trench; and (5) the John Sevier Bottom Ash Impoundment. At the same time, SELC quotes the very rulemaking that extended the deadline for posting these closure plans to April 17, 2018.

The CCR Rule initially contained an incentive for utilities to close their inactive impoundments early, *i.e.*, by April 17, 2018. EPA determined in the CCR Rulemaking process that the potential benefits of dewatering and capping CCR impoundments—reducing structural integrity and

groundwater contamination risks—were significant. For this reason, EPA encouraged utilities to dewater and close impoundments quickly. Thus, EPA purposefully structured its CCR Rule to encourage utilities to accelerate the closure of CCR impoundments because of the decrease in groundwater risk and increased structural stability that results from eliminating the hydraulic head. As originally promulgated, EPA excluded from the Rule's other substantive requirements impoundments that closed by April 2018. EPA said: "EPA adopted this approach to create an incentive to expedite the closure of these units, with all of the significant risk mitigation that such a measure would entail." 80 Fed. Reg. at 21408.

TVA identified a number of its impoundments that could be closed by April 2018 and, in accordance with the CCR Rule, notified TDEC (via Patrick J. Flood) that TVA had posted to its website Notices of Intent to Initiate Closure of five surface impoundments in Tennessee that would be closed by the deadline in the CCR Rule. In a partial settlement of litigation challenging the CCR Rule, however, EPA asked the D.C. Circuit Court of Appeals on April 18, 2016, to remand and vacate the accelerated closure incentive. EPA did this because the agency failed to provide an opportunity for notice and comment on the early closure incentive. This action does not affect EPA's technical determination that early closure is beneficial because it significantly reduces structural failure and groundwater contamination risks.

The vacatur was part of a settlement with environmental advocacy groups, including the Environmental Integrity Project, the Sierra Club, and the Tennessee Clean Water Network, who had challenged the early-closure incentive. Given that vacatur of the provision would subject a class of inactive units to CCR requirements that had already passed or that were rapidly approaching, EPA and the environmental advocacy groups agreed that the vacatur would not take effect until EPA issued a separate rule, referred to as the "Extension Rule," which would extend applicable CCR deadlines for the affected inactive surface impoundments (*i.e.*, those units for which owners/operators placed notification in their operating records on December 17, 2015, that they intended to close by April 18, 2018, and placed the associated notice on their CCR websites on January 18, 2016).

The settlement agreement, included as **Attachment B**, recites that EPA would propose an Extension Rule "to ameliorate the effects to those owners or operators who relied on the early closure provision (40 C.F.R. § 257.100 (2016)) that EPA seeks to vacate . . . ." The Settlement Agreement goes on to set forth every item subject to an extended deadline, including the closure plan deadline. The Settlement Agreement is signed by Earthjustice Attorney Mary Whittle on behalf of, among others, the Environmental Integrity Project, the Sierra Club, and the Tennessee Clean Water Network.

In the subsequent Extension Rule, which became effective on October 4, 2016, EPA explains the inequity that would result without an extension:

> [T]he owners and operators of these units would have substantially less time than EPA had originally determined was needed to come into compliance; indeed, some

> of these deadlines have already passed, prior to the issuance of the court's order. In the absence of an extension, these units would, through no fault of their own, become "open dumps" under the [RCRA] statute. Accordingly, EPA is extending the compliance deadlines associated with these newly applicable regulatory requirements to allow the owners or operators of these units adequate time to come into compliance.

81 Fed. Reg. 51802, 51804 (Aug. 5, 2016). The Extension Rule provides the new deadlines for qualifying inactive units, and the extended deadline for initial written closure plans is April 17, 2018. *Id.* at 51808 (to be codified at 40 C.F.R. § 257.100(e)(6)(i)).

Although members of the SELC coalition agreed to the Extension Rule in exchange for the vacatur, SELC now makes the very claim that the Extension Rule was intended to address—that TVA's inactive impoundments are out of compliance with the CCR Rule. SELC cannot have it both ways. The point at which an owner-operator commences closure is unrelated to the deadline by which a closure plan is due. TVA's five inactive surface impoundments in Tennessee qualify for the extension of the closure plan deadline; therefore, under the Extension Rule, TVA can take until April 17, 2018, to prepare its closure plans.

