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Submitted online at www.tva.gov/nepa and via electronic mail to aapilakowski@tva.gov

Re: TVA's notice of intent to prepare an environmental impact statement for Cumberland Fossil Plant coal combustion residuals management

Dear Ms. Pilakowski:

The Southern Environmental Law Center, Environmental Integrity Project, Southern Alliance for Clean Energy, Sierra Club Beyond Coal Campaign, Tennessee Clean Water Network, and Tennessee Chapter Sierra Club (collectively, "Environmental Groups") write to provide comments regarding the scope of TVA's proposed environmental impact statement ("EIS") for coal combustion residuals ("CCR" or "coal ash") management at the Cumberland Fossil Plant ("Cumberland Plant" or "Plant"). The notice of intent published in the Federal Register ("Scoping Notice") explains that TVA intends in the EIS to analyze three connected actions: (1) closure of the Bottom Ash and Main Ash Impoundments; (2) options for management and disposal of dry CCR; and (3) construction of a bottom ash dewatering facility.[1] We first describe some key aspects of the existing environment at and near the Cumberland Plant relevant to water-related impacts associated with these three proposed actions. We then briefly identify some issues that must be considered by TVA in the NEPA analysis for each of these three proposed actions.[2]

[1] Tennessee Valley Authority, Environmental Impact Statement for Cumberland Fossil Plant Coal Combustion Residual Management, Notice of Intent, 81 Fed. Reg. 87648 (December 5, 2016) [hereinafter "Scoping Notice"].
[2] These brief scoping comments are not intended to be comprehensive; rather, we highlight some of the issues that TVA's past coal ash-related environmental analyses have failed to adequately address. The burden remains TVA's to prepare a comprehensive analysis of the impacts associated with a reasonable range of alternatives. *See Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 559 (9th Cir. 2000) ("It is the agency, not an environmental plaintiff,

I. The Cumberland Fossil Plant has been polluting and continues to pollute groundwater and surface water with toxic wastewater and coal ash, and its description of the affected environment must include this pollution.

With 2,470 MW generating capacity, the Cumberland Plant is the largest coal-fired power plant in TVA's fleet.[3] The Cumberland Plant is located in Cumberland City, Tennessee, at the confluence of Wells Creek and a stretch of the Cumberland River known as Lake Barkley. The Cumberland Plant is upstream from several highly valued recreation and wildlife areas in Tennessee, including Barkley Wildlife Management Area, Cross Creeks National Wildlife Refuge, and Land Between the Lakes National Recreation Area.[4] The Cumberland River/Lake Barkley, miles 90.3-108, are included on Tennessee's list of Known Exceptional Tennessee Waters and Outstanding National Resource Waters, due to the Cross Creeks National Wildlife Refuge and the presence of state endangered lake sturgeon.[5] Several drinking water intakes are also located downstream from the Cumberland Plant.[6]

The Cumberland Plant burns thousands of tons of coal daily, resulting in hundreds of thousands of tons of coal combustion residuals ("coal ash") waste generated annually and an average of 2,097 million gallons of wastewater each day.[7] As described below, the Cumberland Plant has caused and continues to cause significant water pollution in the Cumberland River, Wells Creek, and groundwater that flows into these surface waters.

A recently-published report identifies the Cumberland Plant as the worst mercury polluter among coal plants nationwide.[8] Mercury is a neurotoxin that bioaccumulates in fish and can cause damage to a person's nervous, digestive, and immune systems.[9] The report, based on information provided by TVA to the federal EPA and available to the public in the Toxics

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that has a 'continuing duty to gather and evaluate new information relevant to the environmental impact of its actions.'")

[3] Tennessee Valley Authority. "Cumberland Fossil Plant." https://www.tva.gov/Energy/Our-Power-System/Coal/Cumberland-Fossil-Plant (accessed 5 Dec 2016).

