UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; A Holistic Approach to Closure Part A: Deadline To Initiate Closure **84 Fed. Reg. 65,941 (Dec. 2, 2019)**	**Docket ID No. EPA-HQ-OLEM-2019-0172** *Submitted via regulations.gov*

COMMENTS OF EARTHJUSTICE, ENVIRONMENTAL INTEGRITY PROJECT, SIERRA CLUB, WATERKEEPER ALLIANCE, CLEAN WATER ACTION, NATURAL RESOURCES DEFENSE COUNCIL, SOUTHERN ENVIRONMENTAL LAW CENTER, LABADIE ENVIRONMENTAL ORGANIZATION, HOOSIER ENVIRONMENTAL COUNCIL, PRAIRIE RIVERS NETWORK, AND ECO-JUSTICE COLLABORATIVE

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GLOSSARY LIST

2014 RIA = EPA, Regulatory Impact Analysis (RIA) for EPA's 2015 Coal Combustion Residuals (CCR) Final Rule, Docket ID No. EPA-HQ-RCRA-2009-0640-12034 (Dec. 2014)

2014 Risk Assessment = EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals, Docket ID No. EPA-HQ-RCRA-2009-0640-11993 (Dec. 2014)

AEP = American Electric Power

APA = Administrative Procedure Act

BiOp = Biological Opinion

CCR = coal combustion residuals

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

coal ash = coal combustion residuals

E.O. = Executive Order

EIP = Environmental Integrity Project

EPA = United States Environmental Protection Agency

EPRI = Electric Power Research Institute

ESA = Endangered Species Act

FWS = United States Fish and Wildlife Service

NEPA = National Environmental Policy Act

NMFS = National Marine Fisheries Service

NPDES = National Pollutant Discharge Elimination System

OLEM = EPA Office of Land and Emergency Management

OMB = White House Office of Management and Budget

OSWER = EPA Office of Solid Waste and Emergency Response

Proposed RIA = EPA, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure, Docket ID No. EPA-HQ-OLEM-2019-0172-0016 (Oct. 2019).

RCRA = Resource Conservation and Recovery Act

RIA = Regulatory Impact Analysis

SSI = Statistically Significant Increase

TDS = total dissolved solids

USWAG = Utility Solid Waste Activities Group (case)

USWAG = Utility Solid Waste Activities Group (group)

I. INTRODUCTION

Across the nation, hundreds of leaking, unlined, toxic coal ash ponds are polluting groundwater as well as bays, lakes, rivers and streams, releasing toxic and radioactive substances into the water. For a century, utilities have used the cheapest, easiest – and most dangerous – method of disposal for the toxic waste generated by coal plants: dumping it into unlined basins or "ponds" next to the plants. Over decades, hundreds of coal ash ponds have grown to span scores of acres, containing millions of tons of liquid toxic waste impounded behind the ash or soil walls of aging coal ash dams. Many sit close to communities and water bodies, and industry's own monitoring data has revealed that the vast majority of them are leaking.

After catastrophic failures of coal ash ponds released millions of gallons of toxic sludge at multiple sites and made the dangers of coal ash impossible to ignore, the Environmental Protection Agency ("EPA") finally issued the first-ever regulations of coal ash ponds in 2015. Those rules established minimal standards for the hundreds of coal ash ponds throughout the U.S., including, importantly, deadlines by which leaking, unstable, and dangerous coal ash ponds must close in order to protect health and the environment.

In this Part A Proposal,[1] which marks yet another attempted rollback of the 2015 Coal Combustion Residuals ("CCR" or "coal ash") Rule,[2] EPA is acting contrary to the directive of Congress in the Resource Conservation and Recovery Act ("RCRA"),[3] the growing body of evidence on the risks coal ash poses and the damage it has done, as well as the clear admonitions of the D.C. Circuit in its 2018 opinion on the 2015 CCR Rule,[4] by proposing to *extend* the life of these dangerous impoundments. The Part A Proposal would, among other things:

- Give owners and operators of coal ash ponds what amounts to a free pass to continue dumping coal ash and potentially hazardous non-coal ash wastes into unlined impoundments, when they have been on notice of the need to close those impoundments for decades, and could have closed them long ago;

- Allow consideration of costs and inconvenience in extending the life of unlined impoundments, in direct contravention of the D.C. Circuit's 2018 decision;

- Entirely ignore the vast and growing body of evidence that unlined impoundments and impoundments violating location standards are leaking dangerous pollutants, at dangerous levels, into groundwater; and

[1] EPA, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure, 84 Fed. Reg. 65,941 (Dec. 2, 2019) ("Part A Proposal").
[2] EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities, 80 Fed. Reg. 21,302 (Apr. 17, 2015) ("2015 CCR Rule," "CCR Rule," or the "Rule").
[3] 42 U.S.C. § 6901 *et seq.*
[4] *See Utility Solid Waste Activities Group v. EPA*, 901 F.3d 414 (D.C. Cir. 2018) ("*USWAG*").

- Allow continued dumping of non-coal ash wastes into unlined impoundments without any consideration whatsoever of the risks such wastes pose, both alone and when mixed with coal ash.

Throughout this submission, Commenters discuss in detail how the Part A Proposal is unreasonable, unsupported, and fails to satisfy the protectiveness standard set forth in section 4004(a) of RCRA, which requires EPA to ensure that there is no reasonable probability of adverse effects on health or the environment.

Finalization of this arbitrary, capricious, and unlawful proposal in anything like its current form would be a huge giveaway to polluters and an immense danger to communities adjacent to coal ash ponds. The Part A Proposal must be withdrawn immediately.

Finally, Commenters note that EPA failed and refused to hold an in-person public hearing so that the voices of affected communities could be heard, setting an unwelcome and unlawful precedent. In addition, the time provided by EPA for public comment on the Part A Proposal was inadequate given the scope of EPA's proposal and the degree of public concern about the dangers posed by unsafe disposal of toxic coal ash, among other things. EPA's actions manifest the Agency's desire to fast-track industry-demanded changes and do not reflect an effort to provide for, encourage, and assist public participation, as RCRA requires.

II. FACTUAL BACKGROUND

A. CCR Is One of the Largest Toxic Industrial Wastestreams in the United States.

Coal-fired power plants in the United States burn more than 800 million tons of coal every year, producing more than 110 million tons of coal ash – which includes fly ash, bottom ash, scrubber sludge and boiler slag – in forty-seven states and Puerto Rico.[5] The majority of this massive wastestream either is mixed with water and transported to large surface impoundments (known commonly as "ponds") or is deposited in dry landfills.[6] EPA's Regulatory Impact Analysis for the 2018 Proposed Rule identified 747 coal ash surface impoundments and 286 coal ash landfills.[7]

Coal naturally contains trace amounts of many hazardous chemicals, and these chemicals are concentrated in the solid waste when the coal is burned.[8] In addition, Clean Air Act regulations have required coal plants to capture increasing amounts of harmful emissions at the smokestack, like mercury and other heavy metals, but these pollutants, particulates and sludge end up in the solid waste.[9] Consequently, coal ash is a toxic brew of carcinogens, neurotoxins, and poisons – including arsenic, boron, cadmium, hexavalent chromium, lead, lithium, mercury,

[5] 80 Fed. Reg. 21,302, 21,303 (Apr. 17, 2015).
[6] *Id.*
[7] EPA, Regulatory Impact Analysis (RIA) for EPA's 2015 Coal Combustion Residuals (CCR) Final Rule, Docket ID No. EPA-HQ-RCRA-2009-0640-12034, at 2-1, 4-9 (Dec. 2014) ("2014 RIA").
[8] 75 Fed. Reg. 35,128, 35,138 (June 21, 2010).
[9] *Id.* at 35,139.

molybdenum, selenium, and thallium.[10] When this dangerous waste is not disposed of properly, the toxic chemicals are re-released to air, groundwater, surface water, and soil.

B. Mismanagement of CCR Has Created a Vast Universe of Dangerous Disposal Units.

The hundreds of coal ash surface impoundments across the country hold their toxic sludge behind earthen dikes, often dozens of stories tall, with pits spanning hundreds of acres, impounding tens of millions of tons of liquid industrial waste.[11] Because of the wet handling and storage methods favored by industry, the great pressure (hydraulic head) of ash and water in these ponds can rapidly drive contaminated leachate into underlying soils or water.[12] Both coal ash landfills and impoundments are likely to cause harmful contamination if operated without effective engineering controls, like impermeable liners, groundwater monitoring systems, and proper construction and maintenance to ensure structural stability.[13]

Until recently, most ash impoundments were constructed without a liner on the bottom that could prevent toxic chemicals from leaking into underlying groundwater.[14] EPA estimates that about sixty-five percent of existing surface impoundments have no liner whatsoever.[15] And EPA estimates that only six percent of the total coal ash disposed in surface impoundments is placed in impoundments that have "composite" liner systems, which consist of a layer of clay overlaid by a geomembrane, both of sufficient thickness and low permeability.[16] As EPA has recognized, disposal of coal ash in landfills and impoundments that lack composite liners is a recipe for disaster because of the propensity of hazardous chemicals to leak out and migrate through groundwater and into nearby surface waters.[17]

EPA has documented 157 sites[18] in thirty-two states where coal ash mismanagement has caused damage to human health and the environment.[19] EPA found that over ninety percent of the damage cases occurred at dumps with inadequate liners, and most of the harm occurred at impoundments with no liner at all.[20] EPA notes that the current number of damage cases underestimates the present risks because the majority of coal ash disposal sites are not monitored

[10] *See id*. at 35,139, 35,153, 35,168.
[11] 2014 RIA at 2-19.
[12] 80 Fed. Reg. at 21,357, 21,441.
[13] *Id.* at 21,327-28.
[14] *Id.* at 21,324.
[15] 2014 RIA at 3-4 n.105; EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals, Docket ID No. EPA-HQ-RCRA-2009-0640-11993, at 5-5, tbl. 5-3 (Dec. 2014) ("2014 Risk Assessment").
[16] 2014 RIA at 3-13.
[17] 80 Fed. Reg. at 21,325.
[18] EPA's damage case spreadsheet erroneously numbered two potential damage cases as number 16. Consequently, the total number of damage cases is actually 158. *See* EPA, CCR Damage Cases Database, Docket ID No. EPA-HQ-RCRA-2009-0640-12123; *see also* EPA, Damage Case Compendium EPA-HQ-RCRA-2009-0640-12118, -12119, -12120, -12121.
[19] *Id.*
[20] 80 Fed. Reg. at 21,458.

and there is a lag time between the disposal of coal ash and the migration and detection of hazardous chemicals.[21] Ultimately, EPA concluded that "both the specifics of the damage cases and the fact that they continue to occur provide strong evidence of the need for this rule."[22] EPA's Risk Assessment for the 2015 rule echoes the results of the damage cases by finding that one of the factors that most influences risk is whether the disposal pit is lined.[23] The Risk Assessment concludes that contamination from coal ash in unlined impoundments results in unacceptable risks of developing cancer from exposure to arsenic and unacceptable risks of developing non-cancer illnesses from exposure to arsenic, lithium, molybdenum and thallium.[24]

The disposal of coal ash and water in massive, dammed surface impoundments also has led to catastrophic environmental destruction and substantial economic damage following the collapse of impoundments.[25] A dike collapse at Tennessee Valley Authority's Kingston Fossil Plant in 2008 left 300 acres of riverfront flooded with more than a billion gallons of toxic sludge.[26] The disaster swept houses off their foundations, necessitated a multi-year cleanup costing more than $1.2 billion, and permanently displaced scores of families.[27] There have been at least five other major coal ash spills involving the rupture of earthen dikes or pipe failures.[28] From 1999 through 2009, there were thirty-five coal ash spills at twenty-five different coal plants.[29] The largest of the four spills occurred in 2014, when a pipe at an inactive impoundment at Duke Energy's Dan River Steam Station ruptured, causing a spill of approximately 39,000 tons of coal ash and 27 million gallons of wastewater into the Dan River.[30]

At least fifty coal ash impoundments are so large that EPA has classified their dikes as "high hazard," meaning that failure or misoperation is likely to result in loss of life.[31] EPA has classified another 250 coal ash impoundments as "significant hazard," which means that their failure is likely to cause economic loss, environment damage, or disruption of lifeline facilities.[32] The advanced age of the surface impoundments increased the risks of failure. According to EPA:

> Surface impoundments are generally designed to last the typical operating life of coal-fired boilers, on the order of 40 years. However, many impoundments are aging; based on the subset of

[21] *Id*.
[22] *Id.* at 21,326.
[23] 2014 Risk Assessment at ES-7 ("Sensitivity analyses on liner type indicate that disposal of CCR wastes in unlined surface impoundments and landfills presents the greatest risks to human health and the environment."); *see also* 80 Fed. Reg. at 21,451 ("[D]isposal of CCR wastes in unlined surface impoundments and landfills presents the greatest risks to human health and the environment.").
[24] 2014 Risk Assessment at 5-5 to 5-4, tbl. 5-3.
[25] 75 Fed. Reg. at 35,147.
[26] 80 Fed. Reg. at 21,313, 21,457 n.219.
[27] 2014 RIA at 1-14.
[28] 80 Fed. Reg. at 21,457, n.219.
[29] *Id.* at 21,327.
[30] *Id.* at 21,327, 21,343, 21,457 n.219.
[31] *See* EPA, Coal Combustion Residuals Impoundment Assessment Report, Docket ID No. EPA-HQ-RCRA-2009-0640-3916.
[32] *See id.*

> units for which age data were available, approximately 195 active surface impoundments exceed 40 years of age; 56 units are older than 50 years, and 340 are between 26 and 40 years old. In recent years, problems have continued to arise from these units, which appear to be related to the aging infrastructure, and the fact that many units may be nearing the end of their useful lives.[33]

Older units are also more prone to leaking. Indeed, EPA concluded that "in the absence of any regulatory action, such units will leak in the near future, or are currently leaking, undetected, since groundwater monitoring is not installed at many of these older units."[34] In addition, "older units, which still comprise the majority of current units, continue to operate in a manner that poses risks to human health and the environment."[35]

C. Mismanagement of CCR Poses a Significant Threat to Human Health and the Environment.

In 2015, EPA concluded that "current management practice of placing CCR waste in surface impoundments and landfills poses risks to human health and the environment within the range that OSWER typically regulates."[36] EPA explained that it was establishing minimum national standards governing the disposal of CCR in order to "reduce CCR contamination of groundwater and surface water; reduce future CCR impoundment structural failures (breakages); reduce continued public exposure to CCR fugitive dust; and correct negative externalities and inadequate and asymmetric information about CCR disposal risks" and that benefits of the rule would include reduction of cancer and illness as well as mitigation of IQ losses from mercury and lead exposure.[37]

According to EPA, "the totality of the information in the rulemaking record clearly demonstrates that the risks associated with the current management and disposal of CCR remain substantial." [38]The cancer risks associated with exposure to coal ash contaminants are clear.[39] And because those cancer risks are based on national disposal practices, EPA notes that "risks at an individual site may be even higher based on individual site conditions, waste characteristics, and management practices."[40] Unlined impoundments also pose a far greater risk of causing non-cancer illnesses than composite-lined impoundments. The risk of non-cancer illnesses is 800 times higher from exposure to arsenic, 400 times higher from molybdenum, 300 times higher

[33] 80 Fed. Reg. at 21,327.
[34] *Id*.
[35] *Id.* at 21,452.
[36] *Id.* at 21,451. *See also* 2014 Risk Assessment at 6-11 ("EPA concludes that leaching from CCR waste management units has the potential to pose risk to both human and ecological receptors.").
[37] 2014 RIA at ES-2, ES5 to ES-9.
[38] 80 Fed. Reg. at 21,326.
[39] *See id*. ("EPA's risk assessment concluded that the cancer risks from unlined surface impoundments ranged from 3 × 10−4 for trivalent arsenic to 4 × 10−5 for pentavalent arsenic. . . . The risks associated with unlined landfills were also estimated to be significant, with cancer risks of 2 × 10−5 for trivalent arsenic.").
[40] *Id.*

from lithium, and 200 times higher from thallium exposure.[41] The 2014 RIA concludes that unlined impoundments are more than 360 times more likely to contaminate groundwater over their lifetimes than composite-lined impoundments.[42] EPA's own projections, made over five years ago, were that hundreds of existing impoundments will contaminate groundwater at some point[43] and this contamination will endanger human health.[44]

EPA found that arsenic, lithium and molybdenum posed the greatest risks from surface impoundments, and identified the specific adverse health impacts associated with exposure:

> Risks from arsenic ingestion are linked to an increase the risk of cancer in the skin, liver, bladder and lungs, as well as nausea, vomiting, abnormal heart rhythm, and damage to blood vessels. Risks from lithium ingestion are linked to neurological and psychiatric effects, decreased thyroid function, renal effects, cardiovascular effects, skin eruptions, and gastrointestinal effects. Risks from molybdenum ingestion are linked to higher levels of uric acid in the blood, gout-like symptoms, and anemia.[45]

D. Mismanagement of CCR Poses a Disproportionate Threat to Low-Income Communities and Communities of Color.

By EPA's own admission, coal plants – which are usually accompanied by coal ash ponds and dry coal ash landfills – are disproportionately located in impoverished areas. Commenters' own environmental justice analysis of the national rule also found disparate impact. Nearly seventy percent of ash ponds in the United States are located in areas where household income is lower than the national median.[46] In addition sixty-five percent of communities in which coal ash ponds are sited have above-average percentages of low-income families.[47] Given the serious health threats posed by exposure to coal ash constituents, it is particularly troubling that coal ash impoundments are disproportionately located in low-income communities, where residents are more likely to rely on groundwater supplies and less likely to have access to medical insurance and care.