This background is crucial for TDEC to understand that TVA is not out of compliance with the CCR Rule. Nevertheless, TVA has been moving towards closure for a long time and, under NPDES permitting requirements, has already submitted to TDEC the closure plans for three of the five impoundments listed in SELC's letter. TVA submitted to TDEC a preliminary closure plan for the Bull Run Fly Ash Pond and Sluice Channel on January 28, 2011, and an amended plan on March 11, 2016. TVA submitted a preliminary closure plan for the Bottom Ash Pond at John Sevier on July 28, 2011, and an amended plan on July 15, 2015. In addition, TVA will not wait to post these closure plans to its CCR website, but will go ahead and reformat its closure plans in compliance with the CCR Rule as soon as practicable; place them in TVA's operating record; and notify TDEC when they are available on TVA's CCR Rule website.[4]

3. *TVA may consider whether its ash can qualify for the beneficial use provision in the CCR Rule.*

SELC repeats in its letter the unremarkable fact that TVA performed a beneficial reuse demonstration of its bottom ash at TVA's Bull Run Fossil Plant. The CCR Rule "does not apply to practices that meet the definition of a beneficial use of CCR." 40 C.F.R. § 257.50(g) (2016). In particular, a finding that the material meets the beneficial use criteria in the CCR Rule means

[4] SELC mentions that TVA should post to its CCR Rule website certain stability-related assessments for these inactive impoundments. SELC is mistaken. Requirements such as the location restrictions in §§ 257.60-.64 and the safety factor assessments in § 257.73 do not make sense for CCR units already undergoing closure, as failure to comply with these requirements simply triggers closure of the unit, which is already occurring. In other words, failure to meet these requirements compels the owners and operators of such units to undertake actions that they are already conducting.

that its use does not pose the degree of risk to human health and the environment that EPA is regulating under the CCR Rule. 80 Fed. Reg. at 21348 (explaining that the four criteria distinguish between regulated and unregulated activities because "EPA only regulates those [disposal activities] that present risks that exceed the Agency's acceptable risk levels").

TVA performed the demonstration because it was contemplating the use of its bottom ash to close the fly ash pond at Bull Run. The thinking at the time was that if the bottom ash qualified for the beneficial use provision, then its use to close the fly ash pond would be the more economically and environmentally friendly option, and would not affect the early-closure exemption for the fly ash pond. Now that the early-closure exemption has been vacated, the fly ash pond will be subject to all of the substantive provisions of the CCR Rule, notwithstanding whether the bottom ash meets the four beneficial use criteria.

Regardless, TVA's conservative beneficial reuse demonstration *does* find that the bottom ash meets all four criteria. The demonstration includes a human health and ecological evaluation, which concludes that any releases from the bottom ash to the environment would be at or below health-based benchmarks for human and ecological receptors during use. I understand that, following discussions with TDEC staff, TVA has decided at this time not to use bottom ash to close the fly ash pond. Nevertheless, the fact remains that use of the bottom ash would not pose the degree of risk that the CCR Rule regulates, and it would be the more economically and environmentally friendly option as it would substitute for virgin materials and conserve natural resources.

Further, even aside from the beneficial reuse provision, there is nothing wrong with TVA placing additional ash in the Fly Ash Pond or Sluice Trench at Bull Run. Contrary to SELC's bald assertion, such placement does not convert an NPDES-regulated impoundment into a new landfill. TDEC earlier agreed that storing bottom ash in the Fly Ash Pond was permissible under Commissioner's Order No. OGC15-0177, which TDEC issued in August 2015.[5] To the extent TDEC approval is needed under the state's solid waste permitting authorities, that order provides such approval. Moreover, an NPDES permit governs operations at the Bottom Ash Disposal Area, the Fly Ash Pond, and the Sluice Trench. These areas are part of one NPDES wastewater treatment unit, and movement of ash within this permitted wastewater treatment unit is permissible. TDEC's long-held position is that, under Tennessee law, NPDES-permitted facilities are exempt from solid waste permitting requirements. TVA will communicate more specifically with TDEC about this state-law issue via separate correspondence.

[5] Letter from Glen Pugh, TDEC Program Manager to Sam Hixson, TVA Manager (August 6, 2015), enclosed as **Attachment C**.

4. *TVA's closure plans subject to the October 2016 deadline, which TVA then posted to its website within 30 days, address every item required by the CCR Rule.*

SELC claims that the closure plans TVA has posted in accordance with the CCR Rule are inadequate. This claim is false. TVA's closure plans address each and every item required by the CCR Rule for a closure plan, and the detail in TVA's plans is similar to that found in the closure plans that other utilities in the Southeast have posted. SELC provides little support for its assertions that TVA's closure plans are deficient. Its primary support is a report from Mark Quarles, SELC's all-purpose consultant. Similar to other reports he has prepared for SELC, Mr. Quarles identifies a few regulatory requirements from which he broadly extrapolates to create "requirements" that do not in fact exist. SELC's assertions rest on Mr. Quarles' assertions, a true house of cards.