[4] SELC, Map, Cumberland Fossil Plant, Managed Natural Resource Areas Downstream, May 22, 2015.

[5] TDEC, Exceptional Tennessee Waters & Outstanding National Resource Waters, http://tdec.tn.gov:8080/pls/enf_reports/f?p=9034:34304:::::: (visited December 10, 2016).

[6] SELC, Map, Tennessee Valley Authority Coal Ash Sites and Downstream Drinking Water Intakes, June 30, 2016.

[7] *See* Scoping Notice, 81 Fed. Reg. 87648 (Cumberland Plant produces 1.3 million tons of coal ash per year); TVA, Cumberland Fossil Plant (CUF)—NPDES Permit No. TN0005789—Updated Permit Renewal Application (August 1, 2016) [hereinafter NDPES Renewal Application] (reporting an average flow of 2,096.987 mgd from Outfall 2, which includes discharge from internal outfall 001).

[8] Environmental Integrity Project, Toxic Wastewater from Coal Plants, 16 (August 2, 2016), http://environmentalintegrity.org/wp-content/uploads/Toxic-Wastewater-from-Coal-Plants-2016.08.11-1.pdf [hereinafter EIP]; *see also* Mark Hicks, *Cumberland City Plant Rated Worst Mercury Polluter*, Clarksville Leaf-Chronicle, August 11, 2016, http://www.theleafchronicle.com/story/news/2016/08/11/cumberland-fossil-plant-rated-worst-mercury-polluter-us/88559336/.

[9] EIP, 8.

Release Inventory, found that TVA dumped 120 pounds of mercury generated at the Cumberland Plant into the Cumberland River in 2015.[10] The same report identifies the Cumberland Plant as the second-worst selenium polluter among coal plants nationwide.[11] Like mercury, selenium also bioaccumulates in fish. Selenium can cause damage to a person's circulatory system.[12] In 2015, TVA dumped 6,000 pounds of selenium generated at the Cumberland Plant into the Cumberland River.[13] TVA's current state-issued NPDES permit at the Cumberland Plant places no numeric limits on the amount of mercury, selenium, or other toxic pollutants TVA can dump into the river through its permitted outfalls.[14]

In addition to the toxic wastewater TVA dumps into the Cumberland River under its permit, the ash ponds and disposal areas at the Cumberland Plant also illegally leak toxic coal ash pollution into Wells Creek and the Cumberland River.

After the catastrophic coal ash spill at its Kingston plant, TVA committed to transition to dry coal ash storage at all of its coal plants. Yet eight years later, TVA is still storing coal ash in leaking, unlined pits next to the Cumberland River and Wells Creek at the Cumberland Plant.

In January 2016, on behalf of the Sierra Club, the Southern Environmental Law Center filed a notice of intent ("Sierra Club NOI") to sue Tennessee Valley Authority (TVA) in federal court for violating the Clean Water Act at the Cumberland Plant by illegally polluting the Cumberland River and Wells Creek with coal ash contamination leaking from unlined coal ash pits at the Plant.[15] The Sierra Club NOI is provided as an attachment to this letter and the facts set forth therein are incorporated by reference. The Sierra Club NOI explains that the ash ponds and disposal areas at Cumberland are constructed atop the original streambed of Wells Creek and fragile bedrock fractured by a meteor hundreds of millions of years ago. These unique features of the site, coupled with TVA's decision to build primitive dams to contain the coal ash—in some cases on top of unstable, porous layers of ash—have resulted in persistent leaks of coal ash pollutants both through groundwater and directly through seeps into Wells Creek and the Cumberland River. Independent surface water sampling reported in the Sierra Club NOI