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[41] *Id.*
[42] 2014 RIA at 5-22.
[43] 2014 RIA at 3-4 n.105, 5-22.
[44] 2014 Risk Assessment at 5-5.
[45] *Id.* at 6-11.
[46] Comments of Earthjustice, Environmental Integrity Project, Sierra Club, Natural Resources Defense Council, Southern Alliance for Clean Energy, Southern Environmental Law Center, Physicians for Social Responsibility, Clean Air Task Force, Kentucky Resources Council, Environmental Justice Resource Center (collectively "2010 Environmental Commenters"), Docket ID Nos. EPA-HQ-RCRA-2009-0640-6315 and related, at 196 & n.719 (Nov. 19, 2010) ("2010 Environmental Comments") (attached) (citing 2000 census data).
[47] *Id.* at 196 n.720.

E. New Groundwater Monitoring Data Indicate Nationwide Leaking to Groundwater over Health Protective Levels.

The 2015 CCR Rule was largely based on EPA's 2014 Risk Assessment, which made a series of assumptions about the construction of coal ash units, about the quality of the leachate from coal ash units, and about subsurface transport. Many of these assumptions were demonstrably unrealistic. For example, while EPA assumed that no coal ash units were in contact with groundwater, Commenters (and EPA) now know that, in fact, many coal ash units are located at least partially below the water table, saturated with groundwater, and susceptible to ongoing leaching regardless of the presence or absence of an impermeable cover system.[48] Moreover, thanks to the monitoring and reporting requirements of the 2015 CCR Rule, EPA now has access to a vast trove of data and reports pertaining to the likelihood of CCR surface impoundments to leak as well as direct sampling data documenting that the vast majority of them are in fact leaking. Beginning in March 2018, owners and operators of most coal plants began posting reports, information, and determinations derived from the groundwater monitoring required under the CCR Rule. Information provided in those reports includes whether impoundments are located in wetlands or in unstable, fault, or seismic areas, where the ground underlying the impoundment could fracture, facilitating migration of contaminants; whether impoundments were built with protective liners; and whether CCR impoundments are already contaminating groundwater.

This data makes clear that EPA's earlier predictions – which it relied on in finalizing the 2015 CCR Rule whose protections it now seeks to weaken – were significant underestimates of the risks posed by CCR surface impoundments and the damage they can cause and are already causing.[49] As described in further detail herein,[50] the data show that the frequency of groundwater contamination from unlined impoundments is already greater than ninety percent, far exceeding the estimate EPA relied on for the 2015 CCR Rule that fifty-seven percent of unlined impoundments would contaminate groundwater within 100 years.[51] The new data shows that more CCR surface impoundments are unlined than EPA had earlier assumed.[52] Finally, the data reveals the severity of contamination at each site: Commenters' analysis of the data found that pollutants frequently exceed safe levels by one or two orders of magnitude.[53]

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[48] *See, e.g.*, 84 Fed. Reg. 65,945; 83 Fed. Reg. at 11,589 ("The damage cases reflect a range of waste types disposed in both surface impoundment and landfills. These damage cases corroborate the findings of the [risk assessment] and also capture other scenarios that were not modeled in the [risk assessment], such as units that intersect with the groundwater table."). *See also* Dr. Ranajit Sahu, Expert Report/Comments on Specific Issues Raised by EPA's Proposed Revision to the CCR Rule (Phase One), at 14 n.43 & 18 n.58, Docket ID No. EPA-HQ-OLEM-2017-0286-1708 (Apr. 30, 2018) (attached) ("2018 Sahu Expert Report").

[49] *See, e.g.*, Environmental Integrity Project and Earthjustice, Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S., at Tbl. 2 (rev. July 11, 2019) ("EIP 2019 Report") (attached); Section XI.B – New Data.

[50] *See* Section XI.B – New Data

[51] 2014 RIA at 4-9 to 4-10, Ex. 4-A.

[52] 84 Fed. Reg. at 65,942; *see also* 2018 Sahu Expert Report at 3-4 & Attachment B.

[53] *See, e.g.*, EIP 2019 Report at Tbl. 5, Appendix A.

In short, EPA now has the ability to replace at least some of its earlier, flawed assumptions with real data. Notwithstanding EPA's acknowledgment that this new data undermines its prior assumptions and analysis,[54] EPA elected not to conduct a new risk assessment, even as it proposes to allow dangerous unlined impoundments and impoundments violating location restrictions to continue operating.[55]

III. LEGAL BACKGROUND

Nearly 40 years after Congress enacted the Resource Conservation and Recovery Act ("RCRA"),[56] EPA finally exercised its statutory authority to adopt regulations governing coal ash disposal – the 2015 CCR Rule.[57] Three years later, the D.C. Circuit highlighted the significant risks that EPA had identified, particularly regarding unlined or inadequately-lined surface impoundments, and vacated and remanded some key provisions of the 2015 CCR Rule that fell short of RCRA's strict standard under 42 U.S.C. § 6944(a) to ensure "no reasonable probability of adverse effects on health or the environment" (known as the "protectiveness standard").[58]

Notwithstanding clear signals from the court, EPA has continued its race – commenced prior to the *Utility Solid Waste Activities Group* ("*USWAG*") decision and urged on by industry – to weaken the 2015 CCR Rule. The Part A Proposal is the third set of industry-friendly amendments adopted or proposed by EPA since 2018,[59] with another set signed but not yet published[60] and another under review at the White House Office of Management and Budget ("OMB").[61]

A. The Regulation of CCR Under RCRA in 2015 Was Long Overdue.

The regulation of coal ash under RCRA was long overdue. Every step along the way, industry attempted to obstruct efforts to protect health and the environment from this dangerous substance: by requiring seemingly endless study of its long-known impacts; by evading monitoring of groundwater that further reveals how toxic CCR is; and by limiting public

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[54] *See* 84 Fed. Reg. at 65,942, 65,945; EPA, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure, at Exs. 2-1-A, 2-1-B, and 2-1-C, Docket ID No. EPA-HQ-OLEM-2019-0172-0016 (Oct. 2019) ("Proposed RIA"); Data for RIA Exs. 2-1-A, B, and C, Docket ID No. EPA-HQ-OLEM-2019-0172-0044.

[55] *See* 84 Fed. Reg. at 65,945.

[56] 42 U.S.C. §§ 6901-6992k.

[57] 80 Fed. Reg. 21,302 (Apr. 17, 2015).

[58] *Utility Solid Waste Activities Group v. EPA*, 901 F.3d 414 (D.C. Cir. 2018) ("*USWAG*").

[59] 83 Fed. Reg. 36,435 (July 30, 2018); 84 Fed. Reg. 40,353 (Aug. 14, 2019); 84 Fed. Reg. 65,941 (Dec. 2, 2019).

[60] https://www.epa.gov/sites/production/files/2019-12/documents/pre_pub_version_federal_ccr_permitting_program_nprm_rin_2050-ah07_121819_514pm_for_ao_signature.pdf.

[61] Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure; Legacy Units, RIN 2050-AH111 (screenshot of OMB website attached).

knowledge of, and involvement in, design and operation of CCR units. Congress and EPA had, at times, succumbed to these efforts at obstruction. Indeed, the 2015 CCR Rule was only promulgated after multiple lawsuits from citizens prompted courts to direct EPA to do its job.

Even with the 2015 CCR Rule in place, industry attacks on its critical protections have continued unabated. Although industry's attempt to challenge the rule in court has thus far failed,[62] the Trump Administration has become a willing and eager partner in helping industry to rollback key protections in the 2015 CCR Rule. In 2017, EPA granted industry's petition to reconsider the 2015 CCR Rule, leading to EPA's issuance of a wide-ranging proposal in 2018 which EPA has been finalizing in piecemeal fashion, including regulations promulgated in July 2018, others proposed in August 2019, the Part A Proposal published in December 2019, and another proposal reportedly at OMB. These efforts by industry and EPA run counter to – and at best fall far short of – the D.C. Circuit's decision to vacate and remand key provisions of the 2015 CCR Rule because they violate RCRA's strict standard to ensure that CCR disposal poses "no reasonable probability of adverse effects on health or the environment."[63] No proposal – such as this one – that fails to meet that stringent standard may be adopted.

1. *After decades of inaction, EPA issued the 2015 CCR Rule.*

On April 17, 2015, EPA established the first-ever federal regulations governing CCR disposal under RCRA. Those regulations – the 2015 CCR Rule – were a long time coming.

Congress enacted RCRA in 1976[64] to regulate the treatment and disposal of solid waste in order to protect human health and the environment. Subtitle C of RCRA regulated hazardous waste and directs to EPA to identify and list hazardous wastes, and establish regulations governing their handling, treatment, storage, and disposal. Disposal of non-hazardous solid waste is regulated under subtitle D of RCRA.[65]

After RCRA's passage and pursuant to congressional directive, EPA published proposed regulations in 1978 to define which solid wastes it would regulate as hazardous waste.[66] EPA proposed deferring "applicability of most of the treatment, storage, and disposal standards for selected high-volume, relatively low risk waste categories until information is gathered and assessed to determine how they can best be handled."[67] EPA stated that it would address so-called high volume, low risk wastes (utility waste such as CCR, mining waste, gas and oil drilling muds, gypsum piles, and cement kiln dust) – which it termed "special wastes" – in later regulations, and it solicited information and comments that would assist the agency in developing substantive standards.[68]

[62] *USWAG*, 901 F.3d at 435-49.
[63] 42 U.S.C. § 6944(a); *USWAG*, 901 F.3d 414 (D.C. Cir. 2018).
[64] Pub. L. No. 94-580, 90 Stat. 2795 (1976) (codified as amended at 42 U.S.C. §§ 6901-6992k).
[65] *Envtl. Def. Fund v. EPA*, 852 F.2d 1309, 1310 (D.C. Cir. 1988).
[66] 43 Fed. Reg. 58,946 (Dec. 18, 1978).
[67] *Id.* at 58,948.
[68] *Id.* at 58,992 ("A proposed rulemaking will be published at a later date regarding the treatment, storage and disposal of special waste. The Agency will be developing additional information in order to write

On May 19, 1980, EPA promulgated a comprehensive package of final regulations defining hazardous waste subject to subtitle C regulation under RCRA and establishing standards for its handling, including treatment, storage, and disposal.[69] EPA determined that there was no need for a special category of "special wastes," and that any such wastes that met the new definition of hazardous waste should be regulated the same as other hazardous waste.[70] However, because both houses of Congress had passed bills that would preclude EPA from regulating utility waste (and oil and gas waste) as hazardous waste before completing certain studies, EPA decided temporarily to defer subjecting CCR to the hazardous waste regulations pending final congressional action.[71]

Just before these regulations took effect, Congress enacted the "Bevill Amendment" on October 21, 1980, as part of the Solid Waste Disposal Act Amendments of 1980.[72] The Bevill Amendment temporarily exempted CCR from hazardous waste regulation until EPA conducted specified studies and submitted a report to Congress on the adverse effects of CCR disposal to human health and the environment,[73] and made a regulatory determination by either promulgating regulations for CCR waste or determining that no such regulations were needed.[74]

Congress imposed a two-year deadline for EPA to complete its CCR study,[75] with a final regulatory determination due six months later.[76] EPA missed both deadlines.[77] Some six years later, in February of 1988, EPA finally submitted a report to Congress on some CCR wastes.[78] While the report addressed wastes generated from electric utility power plant coal combustion, it failed to address co-managed utility coal combustion wastes, other fossil fuel combustion wastes,

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substantive standards for special waste and hereby solicits information and comment from the public which may assist the agency in developing its proposals.").

[69] 45 Fed. Reg. 33,066, 33,066-33,285 (May 19, 1980).

[70] *Id.* at 33,173-75.

[71] *Id.* at 33,175.

[72] Pub. L. No. 96-482, 94 Stat. 2334, Solid Waste Disposal Act, Section 3001(b)(3)(A)(i) (codified at 42 U.S.C. § 6921(b)(3)(A)(i)) (SWDA) ("Notwithstanding the provisions of paragraph (1) of this subsection, each waste listed below shall, except as provided in subparagraph (B) of this paragraph, be subject only to regulation under other applicable provisions of Federal or State law in lieu of this subtitle until at least six months after the date of submission of the applicable study required to be conducted under subsection (f), (n), (o), or (p) of section 8002 of this Act and after promulgation of regulations in accordance with subparagraph (C) of this paragraph:(i) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.").

[73] 42 U.S.C. §§ 6921(b)(3)(A)(i), 6982(n).

[74] *Id.* § 6921(b)(3)(C).

[75] *Id.* § 6982(n).

[76] *Id.* § 6921(b)(3)(C).

[77] EPA, Fossil Fuel Combustion Waste Legislative and Regulatory Timeline, https://www.epa.gov/coalash/legislative-and-regulatory-timeline-fossil-fuel-combustion-wastes (attached).

[78] 75 Fed. Reg. 35,128, 35,136 (June 21, 2010); EPA, *Report to Congress: Wastes from the Combustion of Coal by Electric Utility Power Plants* (EPA 530-SW-88-002) (Feb. 1988), https://www.epa.gov/sites/production/files/2015-08/documents/coal-rtc.pdf (attached).

and non-utility boiler wastes.[79] EPA then missed the statutory deadline for determining whether the wastes should be regulated as hazardous wastes under subtitle C.[80]

In 1991, a community group sued EPA for its continued failure to fulfill its statutory duty to make a regulatory determination on coal combustion wastes.[81] On June 30, 1992, EPA settled the case by entering into a Consent Decree that established a schedule for completing the regulatory determinations for all coal combustion wastes.[82] The Consent Decree divided coal combustion wastes into two categories: (1) Fly ash, bottom ash, boiler slag, and flue gas emission control waste from the combustion of coal by electric utilities and independent commercial power producers; and (2) all other coal combustion waste governed by RCRA sections 3001(b)(3)(A)(i) and 8002(n), including, *inter alia*, large-volume CCR wastes generated at electric utilities and independent power producing facilities that are co-managed with other coal combustion wastes, wastes from combustion of mixtures of coal and other fuels, and wastes generated by facilities using fluidized bed combustion technology.[83]

On August 9, 1993, EPA published a regulatory determination for the first category of wastes, deciding not to regulate them as hazardous waste.[84] EPA decided that additional study was necessary for the second category of wastes.[85] In March 1999, pursuant to the court-ordered deadlines, EPA submitted a report to Congress regarding the second category of wastes.[86]

On May 22, 2000, twenty years after the enactment of the Bevill Amendment, EPA published a regulatory determination for this second category of coal combustion wastes.[87] Although it decided not to regulate these wastes as hazardous waste under subtitle C, it determined that national regulation under subtitle D was warranted for the disposal of such wastes in landfills, surface impoundments, and mines.[88] In reaching these conclusions, EPA found that "these wastes could pose risks to human health and the environment if not properly managed, and there is sufficient evidence that adequate controls may not be in place."[89] EPA noted that "62% of existing utility surface impoundments do not have groundwater monitoring."[90] It also highlighted the documented damage cases indicating the potential for damage to human health and the environment.[91] In addition, EPA found the potential for arsenic

[79] 75 Fed. Reg. at 35,136; EPA, Fossil Fuel Combustion Waste Legislative and Regulatory Timeline, https://www.epa.gov/coalash/legislative-and-regulatory-timeline-fossil-fuel-combustion-wastes (attached).
[80] 75 Fed. Reg. at 35,136.
[81] *Id.* (citing *Gearhart v. Reilly*, No. 91-2345 (D.D.C.)).
[82] *Id.*
[83] 75 Fed. Reg. at 35,136-37.
[84] 58 Fed. Reg. 42,466 (Aug. 16, 1993).
[85] 75 Fed. Reg. at 35,137.
[86] *Id.*; EPA, Report to Congress: Wastes from the Combustion of Fossil Fuels, vol. 1 – Executive Summary (EPA 530-S-99-010) (Mar. 1999) (attached).
[87] 65 Fed. Reg. 32,214 (May 22, 2000).
[88] *Id.*
[89] 65 Fed. Reg. at 32,216.
[90] *Id.*
[91] *Id.*

leaking from CCR disposal facilities and contaminating groundwater in concentrations posing risks to human health.[92]