SELC and Mr. Quarles recognize, but then ignore, that the analyses of location standards must be completed by October 17, 2018, two years after closure plans must be prepared. (Other required technical analyses have different deadlines and those have been prepared or will be prepared as required by those deadlines.) They pronounce that the plans must be considered deficient if the location analyses have not already been completed and presented with the closure plans. Obviously, in structuring the Rule's compliance deadlines, EPA did not think so. EPA recognized that the 2016 closure plans are merely "initial" plans, 80 Fed. Reg. at 21411, and later underscored this status by modifying the proposed rule to provide in the final rule that closure plans can be amended "at any time," 40 C.F.R. § 257.102(b)(3) (2016). SELC criticizes TVA's statements that the submitted closure plans are conceptual, but EPA's structuring of the Rule promotes and permits this approach. TVA can and will modify the posted plans as the results of additional engineering and environmental analyses become available.

Initial closure plans are required to describe how a plan will meet the performance standards for the final covers used to close impoundments. SELC points to this as another reason why TVA's posted plans are deficient because the descriptions do not contain the level of detail SELC desires. The root of this criticism comes from a misreading of one of the closure performance standards in the CCR Rule. SELC claims that TVA must show in the closure plan how the final cover system will prevent releases of CCR to groundwater. Here, however, is the exact wording in the Rule:

> The owner or operator of a CCR unit must ensure that, at a minimum, the CCR unit is closed in a manner that will . . . 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 . . . .

40 C.F.R. § 257.102(d)(1) (2016). Elsewhere in the Rule, when EPA refers to groundwater, the agency uses a single word—"groundwater." EPA's use of the definite article "the" before the word "ground" underscores that this closure performance standard concerns releases to the ground, not to groundwater. This reading of the Rule makes sense given that the Rule regulates groundwater in the post-closure period for at least 30 years and can require corrective action in

the event of a release to groundwater. *See* 40 C.F.R. § 257.104(b)(2) (2016) (stating that post closure care includes "[m]aintaining the groundwater monitoring system and monitoring the groundwater . . . .); *see also* 80 Fed. Reg. at 21426 ("In addition, a mandatory 30 year period ensures that if problems do arise with respect to a final cover system, the groundwater monitoring and corrective action provisions of the rule will detect and address any releases from the CCR unit, at least during the post-closure care period.").

TVA's reading of the closure performance standards also is supported by the EPA guidance upon which Mark Quarles relies in his report. In an email from EPA staff member Steve Souders to Mr. Quarles, Mr. Souders provides guidance on the amount of dewatering necessary prior to installation of the final cap system. The email states that the Rule requires elimination of "free liquids by removing liquid waste and/or solidifying the remaining wastes and waste residues prior to installing the final cover system." *See* email from Steve Souders to Mark Quarles (Feb. 18, 2016), included as **Attachment D**. Mr. Souders then states that whatever is left "must be sufficiently stabilized to support the final cover system." *Id.* While the email states that "to meet these requirements, the pore water *may* also need to be removed," Mr. Souders is explaining that pore water may need to be removed but only to the extent necessary to support the final cover system. This guidance does not state or even imply what Mr. Quarles represents is a summary of Mr. Souders' email—"that *all water* should be removed from the impoundment – including standing water and all pore water in the ash – to effectively reduce the hydraulic gradient influence on the uppermost aquifer and to stabilize the waste." Letter from Mark Quarles to Chuck Head at 8 (Dec. 20, 2016) (emphasis in original).

SELC's interpretation of the role of the closure plan is based on a misreading of the Rule and a mischaracterization of EPA guidance. Every one of TVA's plans describes the methods and actions that TVA will employ to achieve the CCR Rule's performance standards. Nothing more is needed, especially in these initial closure plans. Again, these plans will be appropriately modified in response to future technical and environmental analyses.

5. *The August 2015 Commissioner's Order Allows TVA to Conduct Closure Activities under the CCR Rule at Risk.*

SELC's mischaracterization of CCR Rule requirements and unsupported assertions provides no basis for its position that TVA has violated that Rule in the context of the closure plans that it prepared and posted. TDEC should reject SELC's request that TVA be ordered to stand down until these "violations" are corrected. Moreover, Commissioner's Order OGC15-0177 would still allow TVA to conduct closure activities under the CCR Rule. Paragraph VII.D.1 of the Order states this expressly. Even if TDEC is dissatisfied with how TVA is implementing the CCR Rule and asks that TVA's compliance plans be changed, Paragraph VII.D.3 reaffirms that TVA is free to proceed with those plans at its risk.

The vast amount of information TVA currently has about these areas indicates there is no risk to human health and the environment from its current closure plans. TVA is committed to working

with TDEC and remaining in compliance with the unilateral order process by remedying any unacceptable risk to human health and the environment that is identified through that process. TVA further remains committed to complying with other applicable state requirements.

We are available to discuss this with you if you wish. Please have your staff contact TVA Senior Attorney Jodie Birdwell at (865) 632-8962.

Sincerely,

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