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[10] *Id.*, 16.
[11] *Id.*
[12] *Id.*, 8.
[13] *Id.*, 16.
[14] Tenn. Dep't of Envtl. & Conservation, Cumberland Fossil Plant, NPDES Permit No. TN0005789 Part A, page 2 (effective date January 1, 2008) [hereinafter NPDES Permit].
[15] Letter from Delta Anne Davis, et al., on behalf of the Sierra Club, to TVA, re: 60-Day Notice of Intent to Sue, 33 U.S.C. § 1365, for Violations of the Clean Water Act by Tennessee Valley Authority–TVA Cumberland Fossil Plant (CUF), NPDES No. TN0005789 16-20 (January 14, 2016) [hereinafter Sierra Club NOI].

demonstrates the presence of coal ash contaminants in seep flows and elsewhere along the perimeter of the ash ponds and disposal areas at the Plant.[16]

In addition, TVA's own groundwater monitoring reports show that its coal ash is polluting the groundwater at the Plant, which flows into nearby Wells Creek and the Cumberland River. In every report over a ten year period from 2003 to 2013, TVA found exceedances of boron, iron, manganese, molybdenum, chloride, sulfate and total dissolved solids in at least one test well location.[17]

Because TVA built the ash ponds over the original stream channel of Wells Creek and atop fractured bedrock that is prone to unpredictable and unknown fractures, this contaminated groundwater flows into the nearby surface waters. TVA's current permit only authorizes it to discharge CCR wastewater into surface water through a single outfall, not through countless leaks and seeps. Moreover, the permit requires TVA to dispose of coal ash and coal ash constituents not discharged through the outfall "in a manner, [sic] which prevents [their] entrance into or pollution of any surface or subsurface waters."[18] TVA therefore has been and continues to illegally pollute groundwater, the Cumberland River, and Wells Creek with coal ash and coal ash constituents.

The proposed EIS must discuss the full extent of existing contamination and current and ongoing groundwater and surface water pollution at the Cumberland Plant.

II. The proposed EIS must thoroughly address water-related impacts associated with the proposed actions and a reasonable range of alternatives.

NEPA is "our basic national charter for protection of the environment."[19] Other environmental statutes focus on particular media (like air, water or land), specific natural resources (such as wilderness areas, or endangered plants and animals), or discrete activities (such as mining, introducing new chemicals, or generating, handling or disposing of hazardous substances). In contrast, NEPA applies broadly "to promote efforts which will prevent or eliminate damage to the environment."[20]

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[16] *Id.* 19-20; *see also* Harkness, J., Sulkin, B., and Vengosh, A., *Evidence for Coal Ash Ponds Leaking in the Southeastern United States*, Environ. Sci. Technol., 2016, 50 (12), pp 6583–6592 (strontium isotopes in seep and surface water samples at the Cumberland Plant "consistent with the ratios expected for CCRs and were distinctly higher than the ration in the upstream sample").
[17] Sierra Club NOI, 11-16.
[18] NPDES Permit, Part I.A, page 4.
[19] 40 C.F.R. § 1500.1(a).
[20] National Environmental Policy Act § 2, 42 U.S.C. § 4321.

> [NEPA] has 'twin aims. First, it places upon [a federal] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.[21]

To accomplish its goal of informed decision-making, NEPA requires the agency proposing the action to provide a full and fair analysis of the environmental impacts of a proposed action and its alternatives.[22] In order to engage in this analysis, the agency must (1) define the purpose of its action; (2) identify alternatives that might help it achieve that purpose; and (3) describe an accurate environmental baseline against which to evaluate the impacts of the proposed action and its alternatives.[23] To the extent an agency proposes to "tier" its analysis from a programmatic EIS, such tiering is not intended to allow the agency to obscure the extent of site-specific environmental impacts or to narrow artificially the alternatives available during site-specific analysis.[24]

NEPA "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decisionmaking to the end that 'the agency will not act on incomplete information, only to regret its decision after it is too late to correct.'"[25] Only after fully evaluating a reasonable range of alternatives and the environmental impacts associated with each in compliance with NEPA may an agency determine its preferred course of action.