Notwithstanding its conclusion that federal regulation was necessary, EPA took no steps to regulate coal ash until after the Kingston disaster in December 2008. In October 2009, EPA sent a draft rule regulating coal ash as hazardous waste to OMB.[93] However, OMB delayed the draft rule for seven months and expanded the proposal to include two main options: one that would treat coal ash as hazardous waste under RCRA subtitle C and one that would regulate it as non-hazardous solid waste under RCRA subtitle D.[94] EPA issued this "co-proposal" on June 21, 2010 – over thirty years after enactment of the Bevill Amendment.[95]

EPA received 425,170 comments on the 2010 proposed CCR Rule.[96] For several years after issuing the 2010 proposed CCR Rule, EPA took no action, leading some of the Commenters here to sue EPA for violating its obligations under RCRA.[97] Pursuant to court order, EPA finally published the final 2015 CCR Rule, which regulates CCR as non-hazardous waste under RCRA subtitle D, on April 17, 2015.[98]

The 2015 CCR Rule established national minimum criteria for existing and new landfills and surface impoundments, including location restrictions, design requirements, operating requirements, closure and post-closure requirements. Some of its key protections include semi-annual groundwater monitoring requirements which trigger corrective action obligations at lined impoundments and closure obligations at unlined ones; location restrictions to keep CCR units out of unstable areas, wetlands, faults areas, seismic zones and the groundwater table; structural stability criteria for impoundments; and comprehensive closure and post-closure requirements. In explaining the bases for the rule, EPA firmly rejected numerous comments from industry, including arguments that location restrictions should be loosened and that owners/operators should be allowed to establish "alternative" groundwater protection standards at CCR surface impoundments or landfills.[99]

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[92] Id.
[93] Docket ID No. EPA-HQ-RCRA-2009-0640-0013 (attached).
[94] Docket ID No. EPA-HQ-RCRA-2009-0640-0012 (attached).
[95] 75 Fed. Reg. 35,128 (June 21, 2010).
[96] See Docket ID No. EPA-HQ-RCRA-2009-0640.
[97] Appalachian Voices v. McCarthy, 989 F. Supp. 2d 30 (D.D.C. 2013).
[98] 80 Fed. Reg. 21,302 (Apr. 17, 2015) (codified at 40 C.F.R. Part 257).
[99] See, e.g., 80 Fed. Reg. at 21,361 (rejecting comments calling for EPA not to impose proposed location restrictions and explaining that, in EPA's view, "application of the location standards to existing CCR surface impoundments is necessary to achieve the standard in [RCRA] section 4004(a). Absent these location restrictions, the risk of impacts to human health and the environment from releases from CCR units, including from the rapid and catastrophic destruction of CCR surface impoundments, sited in these sensitive areas would exceed acceptable levels."); id. at 21,405 (EPA determined that allowing owners/operators to set alternative groundwater protection standards was inappropriate "as it was unlikely that a facility would have the scientific expertise necessary to conduct a risk assessment, and [it was] was too susceptible to potential abuse").

Because at the time RCRA subtitle D neither authorized EPA to directly implement minimum national criteria for solid waste disposal facilities or to enforce such criteria, nor required states to adopt or implement EPA's minimum criteria, EPA established the 2015 CCR Rule as a "self-implementing rule" enforced via citizen suits.[100]

B. Legal Challenges to the 2015 CCR Rule

Soon after publication of the 2015 CCR Rule, both environmental organizations and industry brought legal challenges to the rule in the U.S. Court of Appeals for the D.C. Circuit.[101]

Instead of waiting for the D.C. Circuit to rule on their challenges, in May 2017, after the Trump Administration took office, the Utility Solid Waste Activities Group and AES Puerto Rico asked EPA to reconsider many of the Rule's key provisions, extend various compliance deadlines, and ask the court to hold the case in abeyance to give EPA time to weaken the Rule in response to the industry petitions.[102]

USWAG's petition asked EPA, among other things, to (a) allow the use of "alternative risk-based groundwater protection standards;" (b) allow owners/operators to forego corrective action if taking such action would not result in "meaningful environmental benefit;" (c) provide flexibility in the "point of compliance," allowing monitoring wells to be sited away from the waste boundary where the pollution they reveal will have already spread; and (d) shorten the post-closure care period. Every one of these proposals had been considered and rejected by EPA in issuing the 2015 CCR Rule. Notably, USWAG spent pages bemoaning the cost of complying with the 2015 CCR rule, but provided nothing more than conclusory statements – and no substantive evidence – that its proposal to loosen regulations and extend deadlines would satisfy the RCRA section 4004(a) standard it acknowledged applies to CCR.[103]

AES's petition, which asked EPA to limit regulation of CCR piles such as the giant one it has amassed in Puerto Rico, essentially admitted that its request would not protect health and the environment as it did not even bother to argue that it would.

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[100] *Id.* at 21,309, 21,311; *see also* 42 U.S.C. § 6972.
[101] *USWAG*, 901 F.3d 414 (D.C. Cir. 2018) ("*USWAG*"). In April 2016, while the *USWAG* case was pending, EPA and petitioners settled certain issues that petitioners had raised with the 2015 CCR Rule, with EPA agreeing to seek a remand of those issues that was approved by the court in June 2016. *See* Section XIII - Boron.
[102] USWAG Petition for Rulemaking to Reconsider Provisions of the Coal Combustion Residuals Rule; 80 Fed. Reg. 21,302 (April 17, 2015); Request to Hold in Abeyance Challenge to Coal Combustion Residuals Rule, No. 15-1219, et al. (D.C. Cir.) (May 12, 2017) ("USWAG Petition"), https://www.epa.gov/sites/production/files/2017-06/documents/final_uswag_petition_for_reconsideration_5.12.2017.pdf (attached); AES Puerto Rico LP's Petition for Rulemaking to Reconsider Provisions of the Coal Combustion Residuals Rule; 80 Fed. Reg. 21,302 (April 17, 2015); Request to Hold in Abeyance Challenge to Coal Combustion Residuals Rule, No. 15-1219, et al. (D.C. Cir.) (May 31, 2017), https://www.epa.gov/sites/production/files/2017-06/documents/2017.05.31_aes_puerto_rico_lps_petition_for_reconsideration_and_rulemak.pdf (attached).
[103] USWAG Petition at 8-11.

On September 13, 2017, EPA granted the USWAG and AES Puerto Rico reconsideration petitions.[104] As summarized in sections D and G below, EPA has been proceeding with haste to grant industry its wish list to weaken the 2015 CCR Rule – both before and after the D.C. Circuit's decision that the 2015 CCR Rule failed to satisfy RCRA's statutory protectiveness standard.[105]

C. The WIIN Act

In December 2016, Congress adopted the Water Infrastructure Improvements for the Nation Act (the "WIIN Act").[106] The WIIN Act amended RCRA by (a) authorizing EPA to approve state CCR permitting programs that are "at least as protective as" the federal criteria for CCR units under 40 C.F.R. part 257;[107] (b) authorizing EPA to implement and administer a CCR permitting program requiring compliance with the federal CCR criteria in any state without an approved program, if Congress specifically appropriates funds for this purpose;[108] (c) directing EPA to establish and implement a CCR permit program consistent with the federal CCR criteria on tribal lands;[109] and (d) authorizing, but not requiring, EPA to enforce the federal CCR criteria in states without approved programs.[110] In states with approved CCR programs, the WIIN Act also authorized EPA to enforce only the program requirements, and only if the state so requests or if EPA determines that enforcement is necessary to ensure compliance with the program.[111]

To date, EPA has approved state programs in Oklahoma[112] and, quite recently, Georgia.[113] The legality of the Oklahoma decision is being litigated.[114] EPA has neither established a federal permit program to administer in non-approved states and tribal lands nor has it enforced any provisions of the 2015 CCR Rule, despite numerous violations of that rule already committed by utilities.[115] On December 19, 2019, three years after the WIIN Act's enactment, EPA signed a proposed federal permit program;[116] the proposal has not yet appeared in the Federal Register for public comment.

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[104] *See* 84 Fed. Reg. 40,353, 40,355 (Aug. 14, 2019).
[105] *USWAG*, 901 F.3d 414 (D.C. Cir. 2018).
[106] Pub. L. No. 114-322, 130 Stat. 1628 (2016) (codified at 42 U.S.C. § 6945(d)).
[107] 42 U.S.C. § 6945(d)(1)(B)(ii).
[108] *Id.* § 6945(d)(2)(B).
[109] *Id.* § 6945(d)(5).
[110] *Id.* § 6945(d)(4)(A)(i).
[111] *Id.* § 6945(d)(4)(A)(ii)-(B)(i).
[112] 83 Fed. Reg. 30,356 (June 28, 2018).
[113] 85 Fed. Reg. 1269 (Jan. 10, 2020).
[114] *Waterkeeper All., Inc. v. Wheeler*, 1:18-cv-02230-JDB (D.D.C.).
[115] *See* Section XV - Noncompliance.
[116] https://www.epa.gov/sites/production/files/2019-12/documents/pre_pub_version_federal_ccr_permitting_program_nprm_rin_2050-ah07_121819_514pm_for_ao_signature.pdf.

D. EPA's 2018 Rollback Regulation

On March 15, 2018, EPA published a wide-ranging proposal to amend the 2015 CCR Rule.[117] Aside from the sole appropriate proposal to add boron to the list of assessment monitoring constituents, the 2018 proposal sought to eliminate or weaken provisions involving nearly the entire gamut of protections afforded by the 2015 CCR Rule, just as USWAG requested in its 2017 reconsideration petition.

On July 30, 2018, EPA finalized a subset of the proposed changes in what it dubbed Phase One, Part One of its intended rollback of the 2015 CCR Rule.[118] The 2018 amendments to the 2015 CCR Rule: (1) allow states with approved permit programs, or EPA where it is the permitting authority, to use "alternate performance standards;" (2) revise the groundwater protection standard for four contaminants; and (3) allow surface impoundments that have already caused groundwater contamination and/or violate the aquifer location standard, and would otherwise have to close, to continue receiving waste and remain operating for a longer period of time.[119]

Environmental organizations sought judicial review of EPA's 2018 Phase I, Part One Rule.[120]

E. The D.C. Circuit Strikes Down Key Provisions of the 2015 CCR Rule

Three weeks later, the U.S. Court of Appeals for the D.C. Circuit ruled as follows regarding the various challenges brought by environmental organizations and industry against the 2015 CCR Rule:[121]

- Denied EPA's request to put the case on hold so that it could first revise (and weaken) the 2015 CCR Rule in response to the industry reconsideration petitions;

- Held that EPA violated RCRA and acted arbitrarily and capriciously in failing to require the closure of unlined surface impoundments, and vacated and remanded 40 C.F.R. § 257.101(a);

- Held that EPA violated RCRA and acted arbitrarily and capriciously in classifying "clay-lined" impoundments as lined, and vacated and remanded 40 C.F.R. § 257.71(a)(1)(i);

- Held that EPA violated RCRA and acted arbitrarily and capriciously in exempting inactive surface impoundments at inactive power plants from regulation, and vacated and remanded 40 C.F.R. § 257.50(e);

[117] 83 Fed. Reg. 11,584 (Mar. 15, 2018).
[118] 83 Fed. Reg. 36,435 (July 30, 2018) ("Phase I, Part One Rule").
[119] *Id.* at 36,435-36.
[120] *Waterkeeper All., Inc. v. EPA*, No. 18-1289 (D.C. Cir.).
[121] *USWAG*, 901 F.3d at 449-50.

- Rejected industry's claim that EPA lacks statutory authority to regulate inactive surface impoundments;

- Rejected industry' claim that EPA failed to provide sufficient notice of its intention to apply the aquifer location criteria to existing surface impoundments;

- Rejected industry's claim that EPA acted arbitrarily and capriciously in setting location requirements based on seismic impact zones;

- Rejected industry's claim that EPA acted arbitrarily in excluding considerations of cost and inconvenience from eligibility for closure deadline extensions;

- Granted EPA's request for a voluntary remand – in light of the Agency's grant of industry's reconsideration petitions – of provisions defining "coal residuals piles," setting a 12,400-ton threshold for CCR deposits qualifying for beneficial use designation, and setting alternative groundwater protection standards; and

- Denied EPA's request for a voluntary remand of provisions regarding inactive surface impoundments and landfills at both active and inactive power plants.

The court's analysis is highly relevant to the flaws in EPA's pending Part A Proposal. Based on EPA's own record, the court noted that CCRs comprise "one of the largest industrial waste streams generated in the U.S.," contain "myriad carcinogens and neurotoxins," and are disposed of by utilities "in aging piles or pools that are at varying degrees of risk of protracted leakage and catastrophic structural failure."[122] In addition, "[t]he risks to humans associated with exposure to the identified contaminants [including arsenic, boron, cadmium, hexavalent chromium, lead, lithium, mercury, molybdenum, selenium, and thallium] include elevated probabilities of 'cancer in the skin, liver, bladder, and lungs,' as well as non-cancer risks such as 'neurological and psychiatric effects,' 'cardiovascular effects,' 'damage to blood vessels,' and 'anemia.'"[123] Further, "[b]oth cancer and non-cancer risks to infants 'tend[] to be higher than other childhood cohorts, and also higher than risks to adults.'"[124] The court highlighted the "significant risk of harmful leakage" posed by unlined surface impoundments, and the "substantial risks to humans and the environment" posed by such leakage.[125]

In light of the high likelihood of contamination caused by unlined surface impoundments, well-documented by EPA, the court held that EPA's decision to allow unlined impoundments to continue operating until contamination was formally confirmed fell short of RCRA section 4004(a)'s requirement to ensure that CCR disposal poses "no reasonable probability of adverse effects on health or the environment" and was arbitrary and capricious.[126] In light of data in EPA's record, the court found that delays of several months in addressing leakage was

[122] *Id.* at 420.
[123] *Id.* at 421.
[124] *Id.*
[125] *Id.* at 428.
[126] *Id.* at 429. *See also* 42 U.S.C. § 6944(a).

unacceptable.[127] Moreover, such risks continue during the long process of closing a surface impoundment under 2015 CCR Rule.

> The Rule addresses neither the risks to public health and to the environment before leakage is detected, nor the harms from continued leakage during the years before leakage is ultimately halted by retrofit or closure. *See generally* 40 C.F.R. §§ 257.90-257.104. In defending the Rule as compliant with RCRA, the EPA did not even consider harms during the retrofit or closure process.[128]

With respect to legacy ponds (*i.e.*, inactive impoundments at inactive plants), the court held that due to the "very real" threat and "at least as substantial" risks that they pose, as well as EPA's acknowledgement that "older, unlined impoundments – which are primarily legacy ponds – pose 'the greatest risks to human health and the environment,'" EPA's exemption of legacy ponds from regulation under the 2015 CCR Rule was arbitrary and capricious.[129]

The court's analysis in rejecting industry arguments likewise highlights flaws addressed below in EPA's pending Part A Proposal. For example, industry unsuccessfully challenged the fact that increased costs or inconvenience could not justify invoking the Rule's alternate closure option.

> Under any reasonable reading of RCRA, there is no textual commitment of authority to the EPA to consider costs in the open-dump standards. RCRA's statutory language instructs the EPA to classify a disposal site as a sanitary landfill and not an open dump only "if there is no reasonable probability of *adverse effects on health or the environment* from disposal of solid waste at such facility." 42 U.S.C. § 6944(a) (emphasis added). There is no explicit mention of costs in section 6944; nor is there any flexible language such as "appropriate and necessary" that might allow the EPA to consider costs in its rulemaking.[130]

F. Portions of EPA's Phase I, Part One Rule Inconsistent with D.C. Circuit's *USWAG* Decision

The D.C. Circuit's *USWAG* decision immediately cast a shadow on the Phase I, Part One Rule that EPA had finalized three weeks earlier. In recognition of that, EPA requested voluntary remand of the Phase I, Part One Rule rather than defend it in court. On March 13, 2019, the D.C.

[127] *USWAG*, 901 F.3d at 429.
[128] *Id.* at 429-30.
[129] *Id.* at 433-34.
[130] *Id.* at 448-49.

Circuit granted EPA's motion to remand the Phase I, Part One Rule so that the Agency could reconsider it in light of *USWAG*.[131]

G. EPA Rulemaking Subsequent to *USWAG* Decision

EPA is now using the remand, together with its earlier grant of the industry petitions to reconsider the 2015 CCR Rule, largely to weaken, not strengthen, the 2015 CCR Rule. The Agency's response to the *USWAG* decision all but ignores the court's concerns regarding the urgent need to address the threats posed by unlined surface impoundments. Rather, EPA has focused primarily on granting requests sought in industry's reconsideration petitions.