Environmental Groups, together with others, have previously commented extensively on the fundamental inadequacy of the programmatic and site-specific analyses in the Ash Impoundment Closure EIS, the final version of which was published in June 2016 ("PEIS"). The three sets of comments we provided on the draft and final versions of the PEIS are attached to this letter and are incorporated by reference.[26] Below we discuss some issues that must be

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[21] *Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1066 (9th Cir. 2002) (quoting *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983)) (internal quotations and citations omitted, alteration in original).
[22] 40 C.F.R. § 1502.14.
[23] 40 C.F.R. §§ 1502.13–.16.
[24] *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982). ("The critical inquiry in considering the adequacy of an EIS prepared for a large scale, multi-step project is not whether the project's site-specific impact should be evaluated in detail, but when such detailed evaluation should occur."); *id.* at 763 ("The promise of site-specific EIS's [sic] in the future is meaningless if later analysis cannot consider wilderness preservation as an alternative to development.").
[25] *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998).
[26] *See generally* SELC et al., Comments on Draft Ash Impoundment Closure Environmental Impact Statement (Mar. 9, 2016); Letter from SELC, et al., to Ashley Farless, TVA, re: TVA's Obligation to Prepare a Supplemental Environmental Impact Statement for Draft Ash Impoundment Closure Environmental Impact Statement, Part I-Programmatic NEPA Review, and Part II, Site-Specific NEPA Review ("DEIS") (Originally published December 2015); TVA's Continuing Refusal to Disclose and Properly Analyze Key Environmental Impacts in the DEIS (May 23, 2016) ; SELC, et al., Comments on Final Ash Impoundment Closure Environmental Impact Statement (June 8, 2016).

addressed by TVA in its analysis of each of the proposed actions identified in the Scoping Notice.

A. Closure of the Bottom Ash and Main Ash Impoundments

In the Scoping Notice, TVA states that the purpose of the EIS is "to address the long-term management of CCR produced at CUF."[27] TVA further states that "[t]he project will help TVA comply with state and federal requirements related to CCR production and management, including the requirements of U.S. Environmental Protection Agency (EPA's) CCR Rule…."[28] As Environmental Groups discussed in comments on the PEIS, TVA must select an alternative that complies with all of the laws and regulations that apply to its coal ash ponds and disposal areas. Yet TVA's preferred alternative to cap the Bottom Ash and Main Ash Ponds in place, as identified in closure plans it has posted on its federal Coal Ash Rule compliance website, does not comply even with the minimum requirements established by the federal Coal Ash Rule.

Under the federal Coal Ash Rule, a closure plan proposing to cap a coal ash unit in place must, among other requirements, "discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section."[29] 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.[30] If a unit cannot satisfy the performance standards, the operator must "clean close" the unit, which means removing the coal ash and decontaminating the area.[31]

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;

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[27] Scoping Notice, 81 Fed. Reg. 87648.
[28] *Id.*
[29] 40 C.F.R. § 257.102(b).
[30] *Id.* § 257.102(d).
[31] EPA, Relationship Between the Resource Conservation and Recovery Act's Coal Combustion Residuals Rule and the Clean Water Act's National Pollutant Discharge Elimination System Permit Requirements, "Closure Requirements," https://www.epa.gov/coalash/relationship-between-resource-conservation-and-recovery-acts-coal-combustion-residuals-rule#Closure (accessed January 5, 2017) [hereinafter EPA Closure Requirements]; *see also* 40 C.F.R. § 257.102(c) (describing performance standard for closure by removal of coal ash).

(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.[32]

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.[33]

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."[34]

A discussion of how the closure of a particular impoundment will meet these standards must necessarily be site-specific. Indeed, EPA counsels:

> Whether any particular unit or facility can meet the performance standards for closure with waste in place is a site-specific determination that will depend on a number of factual and engineering considerations, such as the hydrogeology of the site, the engineering of the unit, and the kinds of engineering measures available.[35]

Such a discussion must be site-specific because the conditions at each impoundment vary, in terms of the underlying geology and hydrogeology, the history of construction of the dikes, and other features of the impoundment. 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,

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[32] *Id.* § 257.102(d)(1).
[33] *Id.* § 257.102(d)(2).
[34] *Id.* § 257.102(d)(3).
[35] EPA Closure Requirements, https://www.epa.gov/coalash/relationship-between-resource-conservation-and-recovery-acts-coal-combustion-residuals-rule#Closure.

and stability, is crucial to enable citizens and decisionmakers to evaluate whether an owner/operator's plan satisfies the performance standards in the Rule, and therefore, whether the alternative is reasonable for purposes of NEPA compliance.

In a letter dated October 18, 2016, EPA informed TVA of the utility's obligation to provide the site-specific analysis required by the Coal Ash Rule in order to comply with NEPA:

> 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.[36]

The closure plans posted by TVA for the Cumberland Plant fall far short of providing the site-specific technical analysis required to support TVA's selection of closure in place for any of the ash ponds and disposal areas at the Plant. The plans contain no discussion of site-specific conditions. Yet, as we have pointed out elsewhere, 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. 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.

To give a specific example, as applied to the closure plan for the Stilling Pond at Cumberland (which is part of the Main Ash Pond), these site-specific conditions at the Cumberland Plant have several implications for compliance with the performance standards in the Coal Ash Rule. In the closure plan, 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.[37] This proposal will not control or minimize releases "to the maximum extent feasible,"[38] 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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[36] 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) (attached to this letter via Sharefile).

[37] 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].

[38] 40 C.F.R. § 257.102(d)(i).

nearby creek and Cumberland River. Nor will the proposal minimize or eliminate "the infiltration of liquids into the waste."[39] 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.

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.[40] 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. The closure plan cannot meet the performance standards in light of these conditions, and it makes no attempt to do so.[41]

TVA also provides no explanation regarding why it is not planning to immediately close the Fly Ash Stack and the Gypsum Disposal Area. Both of those units began their lives as surface impoundments, contain ash submerged in groundwater, and are polluting groundwater and surface water as described in the Sierra Club NOI. Accordingly, the EIS should analyze a reasonable range of alternatives for clean closing and removing ash from the Fly Ash Stack and the Gypsum Disposal Area in addition to the Main Ash Pond and Bottom Ash Pond.

TVA asserts that its analysis of closure alternative in the EIS will "tier" from the analysis in the PEIS. As Environmental Groups explained at length in comments on the PEIS, that document provides no site-specific analysis of groundwater and surface water impacts. Moreover, contrary to the requirements of the federal Coal Ash Rule, the PEIS concludes that capping a coal ash unit in place is a reasonable alternative where coal ash is buried in groundwater.[42] The PEIS also fails to include meaningful, site-specific analysis of a reasonable range of clean closure alternatives, such as:

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[39] 40 C.F.R. § 257.102(d)(i).
[40] TVA Cumberland Closure Plan, 8.
[41] Indeed, EPA has counseled that clean closure is necessary where ash is submerged in groundwater. *See* EPA Closure Requirements, https://www.epa.gov/coalash/relationship-between-resource-conservation-and-recovery-acts-coal-combustion-residuals-rule#Closure (explaining that where small corner of unit is submerged in underlying aquifer, facility should clean close the submerged portion of the unit).
[42] TVA, Final Ash Impoundment Closure EIS Part I-Programmatic NEPA Review 65 (June 2016); *see also id.* at Part I, Chapter A.2 Response to Comments at 27 (admitting coal ash is submerged in groundwater at seven of the ten impoundments considered in Part II of the PEIS); TVA, Record of Decision, Ash Impoundment Closure Final Environmental Impact Statement Part I Programmatic Review and Part II Site Specific Review of 10 Impoundments 10 (July 28, 2016) (selecting closure in place at all ten impoundments notwithstanding having admitted ash is buried in groundwater at seven of them).