1. *2019 Phase II Proposal*

EPA's first regulatory action following the *USWAG* decision was not to amend the provisions that the court vacated because they violate RCRA's protectiveness standard, but instead to give industry part of what it sought in the reconsideration petitions. On August 14, 2019, EPA issued its Phase II Proposal[132] in part to relax the 2015 CCR Rule's definition of beneficial use and to modify its approach to "temporary" on-site coal ash piles, as requested by industry, enabling more coal ash disposal activities to avoid the Rule's regulatory requirements for landfills and impoundments.[133]

2. *Part A Proposal*

The Part A Proposal ostensibly responds to the *USWAG* decision by formally removing two of the three provisions vacated by the court, thereby treating "clay-lined" impoundments as unlined and requiring unlined impoundments to retrofit or close without waiting for the inevitable proof that they are contaminating groundwater.[134] It would move up the deadline to cease receiving waste and initiate closure applicable now to all unlined impoundments and to CCR disposal units that fail the aquifer location standard by two months, from October 31, 2020 to August 31, 2020.[135]

However, the Part A Proposal would also flout the *USWAG* decision by revising the alternate closure provision to create an enormous loophole enabling utilities to avoid the retrofit-or-close deadline for many additional years.[136] Whereas the D.C. Circuit found compelling evidence in EPA's record leading up to the 2015 CCR Rule that unlined impoundments pose serious risks to human health and the environment, EPA now has considerably more and

[131] *Waterkeeper All., Inc. v. EPA*, No. 18-1289 (D.C. Cir. Order dated March 13, 2019) (unpublished disposition).
[132] 84 Fed. Reg. 40,353 (Aug. 14, 2019) ("2019 Phase II Proposal").
[133] *Id.* at 40,355-56, 40,362. *See* Comments of Earthjustice et al., Docket ID No. EPA-HQ-OLEM-2018-0524 (Oct. 15, 2019).
[134] 84 Fed. Reg. at 65,941-42, 65,961.
[135] *Id.* at 65,942, 65,961.
[136] *Id.* at 65,942, 65,961-64.

overwhelming data, compiled by utilities pursuant to the Rule, documenting that ninety-one percent of coal-fired power plants are causing groundwater contamination.[137]

In addition, the Part A Proposal makes no attempt to respond to the vacatur of the unlawful exemption of legacy ponds, leaving them instead to future rulemaking.[138] That the principal intent of the Part A Proposal is to respond to industry requests, rather than fulfill EPA's duty under RCRA to protect public health and the environment, is underscored by EPA's statement that the Proposal would save money for utilities: "The provisions of the proposed rule decrease costs by extending certain existing compliance deadlines. The proposed rule is therefore considered a cost savings rule."[139]

3. *In-process Part B Proposal*

Continuing apace with its effort to grant industry's wide-ranging CCR rollback requests, EPA has drafted yet another set of regulatory amendments, currently under review at OMB.[140] Although the text is not yet publicly available, EPA's description dubs it "Part B" of "a holistic approach to closure" and indicates that it would provide an "alternate demonstration for unlined surface impoundments" and contain additional provisions and/or revisions to closure implementation requirements.[141] It would also request comments on legacy units, with no indication as to when the Agency will actually propose regulations governing such units.[142] The Agency's Unified Agency makes clear that Part B would weaken the provisions in the pending Part A Proposal. As reported in the trade press:

> According to EPA's Unified Agenda of rulemaking actions, the proposal will "provide a mechanism in which unlined surface impoundments meeting strict criteria would be allowed to continue to operate," which would soften the Nov. 4 [Part A] proposal requiring unlined disposal sites to close. The new rule will also include a deadline extension for facilities going through "closure by removal," where waste ash is excavated from the site rather than being left in place.[143]

These descriptions of the draft Part B Proposal raise questions about the public's ability to comment meaningfully on the pending Part A Proposal insofar as EPA is already planning to modify, and make even more utility-friendly, the Part A language.

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[137] Environmental Integrity Project, Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S. (Mar. 4, 2019; revised July 11, 2019), https://www.environmentalintegrity.org/wp-content/uploads/2019/03/National-Coal-Ash-Report-Revised-7.11.19.pdf ("EIP 2019 Report") (attached).
[138] *Id.* at 65,943, n.1. EPA states that legacy ponds "will be addressed in a subsequent proposal."
[139] *Id.* at 65,942.
[140] Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure; Legacy Units, RIN 2050-AH111 (screenshot of OMB website attached).
[141] *Id.*
[142] *Id.*
[143] *INSIDE EPA*, OMB Weighs EPA Proposal to Loosen Ban on Unlined Coal Ash Sites (Jan. 3, 2020).

IV. THE PROPOSED RULE IS UNLAWFUL AND INCONSISTENT WITH *USWAG*

A. The Part A Proposal Unlawfully Takes Costs into Consideration

The Part A Proposal is unlawful because it takes costs into consideration. In *USWAG*, the D.C. Circuit made clear that RCRA Subtitle D does not allow consideration of costs in standards for CCR units such as these. What is more, the court did so by rejecting the industry's argument that costs can and should be considered in extending CCR unit closure deadlines, which is precisely what EPA proposes here. The court explained:

> Under any reasonable reading of RCRA, there is no textual commitment of authority to the EPA to consider costs in the open-dump standards. RCRA's statutory language instructs the EPA to classify a disposal site as a sanitary landfill and not an open dump only "if there is no reasonable probability of *adverse effects on health or the environment* from disposal of solid waste at such facility." 42 U.S.C. § 6944(a) (emphasis added). There is no explicit mention of costs in section 6944; nor is there any flexible language such as "appropriate and necessary" that might allow the EPA to consider costs in its rulemaking.[144]

The court's holding should be familiar to EPA; indeed, in its brief to the D.C. Circuit in *USWAG*, EPA argued that RCRA should be read precisely as the D.C. Circuit interpreted it.[145] EPA likewise correctly noted that, "[w]hen environmental criteria are the sole bases for the establishment of regulatory requirements, EPA cannot inject costs into the establishment of those requirements."[146]

Notwithstanding the *USWAG* court's explicit rejection of extending deadlines for closure of CCR surface impoundments based on cost and EPA's own arguments to the court in that case, EPA now attempts to do exactly what it is barred from doing: inject costs into the establishment of open dump standards. EPA does so unabashedly: its injection of cost considerations is not limited to an isolated, narrow example, but rather appears widely throughout the Part A Proposal.

First, in the preamble, EPA notes that for the "site-specific" closure extensions it would allow under proposed 40 C.F.R. § 257.103(f), no demonstration that alternative disposal capacity is unavailable "may rely solely on cost considerations as EPA cannot grant additional time on

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[144] *USWAG*, 901 F.3d at 448-49 (citing *Michigan v. EPA*, 135 S.Ct. 2699, 2709 (2015)).
[145] *See* Brief of Respondent Environmental Protection Agency, *USWAG v. EPA*, Case No. 15-1219, at 60 (D.C. Cir. filed Sept. 6, 2016) ("EPA's brief in *USWAG*") (recognizing that 42 U.S.C. §§ 6944(a) and 6945(a), "[o]n their face, . . . do not allow for or even imply that costs must – or even can – be considered") (attached).
[146] *Id*. at 61 (citing *Whitman v. Am. Trucking Ass'ns, Inc*., 531 U.S. 457, 467-71 (2001) and *Michigan v. EPA*, 135 S. Ct. 2699, 2709 (2015)); *see also Murray Energy Corp. v. EPA*, 936 F.3d 597, 621-22 (D.C. Cir. 2019) (reiterating that a statutory mandate to develop standards "requisite to protect the public health" does not permit consideration of costs in setting those standards).

that basis."[147] This explicit disregard of the D.C. Circuit's holding is repeated just lines down the same page:

> An increase in costs or the inconvenience of existing capacity is insufficient support to qualify for this alternative. If the owner or operator provides no evidence other than increased cost or inconvenience, EPA will consider the submission incomplete and will return it to the owner/operator without further action.[148]

Then, just two pages later, the statement is repeated with regard to closure deadline extensions for CCR surface impoundments at retiring coal plants: "[c]onsistent with the existing provision, an increase in costs or the inconvenience of existing capacity is not sufficient to support qualification [for the deadline extension] under this section."[149] These deficiencies are facially unlawful. As the *USWAG* court made clear, costs may not be considered, period. Any consideration of costs – whether alone or as one of several factors – in a "demonstration" that a closure deadline extension is warranted is inconsistent with, and impermissible under, RCRA § 4004(a). EPA's duty is to ensure there is "no reasonable probability of adverse effects on health or the environment" from these dangerous impoundments,[150] and it can only do so by mandating the closure of such impoundments as soon as technically feasible.[151] The Part A Proposal, if finalized, would be arbitrary, capricious, and contrary to law.

Second, the Part A Proposal takes costs into consideration by failing to require owners and operators to select the alternate capacity option that allows for the shortest delay in closing CCR surface impoundments. The preamble to the Part A Proposal states that "[a]n owner or operator may choose from several options to obtain alternate capacity . . . . The narrative discussion should describe why the option was selected and explain why other options that could have been implemented sooner were not selected."[152] Naturally, if an alternate disposal capacity option "could have been implemented sooner," then the option is technically feasible.

If a more expeditious compliance option is technically feasible, RCRA requires it to be implemented.[153] The *USWAG* decision made that clear. In defending the 2015 CCR Rule, EPA explained that the closure extensions it offered therein were limited to allowing continued disposal when it was "physically impossible" to immediately dispose of CCR elsewhere – i.e., when "essentially *force majeure* circumstances are present."[154] "It is fundamental," EPA continued, "that *force majeure* does not include increased costs or mere inconvenience."[155] The

[147] 84 Fed. Reg. at 65,954 (emphasis added).
[148] *Id*. (emphasis added).
[149] *Id*. at 65,956 (emphasis added).
[150] 42 U.S.C. § 6944(a).
[151] *See USWAG*, 901 F.3d at 426-30.
[152] 84 Fed. Reg. at 65,955 (emphasis added).
[153] *See USWAG*, 901 F.3d at 448-49 (upholding the extension of closure deadlines for CCR units on the grounds that the law "'cannot compel actions that are physically impossible'" and rejecting industry's argument that cost and convenience must be considered).
[154] *See* EPA's brief in *USWAG* at 59.
[155] *Id*.

court upheld that limited extension, concurring with EPA that RCRA creates a "presumption [] that a non-compliant disposal site . . . will close"[156] and holding that the extensions offered by EPA were permissible precisely because they were limited to circumstances in which it was physically impossible – rather than costly or inconvenient – to safely dispose of CCR outside of the impoundment.[157]

The Part A Proposal's closure deadline extensions may accordingly be grounded, if at all,[158] on allowing continued disposal only as long as alternative disposal capacity is physically impossible. EPA pays lip service to this requirement, claiming that the deadline extensions it would offer under the Part A Proposal are intended to ensure that "facilities cease placement of all wastes (both CCR and non-CCR) as soon as technically feasible."[159] The language of the proposal itself, however, deviates from that obligation. EPA's proposal to give industry leeway to select any other alternate capacity option impermissibly allows cost considerations to play a role in which option is selected and, therefore, how soon closure takes place. This implicit injection of cost considerations into the extension of closure deadlines for CCR surface impoundments is disallowed by RCRA § 4004(a) in the same way that explicit cost considerations are impermissible.[160]

Finally, the Part A Proposal takes cost into account because it provides no plausible justification, other than costs, for allowing delayed closure of CCR surface impoundments at retiring coal-fired power plants. EPA's proffered justification is simply that, "[s]ince the coal-boiler will shortly cease power generation, it would be illogical to require these facilities to construct new capacity to manage CCR and non-CCR wastestreams."[161] Congress, however, takes a different view: it decided to require open dumps such as unlined CCR impoundments to cease operations as soon as feasible, with no consideration of costs.[162] While the owner or operator of a coal plant may not want to spend money to build new alternative disposal capacity if it is shutting down the associated coal-fired boiler in the near term, there is no reason it is not "technically feasible" for the owner or operator to do so. As explained herein, owners and operators of CCR surface impoundments should have begun procuring alternative disposal capacity years ago,[163] and even if they had only just begun doing so following issuance of the *USWAG* mandate, they could establish alternative disposal capacity well before 2023, let alone 2028.[164] Accordingly, the Part A Proposal implicitly takes cost and convenience into account in

[156] *USWAG*, 901 F.3d at 447-48.
[157] *Id*. at 447-49.
[158] *See* Section V – Utilities on Notice; *see also Edison Elec. Inst. v. EPA*, 996 F.2d 326, 336-37 (D.C. Cir. 1993) (rejecting waste generators' challenge of EPA's prohibition of indefinite on-site waste storage, notwithstanding their claims that it would result in them needing to "engag[e] in illegal disposal practices," when it found the regulations to be compelled by the "technology forcing nature of RCRA").
[159] 84 Fed. Reg. at 65,945.
[160] *See USWAG*, 901 F.3d at 448-449; *Whitman*, 531 U.S. at 467-71; *Murray Energy*, 936 F.3d at 621-22.
[161] 84 Fed. Reg. at 65,956.
[162] *See* 42 U.S.C. § 6944(a); *USWAG*, 901 F.3d at 448-49.
[163] *See* Section V – Utilities on Notice; *Edison Elec. Inst.*, 996 F.2d at 336-37.
[164] S*ee* Sections VII – Location Restrictions and IX – Alt Closure Extensions.

the proposed closure extensions for retiring coal-fired boilers, in direct contravention of RCRA and the D.C. Circuit's mandate in *USWAG*.

B. The Proposed Rule Impermissibly Ignores the Increased Risks Caused by Extending Deadlines for Impoundment Closure

The *USWAG* decision instructed EPA that the Agency cannot allow unlined impoundments to remain open because they are inherently risky.[165] In particular, the court found that the majority of unlined impoundments will leak at a harmful level during their operating life,[166] that "[i]mpoundment leakages pose substantial risks to humans and the environment,"[167] and that "it will not always be possible to restore groundwater or surface water to background conditions after a contamination event."[168]

The Part A Proposal is contrary to that holding, because it would allow hundreds of leaking ponds to remain open for several additional years. This would increase the risk to human health and the environment in violation of the RCRA protectiveness standard. As shown in the table below, EPA identifies 265 impoundments as both "leaking" and subject to closure deadline extensions of three to eight years. EPA identifies an additional twenty-six impoundments that may be leaking (data not yet reported), and are also eligible for postponed closure.

Table: Leaking and potentially leaking ash ponds identified in the EPA Regulatory Impact Analysis.[169]

Table	Liner Type	Location Restrictions Status	Leaking Status	Number of Units	"2018 Court Decisions" closure date	"Proposed Part A Rule Extensions" closure date	Extension
Exhibit 2-1-A	Unlined	NA	Leaking	221	Aug. 2020	Nov. 2020-Nov. 2023	up to 3 years
Exhibit 2-1-A	Unlined	Fail Aquifer Only	Not reported	4	Aug. 2020	Nov. 2020-Nov. 2023	up to 3 years
Exhibit 2-1-A	Unlined	Missing or "Pass all"	Not reported	14	Aug. 2020	Nov. 2023	3 years
Exhibit 2-1-A	Clay-lined	"No NOI"	Leaking	16	Aug. 2020	Nov. 2023	3 years
Exhibit 2-1-A	Clay-lined	"No NOI"	Not reported	3	Aug. 2020	Nov. 2023	3 years
Exhibit 2-1-C	Unlined	NA	Leaking	28	Aug. 2020	Close with plant	up to 8 years

[165] *USWAG*, 901 F.3d at 426-30.
[166] *Id*. at 427-28 (citing the administrative record for the 2015 for EPA's estimate that 57% of impoundments will leak and cause harmful levels of groundwater contamination at a distance of one meter from the impoundment's perimeter).
[167] *Id*. at 428.
[168] *Id*. at 422.
[169] EPA, Regulatory Impact Analysis, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; a Holistic Approach to Closure Part A: Deadline to Initiate Closure, Exhibits 2-1-A and 2-1-C (EPA-HQ-OLEM-2019-0172-0016, Oct. 2019).

Table	Liner Type	Location Restrictions Status	Leaking Status	Number of Units	"2018 Court Decisions" closure date	"Proposed Part A Rule Extensions" closure date	Extension
Exhibit 2-1-C	Unlined	Missing or "Pass all"	Not reported	5	Aug. 2020	Close with plant	up to 8 years

The Environmental Integrity Project separately determined that at least 273 impoundments – 92% of the impoundments in its database – are leaking.[170] A more recent analysis that includes impoundments with compliance extensions,[171] and evaluates evidence of leakage without reference to health-based standards, shows that 293 individual impoundments (95% of the total), are leaking. This new evidence is discussed in detail in Section XI.B – New Data. In short, virtually all coal ash impoundments are actively leaking, the risks of impoundment leakage are much greater than EPA previously assumed, and EPA is well aware of these facts.[172] This means that the "baseline" risks are already higher than EPA originally assumed, and EPA's proposed extensions would impermissibly increase health and environmental risks by allowing the known leakage from hundreds of impoundments to continue for years.