- Excavation and recycling;
- Excavation and disposal in the new on-site landfill TVA is proposing to build;
- Excavation and removal by rail; and
- Excavation and removal by barge.

For all of these reasons, in addition to the reasons set forth in Environmental Groups' comments on the PEIS, TVA cannot permissibly tier to the PEIS to comply with its NEPA obligations.

TVA must start fresh and provide the site-specific analysis required by NEPA, including an analysis of whether the proposed alternatives will satisfy the minimum performance standards set forth in the federal Coal Ash Rule. It is imperative that TVA perform a robust analysis now to avoid having to reopen the NEPA process later, as EPA has indicated TVA will be required to do, if its preferred alternative cannot satisfy the requirements of the Coal Ash Rule or state law.[43]

B. Options for Management and Disposal of Dry CCR

In the Scoping Notice, TVA asserts that for newly-generated "dry" coal ash, disposal in "a new on-site landfill or hauling CCR to an existing offsite permitted landfill are the most reasonable alternatives…."[44] This assertion begs the larger question: The retirement of the Cumberland Plant would eliminate the generation of new, "dry" coal ash and therefore eliminate any purported need for additional coal ash disposal facilities. Thus, ceasing to burn coal at the Cumberland Plant is an alternative that should be considered in the EIS.

Moreover, to the extent TVA intends to construct a new on-site landfill for disposal of coal ash, it should first consider using such a landfill for the disposal of the Plant's legacy coal ash, which is stored in the unlined pits described in Section I and II.A above and is currently contaminating groundwater and surface water at and near the Plant. In TVA's Public Scoping Information Packet, TVA suggests that it may continue to use the Fly Ash Stack for disposal.[45] Assuming TVA intends this proposal to be part of a "no action" alternative, it must consider the logical consequences of continuing to dispose of ash in an unlined, leaking pit that is polluting groundwater and surface water in violation of the Clean Water Act and other laws. Excavating coal ash from the Fly Ash Stack and other impoundments, recycling the ash to the extent feasible, and disposing of any remaining ash in the proposed on-site, lined landfill is an alternative that should be considered in the EIS.

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[43] 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).
[44] Scoping Notice, 81 Fed. Reg. 87648.
[45] TVA, Public Scoping Information Packet, Cumberland Fossil Plant CCR Management Environmental Impact Statement 2 (December 2016)(obtained at the open house held by TVA in Clarksville, Tennessee on December 12, 2016)[hereinafter Information Packet].

Any new on-site landfill will need to comply with all of the requirements of the federal Coal Ash Rule, including the location restrictions set forth in 40 C.F.R. §§ 257.60-64. A new on-site landfill must also comply with the requirements of the Tennessee Solid Waste Disposal Act and its implementing regulations. The EIS should address how its proposed on-site landfill will comply with these laws and regulations. In particular, the EIS should address the hydrogeology of the proposed landfill site and whether the site is situated atop the Wells Creek Structure, which is characterized by highly unpredictable, fractured bedrock.

With respect to hauling coal ash off site to an existing permitted landfill, TVA should consider a reasonable range of options, including: (1) transportation by rail and barge; (2) varying distances to potential landfills; and (3) opportunities for additional coal ash recycling.

TVA must also consider the environmental justice implications of the selection of a particular site for coal ash disposal. In the aftermath of the Kingston coal ash spill, TVA transported ash to the Arrowhead Landfill in Perry County, Alabama, a landfill in an environmental justice community with repeated violations of pollution laws.[46] In September 2016, the United States Commission on Civil Rights issued a report finding that the decision to move coal ash to the Arrowhead Landfill was primarily based on technical considerations, including cost, and did not properly take into account environmental justice concerns.[47] This must not happen again. TVA must ensure that any disposal location for its coal ash complies with laws designed to protect people from pollution, and takes into account disproportionate impacts on communities that are already burdened.

C. Construction of a Bottom Ash Dewatering Facility

Finally, TVA proposes to construct and operate a new bottom ash dewatering facility.[48] TVA's Public Scoping Information Packet explains that TVA is considering "options for using a continuous or once-through system where water left over from the dewatering process would be

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[46] Kristen Lombardi, *Welcome to Uniontown: Arrowhead Landfill Battle a Modern Civil Rights Struggle*, NBC News (Aug. 5, 2015), http://www.nbcnews.com/news/nbcblk/epa-environmental-injustice-uniontown-n402836. Arrowhead Landfill is listed on the 2015 Public Notice of Significant Non-Compliance for Significant Industrial Users. *See* ADEM, Public Notice of Significant Non-Compliance for Significant Industrial Users (Feb. 2016), http://www.adem.state.al.us/newsEvents/notices/feb16/2snc.htm.

[47] U.S. Commission on Civil Rights, Environmental Justice: Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12,898, 65-69 (September 2016), http://www.usccr.gov/pubs/Statutory_Enforcement_Report2016.pdf.

[48] Scoping Notice, 81 Fed. Reg. 87648.

treated and then discharged through an existing permitted outfall or recirculated back into the plant for future sluicing operations."[49]

TVA identifies compliance with the Effluent Limitation Guidelines as one of the purposes of its proposed project.[50] The Effluent Limitation Guidelines require zero discharge from bottom ash transport water beginning in 2018.[51] TVA's proposed "once-through" option would result in continued discharges of toxic wastewater pollution into the Cumberland River. Because it would violate the Effluent Limitation Guidelines, TVA's proposed "once-through" option does not satisfy the purpose and need for the proposed project.

Other alternatives not discussed by TVA in the Scoping Notice should be included in the EIS. First, as discussed above, TVA should include analysis of an alternative in which TVA retires the Cumberland Plant.[52] By retiring the Plant, TVA would cease production of toxic bottom ash and bottom ash wastewater and eliminate the need for a bottom ash dewatering facility. Second, in addition to recirculating systems that require dewatering facilities, EPA identifies dry handling of bottom ash as an alternative to comply with the zero discharge limit.[53] The EIS should evaluate dry handling in addition to dewatering.

Any alternative in which TVA will continue to generate bottom ash must include an analysis of how TVA will dispose of the ash, the impacts associated with such disposal, and whether such disposal will comply with all applicable laws and regulations. See Sections I and II.A and B above.

In sum, the Cumberland Plant contributes a significant amount of water pollution to a watershed that serves as a highly-valued recreational resource and a drinking water source for citizens of the State of Tennessee. The federal Clean Water Act, Coal Ash Rule, Effluent Limitation Guidelines, and state water quality and solid waste disposal laws must form the basis for determining the range of alternatives available to TVA for "long term management of CCR produced at CUF."[54] TVA must take these laws and regulations fully into account. Moreover, to comply with these laws and regulations and with NEPA, TVA must prepare an EIS that

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[49] Information Packet, 3.
[50] Scoping Notice, 81 Fed. Reg. 87648.
[51] EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY, 80 Fed. Reg. 67,838, 67,896 (Nov. 3, 2015) (codified at 40 C.F.R. §§ 423)(hereinafter Final Rule)(requiring compliance "as soon as possible" beginning November 1, 2018).
[52] In the Information Packet, TVA mentions briefly that it "will evaluate stopping operations," but it is unclear whether it intends to analyze retirement of the Plant. Information Packet, 2.
[53] EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY, 80 Fed. Reg. 67,838, 67852-853 (Nov. 3, 2015) (codified at 40 C.F.R. §§ 423)(hereinafter Final Rule).
[54] Scoping Notice, 81 Fed. Reg. 87648.

discloses and analyzes the site-specific impacts, including impacts to groundwater and surface water, associated with its proposed actions and a reasonable range of alternatives.

Sincerely,

/s
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/s with permission
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