Five related elements of the *USWAG* decision warrant special attention in light of the data presented above. First, the Court determined that, given the data before EPA when it promulgated the 2015 CCR Rule, the mere possibility of leakage from unlined impoundments was an unreasonable risk that EPA could not allow.[173] If EPA cannot allow the possibility of leakage to continue, then of course the Agency cannot allow actual, active leakage – which poses "substantial risks to humans and the environment"[174] – to continue. Allowing this ongoing contamination to occur not only violates the RCRA mandate by allowing a "reasonable

[170] Environmental Integrity Project and Earthjustice, Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S. at Tbl. 2 (Mar. 2, 2019, rev. July 11, 2019) ("EIP 2019 Report") (attached). This total reflects the number of impoundments where coal ash constituents have been measured at concentrations that exceed both (a) background and (b) EPA groundwater protection standards or other health-based standards. There may be additional impoundments that are leaking, but not at levels that exceed groundwater standards.
[171] These are the 'early closure' impoundments that were previously eligible for an exemption from most of the CCR rule; after the D.C. Circuit Court of Appeals vacated that exemption, EPA granted extensions for complying with various provisions of the CCR rule. 81 Fed. Reg. 51,802 (Aug. 5, 2016); 42 U.S.C. § 257.100(e).
[172] *See, e.g.*, 84 Fed. Reg. at 65,942 ("[R]eporting data show that the affected universe of surface impoundments is composed of more unlined units, and that more surface impoundments regardless of liner type are leaking than was modeled in the [2014] RIA."); *id*. at 65,945 ("[M]ore recent data suggest that a greater number of units are leaking than EPA originally estimated during the rulemaking.").
[173] *USWAG*, 901 F.3d at 427 ("It is inadequate under RCRA for the EPA to conclude that a major category of impoundments that the agency's own data show are prone to leak pose 'no reasonable probability of adverse effects on health or the environment,' 42 U.S.C. § 6944(a), simply because they do not already leak.").
[174] *Id*. at 428.

probability" of adverse effects,[175] it compounds that violation by allowing certain adverse effects at hundreds of locations.

Second, the *USWAG* court suggested that a risk of undetected leakage over a period of six months is unacceptable. Specifically, the court held that "[t]he Final [2015] Rule's approach of relying on leak detection followed by closure is arbitrary and contrary to RCRA," in large part because groundwater monitoring is only required on a semiannual basis, and "[t]he Rule thus contemplates that leaks will often go undetected for many months."[176] Again, if allowing the possibility of leakage for six months violates the RCRA mandate, then allowing certain leakage for up to eight years is an even more obvious and egregious violation.

Third, the court acknowledged that the harms caused by leaking impoundments are potentially irreversible.[177] Once toxic contaminants leak out of an impoundment, they are much harder to control. This is why it is important to control the source of contamination as quickly as possible. For the hundreds of impoundments that are known to be leaking, every month of delay will make a bad problem worse and more difficult to remedy, because of the increase in the total amount of toxic pollution in the ambient environment.

Fourth, the court faulted EPA for failing to evaluate the "harms from continued leakage during the years before leakage is ultimately halted by retrofit or closure."[178] This has direct bearing on the current proposal, which allows known leakage to continue for up to eight years. EPA knows that hundreds of sites are causing harm, and will continue to do so under the proposal, but fails to characterize, quantify, or monetize that harm.

Finally, the court cited EPA's estimate that 57% of unlined impoundments will cause contamination at a distance of one meter from the impoundment within 100 years,[179] and determined that this risk was unacceptable and incompatible with EPA's obligations under RCRA.[180] We now know, and EPA knows, that 57% was a substantial underestimate. According to EPA's Proposed Regulatory Impact Analysis (RIA), regulated owners and operators are self-reporting that at least 78% of active, unlined impoundments are leaking.[181] These self-reported

[175] 42 U.S.C. § 6944(a).
[176] *USWAG*, 901 F.3d at 429.
[177] *Id*. at 422 ("The EPA has acknowledged that it 'will not always be possible to' to restore groundwater or surface water to background conditions after a contamination event."); *id.* at 429 ("[T]he EPA has not shown that . . . contamination, once it occurs, can be remedied.").
[178] *Id*. at 429 (chastising EPA for failing to "consider harms during the retrofit or closure process," which the Court deemed "an important aspect of the problem").
[179] *Id.* at 427-28; EPA, Regulatory Impact Analysis for EPA's 2015 RCRA Final Rule Regulating Coal Combustion Residual (CCR) Landfills and Surface Impoundments at Coal-Fired Electric Utility Power Plants, at 4-9 to 4-10, Docket ID No. EPA-HQ-RCRA-2009-0640-12034 (Dec. 2014).
[180] *USWAG*, 901 F.3d at 427 ("It is inadequate under RCRA for the EPA to conclude that a major category of impoundments that the agency's own data show are prone to leak pose 'no reasonable probability of adverse effects on health or the environment,' 42 U.S.C. § 6944(a), simply because they do not already leak.").
[181] Proposed RIA at Exs. 2-1-A and 2-1-C (describing 265 active, unlined or clay-lined ash ponds as "leaking," and seventy-three as "not leaking," and while describing other ash ponds as "not reported").

estimates are also too low. In fact, the new data at EPA's disposal show – after much less than 100 years, and at distances more than one meter from surface impoundment boundaries – that the frequency of contamination is already greater than 90%.

In other words, EPA has access to data showing that the risks of allowing surface impoundments to continue receiving waste are much greater than the risks the D.C. Circuit found to be unacceptable and contrary to EPA's RCRA mandate. It should go without saying that these higher risks are also contrary to EPA's mandate. EPA does not have the statutory authority to allow these risks to continue.

EPA argues, in no uncertain terms, that it had to act quickly and had no time to evaluate the environmental impacts of its decision: "The resources and time needed [to update the analysis of human health and ecological impacts] are substantial and development of a fully revised cost and benefit estimate is not feasible within the current regulatory schedule."[182] This is a flagrant violation of basic administrative law. As the *USWAG* court noted, "[a]n agency's failure to consider an important aspect of the problem is one of the hallmarks of arbitrary and capricious reasoning."[183] EPA has an obligation to consider the "substantial risks" associated with the years of ongoing leakage that the Part A Proposal would allow.[184] The Agency's failure to do so here is arbitrary, capricious, and contrary to law.

It is important to briefly review the risks that EPA is proposing to allow, unabated, for years. In the Risk Assessment for the 2015 CCR Rule, EPA found that unlined coal ash impoundments will cause the following:[185]

- Arsenic causes many adverse health impacts, including multiple forms of cancer, neurological impairments in children, and skin conditions.[186] EPA's risk

[182] *Id.* at 3-14. *See also* 84 Fed. Reg. at 65,945 ("[G]iven the expedited timeframe needed to complete the reconsideration of the deadline for a unit to cease receiving waste and initiate closure, EPA was unable to develop a nationwide risk assessment of continued operation of these units.").
[183] *USWAG*, 901 F.3d at 430 (citing *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 606 (D.C. Cir. 2016) (per curiam); *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).
[184] *USWAG*, 901 F.3d at 428.
[185] EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals at 4-17, Tbl. 4-2; 5-5, Tbl. 5-3; and 5-8, Tbl. 5-5, Docket ID No. EPA-HQ-RCRA-2009-0640-11993 (Dec. 2014) ("2014 Risk Assessment") (showing the presence of unacceptable risks for various pollutants in association with coal ash impoundments generally, unlined coal ash impoundments specifically, and various impoundment waste types); *id*. at Appendix E ("Human Health and Ecological Benchmarks").
[186] EPA, Integrated Risk Information System, Inorganic Arsenic (1998), https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=278; U.S. Dept. of Health & Human Servs., Agency for Toxic Substances & Disease Registry, Toxicological Profile for Arsenic (2007) (attached); Phillipe Grandjean & Philip J. Landrigan, *Neurobehavioural Effects of Developmental Toxicity* , Lancet Neurol., 13:330-38 (2014) (attached); Gail A. Wasserman, et al., A Cross-Sectional Study of Well Water Arsenic and Child IQ in Maine Schoolchildren, Environ Health 13:23-32 (2014) (One recent study in Maine found significant reductions in IQ and other neurological endpoints in children exposed to 5-10 micrograms per liter, a level that is below the current drinking water standard) (attached).

assessment predicted significant risks of both cancer and non-cancer health effects near unlined coal ash ponds and landfills.[187]

- Boron is associated with developmental and reproductive toxicity (e.g., low birthweight and testicular atrophy),[188] and is also toxic to aquatic life.[189] EPA's risk assessment predicted significant risks to both humans and aquatic plants and animals.[190]

- Cadmium causes kidney damage, and is, according to EPA, a "probable carcinogen."[191] In a preliminary screening analysis, EPA found potential risks to humans through both drinking water and contaminated fish.[192] Cadmium is also toxic to fish themselves,[193] and EPA's risk assessment predicted significant ecological risks from cadmium.[194]

- Cobalt is associated with blood disease, thyroid damage, and other endpoints.[195] EPA's risk assessment predicted significant cobalt risks in association with certain types of ash ponds.[196]

[187] 2014 Risk Assessment at 5-5 to 5-6. In a preliminary screening analysis, EPA also identified a potential cancer risk associated with the consumption of arsenic-contaminated fish. *Id*. at 3-20.
[188] *See, e.g.*, EPA, Toxicological Review of Boron and Compounds (June 2004) (attached); U.S. Dept. of Health & Human Servs., Agency for Toxic Substances & Disease Registry, Toxicological Profile for Boron (Nov. 2010) (attached); EPA, Drinking Water Health Advisory for Boron (May 2008) (attached).
[189] 83 Fed. Reg. at 11,589 ("[T]he 2014 risk assessment shows that boron can pose developmental risks to humans when released to groundwater and can result in stunted growth, phytotoxicity, or death to aquatic biota and plants when released to surface water bodies.").
[190] *Id.*; 2014 Risk Assessment at 5-8.
[191] EPA, Integrated Risk Information System, Cadmium, https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=141.
[192] 2014 Risk Assessment at 3-20.
[193] *See, e.g.*, EPA, Environmental Assessment for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, at 3-3, Docket ID No. EPA-HQ-OW-2009-0819-6427 (Sept. 2015) ("2015 ELG EA").
[194] 2014 Risk Assessment at 5-8.
[195] *See, e.g.*, U.S. Dept. of Health & Human Servs., Agency for Toxic Substances & Disease Registry, Toxicological Profile for Cobalt (Apr. 2004). (The most sensitive endpoint for intermediate oral exposure in the ATSDR analysis was the blood disorder polycythemia, which has been observed in humans) (attached). *See also* U.S. EPA, Provisional Peer Reviewed Toxicity Values for Cobalt (2008) (attached). The EPA document notes that polycythemia and thyroid effects occur at similar levels of exposure, but derives a health-based threshold from thyroid toxicity data.
[196] 2014 Risk Assessment at 5-8.

- Fluoride is a neurotoxin[197] that can also cause tooth and bone damage,[198] and may be carcinogenic.[199] EPA's risk assessment predicted significant fluoride risks in association with certain impoundment waste types.[200]

- Lithium can cause kidney damage, neurological damage, decreased thyroid function, and birth defects.[201] EPA's risk assessment predicted significant lithium risks to humans via drinking water.[202]

- Mercury is a potent neurotoxin that bioaccumulates in aquatic food chains.[203] EPA's risk assessment predicted significant mercury risks via fish consumption, but not through drinking water.[204] This is important because it suggests that mercury may present a significant risk even where groundwater concentrations are below drinking water standards.

- Molybdenum has been associated with gout-like symptoms in humans, and reproductive toxicity in laboratory animals.[205] EPA's risk assessment predicted significant molybdenum risks.[206]

- Radium (specifically the radium isotopes radium-226 and radium-228) is a radioactive and cancer-causing metal. EPA's risk assessment did not look at radium, but EPA added radium to the list of groundwater monitoring constituents in the Coal Ash Rule "because there is evidence from several damage cases of

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[197] See, e.g., P. Grandjean & P.J. Landrigan, Neurobehavioral Effects of Developmental Toxicity, at 13:330-38; A.L. Choi et al., Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis, Environ Health Perspect 120:1362-68 (2012) (attached); M. Bashash et al., Prenatal Fluoride Exposure and Cognitive Outcomes in Children at 4 and 6-12 Years of Age in Mexico, Environmental Health Perspectives 125(9):097017 (2017) (attached).
[198] See generally Nat'l Acad. of Scis. (NAS), Fluoride in Drinking Water: A Scientific Review of EPA's Standards (2006).
[199] See, e.g., E.B. Bassin et al., Age-specific fluoride exposure in drinking water and Osteosarcoma (United States), Cancer Causes Control 17:421-428 (2006) (attached); NAS, Fluoride in Drinking Water: A Scientific Review of EPA's Standards at 134 ("Perhaps the single clearest effect of fluoride on the skeleton is its stimulation of osteoblast proliferation . . . Because fluoride stimulates osteoblast proliferation, there is a theoretical risk that it might induce a malignant change in the expanding cell population.").
[200] 2014 Risk Assessment at 5-8.
[201] EPA, Provisional Peer Reviewed Toxicity Values for Lithium (2008) (attached).
[202] 2014 Risk Assessment at 4-17, 5-5, 5-8.
[203] See, e.g., EPA, Environmental Assessment for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Source Category, at 3-4, Docket ID No. EPA-821-R-15-006 (Sept. 2015) ("2015 ELG EA") (attached).
[204] 2014 Risk Assessment at 3-20, 5-8.
[205] See, e.g., EPA, Integrated Risk Information System, Molybdenum, https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0425_summary.pdf#nameddest=rfd; U.S. Dept. of Health & Human Servs., Agency for Toxic Substances & Disease Registry, DRAFT Toxicological Profile for Molybdenum (2017).
[206] 2014 Risk Assessment at 4-17.

exceedances of gross alpha [radiation], indicating that radium from the disposal of CCR may be problematic."[207]

- Selenium bioaccumulates in aquatic food chains, and is toxic to fish.[208] Selenium can also be toxic to humans, affecting skin, blood, and the nervous system.[209] In a preliminary screening analysis, EPA found that potential selenium risks to humans were greater through fish consumption than through drinking water.[210] EPA noted that selenium was the "most prevalent" constituent of concern in proven damage cases involving surface water impacts.[211] These damage cases typically involve fish kills or other fish toxicity, and have been "extensively studied" in places like North Carolina, South Carolina and Texas.[212]

- Thallium has been associated with a long list of adverse health effects including liver and kidney damage and hair loss.[213] EPA's risk assessment predicted significant risks via drinking water, and in a preliminary screening analysis also identified potential risks through the consumption of thallium-contaminated fish.[214]

Since we now know that EPA underestimated the extent of leakage in the rulemaking for the 2015 CCR Rule, all of these risks are greater than EPA estimated in that rulemaking. Again, these are all risks that EPA, and the D.C. Circuit Court of Appeals, have identified as unacceptable, and that EPA now proposes to ignore and allow for far longer than the 2015 CCR Rule would have allowed. This is a flagrant departure from EPA's statutory mandate.

If EPA were to conduct a lawful and adequate rulemaking, it would have no choice but to require prompt ash pond closure without any extensions. As EPA itself characterized the holding of the *USWAG* court, "RCRA requires the Agency to determine that such risks [associated with the continued operation of unlined impoundments] would be acceptable under the § 4004(a) standard in order to authorize the continued operation of such units."[215] For all of the reasons discussed above, EPA already knows that the risks associated with the hundreds of leaking ash ponds are not "acceptable under the § 4004(a) standard," and the Agency cannot allow their continued operation.

In sum, the Part A Proposal is arbitrary and capricious for failing to identify or consider substantial risks to human health and the environment, and it fails the § 4004(a) standard by

[207] 80 Fed. Reg. at 21,404.
[208] *See, e.g.*, 2015 ELG EA at 3-4.
[209] *See, e.g.*, EPA, Integrated Risk Information System, Selenium, https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=472.
[210] 2014 Risk Assessment at 3-20.
[211] 80 Fed. Reg. at 21,456.
[212] *Id.*
[213] *See, e.g.*, 2015 ELG EA at 3-4.
[214] 2014 Risk Assessment at 3-20, 5-5.
[215] 84 Fed. Reg. at 65,945.

allowing a "reasonable probability [in fact, a certainty] of adverse effects on health or the environment."[216]

V. THE PROPOSED POND CLOSURE DEADLINE EXTENSIONS ARE UNJUSTIFIED AND ARBITRARY AND CAPRICIOUS, AND INCONSISTENT WITH RCRA'S PROTECTIVENESS STANDARD, BECAUSE UTILITIES HAVE KNOWN FOR DECADES ABOUT SIGNIFICANT RISKS OF POND LEAKAGE.

Utilities have known for decades that unlined surface impoundments are likely to cause groundwater contamination. EPA put utilities on notice in 2010 that proposed federal regulations would require unlined surface impoundments to retrofit or close. Utilities knew since late 2014 that surface impoundments violating location standards, and leaking unlined surface impoundments, would have to cease receiving waste and commence closure by April 2019. Many prudent utilities have already closed or begun closure of their impoundments. The deadline extensions in the Part A Proposal[217] are thus unlawful and unnecessary, among other reasons, because they provide utilities with additional time to begin closing impoundments that they would have otherwise been prepared to close consistent with the requirements of the 2015 CCR Rule. The Part A Proposal is thus arbitrary, and capricious, and fails to ensure "no reasonable probability of adverse effects on health or the environment" as required by RCRA.[218]

A. Utilities Have Known for at Least Forty Years About the Significant Groundwater Contamination Risks Posed by Coal Ash Disposal.

As early as 1979, federal scientists highlighted the risks of coal ash disposal, particularly the risks to groundwater from unlined surface impoundments.[219] A report discussing coal and uranium waste disposal in the southwestern United States noted a "growing awareness that the discarded wastes from coal combustion are a serious potential source of surface and ground water contamination."[220] It explained:

> The control of contaminated leachates and seepages from disposal ponds for fly ash and scrubber sludge represents, perhaps, the most significant environmental problem facing the southwestern coal and utilities industries. Many trace contaminants that are present in the fly ash or sludge can be mobilized by the waters present in the ponds. The transport of contaminants from the disposal ponds into shallow or deep aquifers could result in the degradation of the quality of these waters.[221]

[216] 42 U.S.C. § 6944(a).
[217] 84 Fed. Reg. at 65,961-64 (proposed amendments to 40 C.F.R. §§ 257.101 and 257.103).
[218] 42 U.S.C. § 6944(a).
[219] Eugene M. Wewerka, University of California, Los Alamos Scientific Laboratory, The Disposal and Reclamation of Southwestern Coal and Uranium Wastes, LA-UR-79-1674 (May 30, 1979) (attached).
[220] *Id.* at 6.
[221] *Id.* at 7.

Although the 1980 Bevill Amendment prevented EPA from regulating coal ash as hazardous waste under RCRA until it first conducted a study and made a regulatory determination that such was warranted,[222] coal ash has always been subject to regulation as a RCRA solid waste. In 1979, EPA promulgated regulations prohibiting all solid waste disposal facilities and practices from contaminating underground drinking water sources beyond the solid waste boundary or state-approved alternative boundary.[223] EPA underscored the need for groundwater monitoring at solid waste disposal facilities to ensure that they were not violating the prohibition:

> Ground water has been contaminated by solid waste disposal on a local basis in many parts of the nation and on a regional basis in some heavily populated and industrialized areas, precluding its use as drinking water. Existing monitoring of ground-water contamination is largely inadequate; many known instances of contamination have been discovered only after groundwater users gave been affected. The Act and its legislative history clearly reflect Congressional intent that protection of ground water is to be a prime concern of the criteria.[224]

In 1981, an Electric Power Research Institute ("EPRI") manual advising utilities regarding coal ash handling and disposal noted that "leachate from ash disposal sites is of concern due to the possibility that the heavy metals . . . present in the ash may enter the groundwater system and contaminate present or future drinking water sources."[225] EPRI informed utilities that EPA was in the process of determining how to regulate coal ash under RCRA, and that regardless of whether EPA classified ash as hazardous waste (which it might do based on toxicity criteria due to heavy metals, mutagenicity, or radioactivity) or kept its existing designation as solid waste, "it appears likely that future regulations will be more stringent than those governing ash disposal in the past. These regulations will affect most aspects of ash disposal including siting, protection of groundwater and surface water, monitoring, operation, and closure."[226]

A 1982 EPRI manual addressing upgrades to existing coal ash disposal sites stated that "[o]ne promising upgrading technique is the conversion of a wet disposal system (pond) to a dry system (landfill)."[227] It noted the groundwater contamination risks posed by unlined ash ponds: "[I]nadequately lined ponds provide a greater opportunity for groundwater contamination, because the soil immediately below the pond is always saturated and under a constant head of

[222] 42 U.S.C. §§ 6921(b)(3)(A)(i), 6921(b)(C); 42 U.S.C. § 6982(n).
[223] 40 C.F.R. § 257.3-4(a) (initially promulgated at 44 Fed. Reg. 53,438, 53,460 (Sept. 13, 1979)).
[224] 44 Fed. Reg. at 53,445.
[225] GAI Consultants for EPRI, Coal Ash Disposal Manual (2d Ed.), EPRI CS-2049, at 2-17 (Oct. 1981) (Table of Contents, Summary, and Chapters 2 and 4 attached).
[226] *Id.* at 4-21.
[227] SCS Engineers for EPRI, Manual for Upgrading Existing Disposal Facilities, CS-2567, at S-2 (Aug. 1982) (attached).

pressure from the overlying water."[228] EPRI emphasized the need for utilities to plan for upgrading their units to comply with new coal ash regulations under RCRA:

> Some utility waste disposal sites may be out of compliance with the new regulations, and will require engineering assistance to upgrade their sites. The responsible utility engineer should be equipped to perform a preliminary investigation of the site, identify any possible deficiencies, and set aside those items which require outside assistance.[229]

EPRI also made clear that regulatory compliance by itself might not ensure environmental protection and, in a passage poignantly relevant to the unlawfulness of EPA's proposed Part A closure deadline extensions, advised that utilities must achieve both:

> Potential deficiencies in utility waste disposal practices may be defined by two sets of standards:
>
> - The disposal practice does not comply with specific federal and/or state regulatory requirements.
>
> - The site has the potential to contaminate the environment.
>
> This seemingly redundant statement is important to any assessment of disposal site deficiencies. Identification and correction of regulatory deficiencies do not necessarily preclude the possibility of past or future environmental degradation by the site. Conversely, known degradation cannot be corrected by simply conforming to the regulations. . . .
>
> . . . The current federal regulations . . . ultimately hold the operator liable for environmental degradation, regardless of what regulations applied or who permitted the facility. An engineering assessment of site adequacy must therefore address (1) whether the operation complies with prevailing regulations, and (2) whether the site poses a threat to the local environment. Both problems must be addressed simultaneously.[230]

The 1982 EPRI manual reported on a survey it had conducted of existing coal ash disposal sites and highlighted the "potential deficiencies . . . noted during several of the site visits" including that "[g]roundwater monitoring was inadequate or nonexistent" and "leachate monitoring was not practiced."[231] The manual further emphasized the risks of groundwater contamination and advised utilities to conduct groundwater monitoring:

[228] *Id.* at 2-11.
[229] *Id.* at 4-1.
[230] *Id.* at 4-1 to 4-2.
[231] *Id.* at 4-19.

> [A]lthough the requirement for groundwater and leachate monitoring is not specified in federal standards for solid waste disposal facilities, the regulations do emphasize groundwater protection. While groundwater can be protected and leachate generation can be minimized with sound engineering design and site operation, monitoring of groundwater and leachate, is nevertheless necessary to provide convincing proof of safe disposal practice. . . .
>
> Finally, the potential for groundwater degradation should be noted, especially when an unlined ash pond is constructed on a site with relatively permeable soils and a shallow groundwater table. . . . The existence of a constant hydraulic head (standing water) in the pond makes leachate generation and migration inevitable.[232]

EPA's 1988 Report to Congress noted not only the risks but also actual occurrences of groundwater contamination associated with coal ash disposal.[233] EPA highlighted the threat of groundwater contamination: "The primary concern regarding the disposal of wastes from coal-fired power plants is the potential for waste leachate to cause ground-water contamination."[234]

EPA found threats to groundwater because the overwhelming majority of ash ponds were unlined[235] and/or dangerously close to groundwater. "In over 80 percent of the sites depth to ground water is less than 30 feet, indicating a reasonably high potential that leachate from the disposal site would reach the ground water."[236] EPA summarized numerous studies of actual damage cases where such threats turned into documented harm:

> The studies reviewed in this section indicate that constituents from coal-combustion waste disposal sites have been detected in both on-site and off-site ground and surface water.[237]
>
> Results available from ground-water monitoring studies and documented cases of ground-water or surface-water contamination show some migration of PDWS [Primary Drinking Water Standards] constituents from utility waste disposal sites.[238]

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[232] *Id.* (emphasis added).
[233] EPA, Report to Congress: Wastes from the Combustion of Coal by Electric Utility Power Plants, EPA/530-SW-88-002 (Feb. 1988) ("1988 EPA Report to Congress"), https://www.epa.gov/sites/production/files/2015-08/documents/coal-rtc.pdf (attached).
[234] *Id.* at ES-3.
[235] *Id.* at 4-30 (only twenty-five percent of plants had at least one disposal unit with some sort of a liner).
[236] *Id.* at 5-76.
[237] *Id.* at 5-67.
[238] *Id.* at 5-96.

A 1995 EPRI manual told utilities to expect more stringent state and/or federal regulation of coal ash disposal. "These regulations could impose more restrictive standards affecting siting, protection of groundwater and surface water, monitoring, design, and closure."[239]

The 1995 EPRI manual indicated that state programs must, at a minimum, ensure that coal ash disposal does not contaminate groundwater[240] and that utilities should therefore conduct groundwater monitoring at their sites – echoing EPA's 1979 suggestion.[241] "Requirements for surface water and groundwater monitoring are not stated explicitly. However, as a practical matter, monitoring may be necessary to demonstrate compliance with the requirement that the facility is not polluting the groundwater beyond the property boundary."[242] The 1995 EPRI manual also noted a regulatory trend toward expressly requiring groundwater monitoring and liners,[243] although only thirteen percent of existing surface impoundments had any sort of a liner.[244]

> State regulatory agencies typically require water-quality monitoring at utility waste disposal sites. The monitoring requirements stem from the potential for ash disposal to adversely affect water quality in the vicinity of the disposal site. . . .
>
> Monitoring requirements usually result from federal, state and local regulations and/or guidelines. State and local regulations vary widely from one state or locality to another and are also subject to relatively rapid change as regulatory programs mature.[245]

The 1995 EPRI Manual further emphasized the need to conduct groundwater monitoring at coal ash disposal sites under RCRA and spelled out required elements of an appropriate groundwater monitoring program that are notably similar to those ultimately promulgated in the 2015 CCR Rule.

> Groundwater pollution . . . is governed by RCRA, which states that 'A facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary. . .' Though RCRA does not specifically mandate groundwater monitoring, owners and operators (who bear the burden of proof) cannot usually demonstrate non-contamination without monitoring. . . .

[239] GAI Consultants for EPRI, Coal Ash Disposal Manual: Third Edition, EPRI TR-104137, at 3-16 (Jan. 1995) ("1995 EPRI Manual") (attached).
[240] *Id.* at 3-17.
[241] 44 Fed. Reg. at 53,445.
[242] 1995 EPRI Manual at 3-18.
[243] *Id.* at 5-2 and 10-1.
[244] *Id.* at 5-6.
[245] *Id.* at 10-1.

> The EPA groundwater monitoring procedures for utility wastes recommend a minimum of four monitoring wells for each disposal site – one hydraulically upgradient and three downgradient of the disposal area. . . . [T]he stated minimum number of monitoring wells may be inadequate if the site is large or located in a hydrogeologically complex setting.[246]

With all of these regulations, reports, and warnings, utilities were well aware – as early as 1979, through the 1980s and 1990s – of the risks of using unlined surface impoundments and the need to conduct groundwater monitoring and employ liners. They were also put on notice that regulatory requirements were becoming more stringent, including express requirements for liners and groundwater monitoring.

B. EPA's 2010 Proposed CCR Rule Put Utilities on Notice that Many or All Unlined Surface Impoundments Would Have to Close.

1. *During the decade between EPA's 2000 Regulatory Determination that found RCRA regulations governing coal ash disposal were warranted and its 2010 proposed CCR Rule, the writing was on the wall that liners and groundwater monitoring would likely be required.*

EPA's 2000 Regulatory Determination stated that national regulation under RCRA subtitle D was warranted for the disposal of coal ash wastes in landfills, surface impoundments, and mines.[247] EPA found that "these wastes could pose risks to human health and the environment if not properly managed, and there is sufficient evidence that adequate controls may not be in place."[248]

EPA also provided some clear clues as to the forthcoming regulations' likely requirements:

- [B]etween 40 and 70 percent of sites lacked controls such as liners and/or groundwater monitoring as of 1995. This gap is of environmental concern given the potential for risks posed by mismanagement of coal combustion wastes in certain circumstances.[249]

- [O]ur concerns . . . are primarily based on damage cases and the lack of installed controls (liners and groundwater monitoring).[250]

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[246] *Id.* at 10-3.
[247] 65 Fed. Reg. 32,214 (May 22, 2000).
[248] *Id.* at 32,216.
[249] *Id.* at 32,217.
[250] *Id.* at 32,223.

- [W]hile the absolute number of documented, proven damage cases is not large, we believe that the evidence of proven and potential damage should be considered in light of the proportion of new and existing facilities, particularly surface impoundments, that lack basic environmental controls such as liners and groundwater monitoring.[251]

- One consistent trend that raises concern for the Agency is that controls are much less common at surface impoundment [sic] than at landfills. . . . We believe that groundwater monitoring, at a minimum, in existing as well as new impoundments, is a reasonable approach to monitor performance of the unit and a critical first step to addressing groundwater damage that may be caused by the unit. As of 1995, 38 percent of currently operating utility surface impoundments had groundwater monitoring and only 26 percent had liners. . . . The utility industry through its trade associations had demonstrated a willingness to work with EPA to develop protective management practices, and individual companies have committed to upgrading their own practices. However, the Agency recognizes that participation in voluntary programs is not assured.[252]

- While most states now have the appropriate authorities and regulations to require liners and groundwater monitoring that would reduce or minimize the risks that we have identified, we have also identified numerous situations where these controls are not being applied. . . . We are concerned that undetected releases could causes exceedances of drinking water or other health-based standards that may threaten public health or groundwater and surface water resources. Thus, we conclude that national regulations would lead to substantial improvements in the management of coal combustion wastes.[253]

The utility industry heard this message. In a 2004 EPRI report on ash pond management, an EPRI Program Manager addressed three examples where ash ponds found to be leaking were

[251] *Id.* at 32,225.
[252] *Id.* at 32,229.
[253] *Id.* at 32,231.

closed. His analysis focused on different closure methods employed; the need to close such ponds was assumed without discussion.[254]

In 2007, EPA solicited public comment on three new studies regarding coal ash disposal practices and risks.[255] One study documented that utilities understood the need for liners and groundwater monitoring, as they were employed in nearly all newly-built surface impoundments and landfills built between 1994 and 2004.[256] Another study, an EPA risk assessment, found that unlined and clay-lined units were associated with arsenic and thallium groundwater contaminations grossly exceeding human health risk criteria, and that liners reduced that risk by about half.[257] The third study examined damage cases and found sixty-seven cases with contamination off-site and/or on-site. "The overwhelming majority of the damage cases reflect management in unlined units."[258] These three studies again underscored the likelihood that EPA's forthcoming regulations would require liners and groundwater monitoring. Utilities should have known well by this time that unlined ponds posed unacceptable risks of contaminating groundwater.

2. *The 2010 Proposed CCR Rule's subtitle D option would have required <u>all</u> unlined ponds to close.*

When EPA ultimately proposed the CCR Rule in 2010, it contained two alternative proposals, one regulating coal ash as special waste under RCRA subtitle C and the other as solid waste under subtitle D. It also contained a variant of the subtitle D option, dubbed "D prime." The subtitle D proposal would have required all unlined ponds to retrofit by installing a composite liner or close within five years.[259] The D prime variant would still require unlined ponds to close if they fail location standards or cause groundwater contamination, but they would not have to close automatically by virtue of being unlined.[260]

Throughout the preamble, EPA repeatedly emphasized the risks of groundwater contamination posed by unlined and clay-lined ponds.

- [B]ecause of the mobility of metals and the large size of typical disposal units, metals (especially arsenic) have leached at levels of concern from unlined landfills and surface impoundments.[261]

- The . . . assessment [risk assessment discussed in 2007 Notice of Data Availability] calls into question the

[254] EPRI, Case Studies in Ash Pond Management at 5-3 to 5-24 (Dec. 2004) (attached).
[255] 72 Fed. Reg. 49,714 (Aug. 29, 2007).
[256] *Id.* at 49,717 (ninety-eight percent of landfills and surface impoundments built between 1994 and 2004 had liners, and ninety-one percent had groundwater monitoring).
[257] *Id.* at 49,718.
[258] *Id.* at 49,718-19.
[259] 75 Fed. Reg. at 35,243-44 (proposed 40 C.F.R. § 257.71).
[260] *Id.* at 35,134, 35,149, 35,210.
[261] *Id.* at 35,128.

> reliability of clay liners, especially in surface impoundments, and it points to very high potential risks from unlined surface impoundments.[262]
>
> - [T]hese risk analyses show that certain management practices – the disposal of wet and dry CCRs in unlined waste management units, but particularly in unlined surface impoundments, and the prevalence of wet handling, can pose significant risks to human health and the environment from releases of CCR toxic constituents to ground water and surface water.[263]
>
> - [T]he disposal of CCRs into unlined landfills and surface impoundments is likely to pose significant risks to human health and the environment. Additionally, documented damage cases have helped to confirm the actuality and magnitude of risks posed by these unlined disposal units.[264]
>
> - The co-proposed subtitle D design standards would require . . . all surface impoundments that have not completed closure prior to the effective date of the rule, can only continue to operate if composite liners and leachate collection and removal systems have been installed. Units must be retrofitted or closed within five years of the effective date of the final rule. . . . EPA expects that many surface impoundments will choose to close rather than install a liner.[265]

Utilities understood that a retrofit-or-close requirement was a serious possibility. They retained a consultant to try to persuade EPA that such a requirement would be costly.[266] However, the consultant also made clear for utilities the steps that need to be taken to close ash ponds and alternative means of ash disposal – for both CCR and non-CCR wastes.

> [T]he EPA is proposing cessation of the use of surface impoundments for the management of CCRs. . . .

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[262] *Id.* at 35,144.
[263] *Id.* at 35,149.
[264] *Id.* at 35,172.
[265] *Id.* at 35,202.
[266] EOP Group, Inc., Cost Estimates for the Mandatory Closure of Surface Impoundments Used for the Management of Coal Combustion Byproducts at Coal-Fired Electric Utilities (Nov. 11, 2010) (update of 2009 report prepared for USWAG) ("EOP Appendix"), submitted to EPA as Appendix 19 attached to Comments of Utility Solid Waste Activities Group *et al.*, Docket ID No. EPA-HQ-RCRA-2009-0640-10483 (Nov. 19, 2010) ("2010 USWAG Comments") (attached).

> [A] regulatory mandate to close CCR surface impoundments would . . . affect a significant number of electric utility power plants. From an operational perspective, a CCR surface impoundment closure rule would require electric utilities current using surface impoundments for CCRs to convert from the wet handling to the dry handling of these materials. This report also assesses the potential wastewater management implications to the electric utility industry of no longer being able to employ CCR surface impoundment [sic] for ancillary wastewater management and treatment at the affected facilities.[267]

Commenting on behalf of nearly the entire utility industry,[268] USWAG discussed the close-or-retrofit requirement in its comments on the 2010 Proposed CCR Rule.[269] Moreover, it acknowledged that "[e]ven under the Subtitle D Prime option, . . . there will undoubtedly be a significant number of impoundments that will have to close."[270]

Individual utilities similarly understood that the 2010 Proposed CCR Rule, even with a subtitle D prime approach, would require them to close their ponds, including units handling non-CCR wastes as well as CCRs. For example, Dynegy's 2010 comments noted "22 active ash pond cells that would have to closed or retrofitted under Subtitle D" and asked EPA to take into account the challenges of addressing "low volume non-CCR wastewaters that are currently directed to CCR surface impoundments."[271] Southern Company justified its advocacy for a subtitle D prime approach by noting that "those facilities that fail to demonstrate an acceptable level of performance would be subject to upgrades or closure."[272]

Consultants highlighted their expertise in assisting utilities to accomplish pond closure. A 2011 article by industry consultant Haley and Aldrich noted: "The continued uncertainty surrounding the US-EPA Proposed Rule for Coal Ash Residuals has encouraged many electric power utilities to consider an early closure of their wet coal ash pond management systems. . . . [T]his paper offers up some regulations in a manner that will cost-effectively serve their customers and manage business risk."[273] In addition, a 2014 article in *Power Engineering* encouraged utilities to plan ahead for ash pond closure in light of the coming regulations:

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[267] EOP Appendix at 1-2.
[268] At the time of its 2010 comments, USWAG represented more than 73% of U.S. electricity generating capacity, 91% of coal-fired generation, and providers to more than 95% of the nation's electricity consumers. 2010 USWAG Comments at 1, n.1.
[269] *See, e.g.*, 2010 USWAG Comments at 153-55.
[270] *Id.* at 165 (emphasis added).
[271] Comments of Dynegy, Inc., Docket ID No. EPA-HQ-RCRA-2009-0640-6422 (Nov. 19, 2010) (attached).
[272] Comments of Southern Company, Docket ID No. EPA-HQ-RCRA-2009-0640-6300 (Nov. 19, 2010) (attached).
[273] Hardin et al., Haley & Aldrich, Practical Considerations for the Management and Closure of Wet Coal Ash Pond Systems, 2011 World of Coal Ash Conference, http://www.flyash.info/2011/129-Hardin-2011.pdf (attached).

> Although regulations are still in flux, it's not too early to plan a course of action. It is important to develop a project management plan that anticipates regulatory changes while working concurrently within facility operations or retirement plans. Successful coal ash facility closure strategies map out in advance the regulatory, financial, social, political, and environmental impacts and address future uses.[274]

Although EPA opted for the D prime variant when it promulgated the 2015 CCR Rule,[275] the 2010 Proposed CCR Rule remains significant because it put utilities on notice that they might have to close all unlined ponds within five years, or even under subtitle D prime would have to close ponds that were leaking and/or fail location standards. Furthermore, by ruling that, in light of the record before it, EPA acted arbitrarily and capriciously in adopting the D prime variant and allowing unlined ponds to continue operating until groundwater contamination was documented, the *USWAG* decision simply resulted in a return to EPA's 2010 subtitle D approach of requiring all unlined ponds to close.[276]

C. Utilities Have Known Since at Least December 2014 that "a Significant Number" of Existing Ponds Must Close. Several Utilities Have Already Closed Their Ponds.

When EPA signed the 2015 CCR Rule in December 2014, utilities knew that although the Agency gave them their preferred D prime option, a "significant number of impoundments" would nonetheless "have to close."[277]

1. *Utilities, individually and as an industry, knew of widespread groundwater contamination at unlined ash ponds.*

The 2015 CCR Rule required ponds that were contaminating groundwater to cease receiving waste and begin closure within six months of documenting the contamination.[278] Many utilities were already aware of groundwater contamination caused by their ponds, whether due to groundwater monitoring required by states,[279] groundwater monitoring conducted voluntarily,[280]

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[274] Mark Johnson and Kent Nilsson, TRC Companies, Successful Coal Ash Pond Management, Power Engineering, Issue 7, Vol. 118 (July 17, 2014), https://www.power-eng.com/2014/07/17/successful-coal-ash-pond-management/ (attached).
[275] 80 Fed. Reg. at 21,464.
[276] *USWAG*, 901 F.3d at 426-30.
[277] 2010 USWAG Comments at 165.
[278] 80 Fed. Reg. at 21,490 (promulgating 40 C.F.R. § 257.101(a)(1)).
[279] The Association of State and Territorial Solid Waste Management Officials ("ASTSWMO") stated that, as of February 2009, thirty-nine percent of states with CCR surface impoundments required groundwater monitoring as of a February 2009 survey. ASTSWMO Letter to Matt Hale, EPA (Apr. 1, 2009) at 2 (Appendix 12 attached to 2010 USWAG Comments).
[280] *See, e.g.*, CH2MHill for Union Electric Co. [now doing business as Ameren Missouri], Hydrogeologic Assessment of Potential Impacts of Meramec Ash Ponds on Local Groundwater and Surface Water (Dec. 1997) (discussing groundwater monitoring voluntarily conducted during 1988) (attached).

and/or numerous damage case reports prepared by EPA and by public interest organizations.[281] This information was so prevalent that all utilities were on notice that their unlined ponds either were or were likely to be causing groundwater contamination.

a. From 1998 to 2015, EPA confirmed at least fifty-seven damages cases involving groundwater contamination at facilities potentially affected by the Part A Proposal.

Prior to and driving the promulgation of the 2015 CCR Rule, EPA documented numerous cases of actual damage caused by coal ash disposal,[282] and there was considerable public knowledge of these and similar cases.[283] EPA's damage cases encompassed twenty-one states and facilities operated by over twenty-five different utilities, including the biggest names in the industry.[284]

EPA noted in promulgating the 2015 CCR Rule that "[d]amage cases generally provide extremely potent evidence in hazardous waste listings," and that the number of damage cases collected for coal ash up to 2014 was "by far the largest number of documented cases in the history of the RCRA program."[285] Many of these EPA-confirmed cases of damage to health and/or the environment were caused by unlined surface impoundments and/or disposing of coal ash in or very near aquifers.[286]

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[281] *See* Alexander Livnat, U.S. Environmental Protection Agency, CCR Damage Case Database, Technical Support Document on Damage Cases, Docket ID No. EPA-HQ-RCRA-2009-0640-12123 (Dec. 18, 2014) ("Damage Case Database") (attached); Environmental Integrity Project and Earthjustice, Coming Clean: What the EPA Knows About the Dangers of Coal Ash (May 2009), https://earthjustice.org/sites/default/files/library/reports/final-coming-clean-ejeip-report-20090507.pdf; Environmental Integrity Project and Earthjustice, Out of Control: Mounting Damages from Coal Ash Waste Sites (Feb. 24, 2010), https://earthjustice.org/sites/default/files/library/reports/ej-eipreportout-of-control-final.pdf; Environmental Integrity Project, Earthjustice, and Sierra Club, In Harm's Way: Lack of Federal Coal Ash Regulations Endangers Americans And Their Environment (Aug. 26, 2010), https://earthjustice.org/sites/default/files/files/report-in-harms-way.pdf.

[282] Damage Case Database.

[283] Environmental Integrity Project and Earthjustice, Coming Clean: What the EPA Knows About the Dangers of Coal Ash (May 2009), https://earthjustice.org/sites/default/files/library/reports/final-coming-clean-ejeip-report-20090507.pdf (attached); Environmental Integrity Project and Earthjustice, Out of Control: Mounting Damages from Coal Ash Waste Sites (Feb. 24, 2010), https://earthjustice.org/sites/default/files/library/reports/ej-eipreportout-of-control-final.pdf (attached); Environmental Integrity Project, Earthjustice, and Sierra Club, In Harm's Way: Lack of Federal Coal Ash Regulations Endangers Americans And Their Environment (Aug. 26, 2010), https://earthjustice.org/sites/default/files/files/report-in-harms-way.pdf (attached).

[284] *See* "EPA-HQ-RCRA-2009-0640-12123_EJ Annotations_Part A Comments.xlsx," at "Proven Damage Cases 12_2014_EJ" tab and "Potential Damage Cases 12_14_EJ" tab (columns D & J).

[285] 80 Fed. Reg. at 21,452.

[286] *Id.* at 21,452-58.

Of the 158 coal ash damage sites confirmed by EPA as of the 2015 CCR Rule,[287] at least fifty-seven involved groundwater contamination at sites with at least one unlined surface impoundment likely affected by the Part A Proposal.[288] EPA's five-volume Damage Case Compendium contains detailed narrative descriptions of each site.[289] The table below summarizes key information regarding facilities that were included in EPA's 2014 Damage Case Compendium and appear to have at least one unit subject to the Part A Proposal. The accompanying spreadsheet includes additional information regarding these facilities, as compiled by EPA and annotated by Commenters.

[287] Although EPA tallied 157 cases, *id.* at 21,452, the accurate number is 158, as EPA's damage case spreadsheet erroneously numbered two potential damage cases as number 16. *See* Damage Case Database. Consequently, while the 2015 CCR Rule's Preamble and supporting documents mention 157 confirmed damage cases, EPA's database actually contained 158 proven and potential sites.

[288] *See* "EPA-HQ-RCRA-2009-0640-12123_EJ Annotations_Part A Comments.xlsx" spreadsheet (attached). Some of the impoundments may be "legacy" units that *USWAG* held must be regulated, but EPA unlawfully and inappropriately excluded from the Part A Proposal. Others may have been closed since the 2015 CCR Rule and not subject to the Part A Proposal. Seven impoundments are listed under the "proven damage cases" tab and fifty are listed under the "potential damage cases" tab. "*Proven damage case* means those cases with (i) Documented exceedances of primary maximum contaminant levels (MCLs) or other health-based standards measured in ground water at sufficient distance from the waste management unit to indicate that hazardous constituents have migrated to the extent that they could cause human health concerns, and/or (ii) where a scientific study provides documented evidence of another type of damage to human health or the environment (*e.g.*, ecological damage), and/or (iii) where there has been an administrative ruling or court decision with an explicit finding of specific damage to human health or the environment. In cases of co-management of CCRs with other industrial waste types, CCRs must be clearly implicated in the reported damage." 75 Fed. Reg. at 35,132; *see also* 80 Fed. Reg. at 21,452 (incorporating the Proposed Rule's definition). "*Potential damage case* means those cases with documented MCL exceedances that were measured in ground water beneath or close to the waste source. In these cases, while the association with CCRs has been established, the documented exceedances had not been demonstrated at a sufficient distance from the waste management unit to indicate that waste constituents had migrated to the extent that they could cause human health concerns." 75 Fed. Reg. at 35,132; *see also* 80 Fed. Reg. at 21,452 (incorporating the Proposed Rule's definition).

[289] *See* Alexander Livnat, U.S. EPA, Damage Case Compendium, Technical Support Document, Vol. I: Proven Damage Cases, Docket ID No. EPA-HQ-RCRA-2009-0640-12118 (Dec. 18, 2014) ("Damage Case Compendium, Vol. I") (attached); Alexander Livnat, U.S. EPA, Damage Case Compendium, Technical Support Document, Vol. IIa: Potential Damage Cases (Reassessed, Formerly Published), Docket ID No. EPA-HQ-RCRA-2009-0640-12119 (Dec. 18, 2014) ("Damage Case Compendium, Vol. IIa") (attached); Alexander Livnat, U.S. EPA, Damage Case Compendium, Technical Support Document, Volume IIb., Pt. 1: Potential Damage Cases, (Docket ID No. EPA-HQ-RCRA-2009-0640-12120) (Dec. 18, 2014) ("Damage Case Compendium, Vol. IIb. Pt. 1") (attached); Alexander Livnat, U.S. EPA, Damage Case Compendium, Technical Support Document, Volume IIb., Pt. 2: Potential Damage Cases, Docket ID No. EPA-HQ-RCRA-2009-0640-12121 (Dec. 18, 2014) ("Damage Case Compendium, Vol. IIb. Pt. 2") (attached); Alexander Livnat, U.S. EPA, Damage Case Compendium, Technical Support Document, Volume III: Rejected Damage Cases, Docket ID No. EPA-HQ-RCRA-2009-0640-12122 (Dec. 18, 2014) ("Damage Case Compendium, Vol. III") (attached).

Table. Damage cases involving groundwater contamination at facilities with units potentially affected by the Part A Proposal.[290],[291]

EPA Damage Case ID	Facility	State	Year Damage Noted	Groundwater: Contaminants of Concern	Status of at least one regulated surface impoundment at facility per 2015 CCR Rule certifications
PR03	Gibson Generating Station Plant, Duke Energy	IN	SW: 2003; GW: 2007	Primary MCL (onsite): As; EPA Child Health Advisory (HAL; Offsite): B; Drinking Water Advisory: Na; SMCL (onsite): Fe, Mn.	Unlined; leaking (SSL); aquifer non-compliance; NOI (5/23/18)
PR10	Colstrip Power Plant, PPL Montana	MT	Early 1980s	MCL: Se, As; WHO Drinking Water MCL: Mo; SMCL: B, Cl, Sf, TDS	Unlined; leaking (SSL); aquifer non-compliance
PR11	Reid Gardner Generating, Nevada Energy	NV	1997	MCL (offsite GW): As; MCL (onsite GW): As, Cr, Nitrate, Se, V; SMCL: Mo, B, Cl, Mg, Mn, Ti, Na, Sf, TDS	Unlined; leaking (SSI-ASD)
PR18	Conesville FGD Landfill, AEP	OH	1979/80	PDWS (Onsite and offsite): Pb, Cr; PDWS: (Onsite): As, Cd, Cr, Se; SDWS (Onsite): Ca, Mg, Sf, Fe, TDS	Unlined; leaking (SSL); aquifer non-compliance

[290] EPA refers to the IDs in this table as crosswalks. "Each entry in the database . . . is provided with (i) a reference to a publically-accessible publication where it was first addressed, and (ii) a crosswalk to its corresponding module in the accompanying five-volume Damage Case Compendium, a technical support document on damage cases." Damage Case Database, at "Introduction" tab (tab includes abbreviations and standard symbols used in these comments in cells A58 & A60). The information in the first four columns of this table (blue headers) is copied from the Damage Case Database, and the information in the final column (green header) is based on a 2019 review of industry disclosures posted on individual owner/operator websites. These publicly available owner/operator websites, entitled "CCR Rule Compliance Data and Information," were mandated by the 2015 CCR Rule so that the public, as well as state and federal regulators, could determine an owner/operator's compliance with the requirements of the Rule. *See* EPA, List of Publicly Accessible Internet Sites Hosting Compliance Data and Information Required by the Disposal of Coal Combustion Residuals Rule, https://www.epa.gov/coalash/list-publicly-accessible-internet-sites-hosting-compliance-data-and-information-required; *see also* Earthjustice, Mapping the Coal Ash Contamination, https://earthjustice.org/features/map-coal-ash-contaminated-sites.

[291] Table Legend: Notice of Intent ("NOI") – the facility posted a notification of intent to initiate closure. "Leaking (SSI)" – the operator found a statistically significant increase (SSI) of Appendix III constituents during groundwater detection monitoring. "Leaking (SSL)" – the operator found Appendix IV constituents present at statistically significant levels above groundwater protection standards during assessment monitoring. Alternate Source Demonstration ("ASD") – the operator is claiming that an alternate source is allegedly responsible for contamination. "Aquifer non-compliance" – the operator found that the unit does not meet the minimum requirements for placement above the uppermost aquifer, or failed to make the demonstration showing compliance. "Unlined" – the operator found that the unit lacks a liner or failed to prove that it has one. The table lists known notices per 40 CFR § 257.103 (alternative closure requirements).

EPA Damage Case ID	Facility	State	Year Damage Noted	Groundwater: Contaminants of Concern	Status of at least one regulated surface impoundment at facility per 2015 CCR Rule certifications
PR19	Bruce Mansfield Power Station, First Energy	PA	1993	MCL (Offsite & Onsite): As, Cd, Pb, F, Ba; SMCL (Offsite and Onsite): B, Cl, Sf, Fe, Mn, Na, Al, pH, TDS, TSS	Unlined; leaking (SSL); aquifer non-compliance; NOI (12/21/16)
PR26	Kingston Fossil Station, TVA	TN	2008	MCL: Se; Life Health Advisory (LHA): Mn; Federal health-based guidelines: Co; SMCL: Sb, Al, Ammonia.	Unlined; possibly leaking; NOI (12/15/15)
PR37	Columbia Energy Center, Alliant Energy	WI	1977	SMCL: B, Na, Sf	Unlined; leaking (SSI); NOI; partial 257.103(a) notice
PTb01	Flint Creek Power Plant, SWEPCO	AR	GW: 1994; SW: 1996	MCL: Se, Ag, (Ba, Cd, Pb - contested by utility); SMCL: Fe, Mn, Sf, pH, TDS	Unlined; aquifer non-compliance
PTb02	Independence Steam Station – Entrgy/AP&L	AR	Early 1990s	MCL: (As, Cd, Pb - contested by ADEQ); SMCL: Fe, Mn, Sf, Cl, TDS, pH	Unlined; not complying with GW monitoring requirements
PTa03	Cholla Steam electric Generating Station - Arizona Public Service Co.	AZ	Pre-1999	SMCL: Sf, Cl, F, TDS	Unlined; leaking (SSL); aquifer non-compliance
PTb06	CD McIntosh Jr. Power Plant – City of Lakeland	FL	1997	MCL: As, Pb, Se, Cd, Nitrate; SMCL: Fe, Mn, V, Fe, Sf, TDS, pH	NOI (4/17/19); Unlined; leaking (SSL); aquifer non-compliance
PTb13	Lansing Station Ash Ponds and Landfill – Alliant/Interstate Power and Light Company (IP&L)	IA	2002	MCL: As; SMCL: Fe, Sf, Mn; LHA: Mn	NOI (4/2/19); 257.103(a) Notice (4/17/19); Unlined; leaking (SSL); failure to post location status
None	Joppa Steam Plant Ash Ponds - Ameren (Electric Energy)	IL	2010	MCL: Pb; health-based guideline: Cr, Co, B, Mn, Sf; State GW standard: Pb, B, Fe, Mn, Sf; SMCL: TDS.	Unlined; leaking (SSI)
None	Dallman Station Ash and FGD Ponds - City Water, Light and Power	IL	2010	MCL: As; health-based guideline: Cr, Na; State GW Standard: B, Mn, Fe; SMCL: Sf, TDS.	257.103(a) Notice; Unlined; leaking (SSL); aquifer non-compliance
PTa09	Powerton Plant Mahoney Landfill and Ash Ponds - Midwest Generation (Commonwealth Edison)	IL	LF: Pre-1985; Ponds: 2010.	LF: MCL: As, Se, Pb, Cr, Nitr; SMCL: Fe, Mn, Sf, TDS. Ponds: MCL: As, Pb; Health-based guideline: Cr, Mn; IL GW Standard: Pb, B, Mn; SMCL: Mn, Fe, TDS.	Unlined (no cert); leaking (SSL)
PTa05	Duck Creek Station - Central Illinois Light Co. (Ameren, Dynegy)	IL	1999	SMCL: Mn, Fe, Cl, Sf, TDS, B	Unlined; leaking (SSI); aquifer non-compliance

EPA Damage Case ID	Facility	State	Year Damage Noted	Groundwater: Contaminants of Concern	Status of at least one regulated surface impoundment at facility per 2015 CCR Rule certifications
PTa07	Hennepin Power Station - Illinois Power Co. (Dynegy)	IL	1989	SMCL: (Fe, Mn), B, Sf, TDS	partial NOI (11/15); aquifer non-compliance; leaking (some SSI, some SSL, some ASD)
PTa06	Havana Power Plant - Illinois Power Co. (Dynegy)	IL	1997	SMCL: (Mn), B, Sf	Unlined; leaking (SSI); aquifer non-compliance
None	Waukegan Generating Station Ash Ponds - Midwest Generation (Edison International)	IL	2010	MCL: As, Sb; health-based guideline: B, Mn, Sf; IL GW Standard: As, Sb, B, Mn, Sf, TDS; SMCL: Mn, Fe, Sf, TDS.	Unlined (no cert); leaking (SSI-ASD)
PTb09	Joliet Generating Station 9 Lincoln Stone Quarry Landfill - Midwest Generation	IL	1994	MCL: As, (Se, Cd, Ba); Applicable Groundwater Quality Standards (AGQSs): (B), Sf, Mo, Ammon, TDS, pH; SMCL: Cu	Leaking (SSL); aquifer non-compliance
PTb10	Marion Plant - Southern Illinois Power Cooperative (SIPC)	IL	1997	Illinois Class I GW Standard/MCL: Cd; Illinois Class I GW Standard/SMCL: (Fe), Sf, B	Unlined; leaking (SSL); aquifer non-compliance
PTa16	Michigan City Site, NiSource	IN	Pre-1982	MCL: As, (Pb)	Unlined; leaking (SSI); aquifer non-compliance
PTa18	R.M. Schahfer Generation Station, NiSource	IN	Pre-1993	SMCL: Fe, Mn, Mo, Sf, Cl, Na; HAL: B	Unlined; leaking (SSL); aquifer non-compliance
PTa20	East Bend Scrubber Sludge Landfill - Cinergy (Duke Energy)	KY	1981	SMCL: Fe, Mn, Sf, Cl, TDS	Unlined; leaking (SSI); NOI (11/17)
PTb16	Mill Creek Station – Louisville Gas & Electric	KY	1994	MCL: (As); SMCL: Sf, TDS, Cl	Unlined; leaking (SSL); aquifer non-compliance; NOI (2017 & 18)
None	Paradise Fossil Plant Ash Ponds, TVA	KY	1980s; then (newly installed wells): 2011.	MCL: As; health-based guideline: B, Cr, Co, Mn.	Unlined; leaking (SSL); aquifer non-compliance
PTb17	Shawnee Fossil Plant, TVA	KY	1980s	MCL: As, Se, Be; HAL: B; SMCL: Co, Ni, Mo, V, Sf, Mn, TDS, pH	Unlined; leaking (SSL)
PTb19	Big Cajun II Power Plant – NRG/Louisiana Generating	LA	1989	MCL: Se, Ba, As; SMCL: TDS	Unlined; leaking (SSI)
PTb20	Dolet Hills Power Station - CLECO Power	LA	1992	MCL: As, Pb, Se; SMCL: Fe, Cl, Sf, TDS, pH	Unlined
PTb21	Rodemacher Power Station - CLECO Power	LA	1983	MCL: As, Pb; SMCL: Cl, TDS, pH, Sf	Unlined (clay)

EPA Damage Case ID	Facility	State	Year Damage Noted	Groundwater: Contaminants of Concern	Status of at least one regulated surface impoundment at facility per 2015 CCR Rule certifications
PTb24	Karn/Weadock Generating Facility – Consumer Energy	MI	1982	MCL: (As); HAL: B; State's health-based standard: Li	Unlined; leaking (SSL); aquifer non-compliance; NOI (10/12/18)
PTb29	BC Cobb - Consumers Energy	MI	?	State Health Standards: B, Li, Mn, Sf, Ammonia	Unlined; leaking (SSL); aquifer non-compliance; NOI (3/18)
PTb30	J.H. Campbell, West Olive - Consumers Energy	MI	?	State Health Based Standards: Se, B, Li, Sb; Unknown Federal & State Standards: pH, Cd, Cr, Fe, Pb, Va, Al, Ni, Tl, Mn, Zn.	Unlined; leaking (SSL); aquifer non-compliance; NOIs
PTa22	Xcel Energy/Southern Minnesota Municipal Power Agency (Sherco) Generating Plant	MN	1985	MCL: As, Se, Cd, Pb; SMCL: Sf, B	Unlined; leaking (SSI)
PTa26	Allen Steam Generating Plant - Duke Power	NC	1985	SMCL or EPA Lifetime Health Advisory (LHA): Mn, Fe, Ni, nitrate, pH	Unlined; leaking (SSL); aquifer non-compliance; partial NOI (3/4/19)
PTb37	Sutton Steam Plant – Progress Energy	NC	2006	MCL: As, Tl, Sb, Se, Pb; SMCL/HAL: Fe, Mn, B, Sf, TDS	Unlined; leaking (SSL); aquifer non-compliance; NOI (2/17)
PTb36	Lee Steam Plant – Progress Energy	NC	2007	MCL: (Pb, Cr), As; State's water quality standard (2L)/SMCL: B, Mn, Fe, pH	Unlined; leaking (SSL); aquifer non-compliance; partial NOI (3/26/19)
PTb33	Belews Creek Steam Station - Duke Energy	NC	2005	MCL, State's water quality standard (2L): As, Se, Cr, (Pb); State's water quality standard (2L), SMCL: B, Sf, Nitrate,pH, (Fe, Mn)	Unlined; leaking (SSL); aquifer non-compliance; NOI (4/12/19)
PTb32	Asheville Steam Electric Plant - Progress Energy	NC	2007	MCL/State's water quality standards (2L): Cr, Tl, Se, Nitrate. SMCL: B, Fe, Mn, Cl, Sf, pH, TDS.	Unlined; leaking (SSL); aquifer non-compliance; 257.103(b) notice (4/4/19)
PTb35	Dan River Steam Station - Duke Energy	NC	1993	MCL: {Pb), As; State's water quality standards (2L): Cr, Sb, (Ag); SMCL: Fe, Mn, Sf, B, TDS, pH.	Unlined; leaking (SSL); aquifer non-compliance; partial NOI (5/23/18)
PTb38	Leland Olds Station - Basin Electric Power Cooperative	ND	1985	MCL: As, (Pb); SMCL: Sf, B	Unlined; possibly leaking; NOI (12/17/15)
None	Stuart Station Impoundments - Dayton Power & Light	OH	Sometimes between 1973-1986.	SMCL: TDS, Sf, Fe.	Unlined; leaking (SSL); aquifer non-compliance
PTb39	Cardinal Fly Ash Reservoir (FAR) 1 & 2 – AEP	OH	1993	MCL: As; HAL: B; EPA Lifetime Health Advisory (LHA): Mo	Unlined; leaking (SSL); aquifer non-compliance

EPA Damage Case ID	Facility	State	Year Damage Noted	Groundwater: Contaminants of Concern	Status of at least one regulated surface impoundment at facility per 2015 CCR Rule certifications
PTb40	General James M. Gavin Power Plant – AEP/Ohio Power	OH	1974 (ecologic); 1994	MCL: (As, Ba, Cd, Pb, Gross Alpha); SMCL: (Mn, Cl, TDS); EPA Lifetime Health Advisory (LHA): (Mo)	Unlined; leaking (SSI-ASD); partial NOI (10/23/15)
PTb45	Mitchell Power Station, Allegheny Energy	PA	1998	MCL: As; SMCL: B, Mo, Ni, Mn, Fe	Unlined; leaking (SSI)
PTb49	Wateree Station – South Carolina Electric & Gas	SC	1997	State's Water Classifications and Standards for GB-class groundwater: As; MCL: Cr, Cd, Pb	Unlined; leaking (SSL); failure to post location status; partial NOI (4/9/18)
None	Cross Generating Station Ash Landfill and Ponds - South Carolina Public Service Authority (SCPSA; Santee Cooper)	SC	2009	MCL: As, Cd; health-based guideline: Cr, Na, Sf, Fe; SMCL: Al, Cl, Fe, Sf, TDS.	Unlined; leaking (SSL); aquifer non-compliance
None	Winyah Generating Station Ash and FGD Ponds - South Caroline Public Service Company (Santee Cooper)	SC	2009	MCL: As; health-based guideline: Cr, Sf, Fe; SMCL: Sf, Cl, Fe.	Unlined; leaking (SSL); aquifer non-compliance
None	Allen Fossil Plant Ash Ponds, TVA	TN	2006 or earlier	MCL: As; health-based guideline: Mn; SMCL: TDS.	Unlined; leaking (SSL); failure to post location status; NOI (4/23/19)
PTa32	Bull Run Steam Plant, TVA	TN	1974	MCL: As, Cd, (Co); SMCL: Sf, Al, Ca, Fe, B, Mn, Mo, Ni	Unlined; possibly leaking; NOI (12/15/15)
PTb50	Cumberland Steam Plant, TVA	TN	2008	State's GWPS/MCL: As, Se; State's GWPS: V; HAL: B; SMCL: Al, Fe, Mn, Cl, Sf, TDS	Unlined; leaking (SSL)
PTb51	Gallatin Fossil Plant, TVA	TN	2008	MCL/GWPS: As, Cd, Hg, (Be); HAL: B; State GWPS: Ni, V; SMCL: Co, Fe, Mn, Sf, TDS	Unlined; leaking (SSL); failure to post location status; NOI (7/19/19); 257.103(a) notice (4/17/19)
PTb53	Johnsonville Fossil Plant – TVA	TN	1986	MCL: As, Cd, Pb, Cr; HAL: B, Mo; SMCL: Al, Fe, Mn, Co, Sf, TDS	Unlined; leaking (SSL)
None	Coleto Creek Power Station - International Power	TX	Pre-1985 (?); 2010	MCL: As, Pb; health-based guideline: B, Co, Ni, V.	Unlined; leaking (SSI); failure to post location status
None	Parish Generating Station - Texas Genco II (NRG Energy)	TX	2009	MCL: As, Se, Ba; health-based guideline: B, Cr, Co, Mn, Mo, Sf.	Unlined (clay); leaking (SSI-ASD)
PTa36	Edgewater 1-4 Ash Disposal Site - Alliant	WI	1980s	State ES HAL: B; State ES: Fe, Sf, TDS; State PAL: Cl; MCL: As, Se	Unlined; leaking (SSI-ASD); failure to post location status; NOI (10/25/18)
PTa42	Dave Johnston Power Plant, WY	WY	Pre-1985	MCL: (Cd); SMCL: (Mn), Sf, B	Unlined; leaking (SSL)

The Damage Case Compendium descriptions and the summary table above show that groundwater contamination was documented well before 2015 in many instances. Damages were noted throughout the 1970s, 1980s, 1990s, and 2000s. Facilities with unlined surface impoundments have a history of groundwater monitoring and contamination dating back to as early as the 1970s.

b. Pre-2015 groundwater monitoring data documented extensive groundwater contamination.

Based largely on groundwater monitoring data collected by utilities and submitted to state agencies dating back to 2010, the Ashtracker website[292] shows that utilities all over the country were aware of groundwater contamination at their sites.[293]

The website summarizes data available at each monitoring well and indicates whether values exceeded health-based federal drinking water standards and advisories. Although the data sets for some sites are not complete, often because state agencies do not always require monitoring of all of the pollutants most likely to leak into groundwater from coal ash sites, Ashtracker makes clear that many utilities had groundwater monitoring data associated with surface impoundments now regulated by the 2015 CCR Rule as early as 2010. An appendix to this section of these comments includes examples of groundwater contamination at sites regulated by the 2015 CCR Rule in twenty-two states with at least one regulated surface impoundment likely affected by the Part A Proposal.[294] Once EPA signed the 2015 CCR Rule in December 2014, utilities could easily have, and indeed should have, examined their own monitoring data and determined which ponds were likely subject to the closure requirements.[295]

Even utilities that waited until the 2015 CCR Rule was promulgated to commence groundwater monitoring would have known by October 2017, when the first year of RCRA-required monitoring was completed, that their unlined ponds were leaking.[296] Because utilities' monitoring documented that some ninety-one percent of all monitored ponds were leaking,[297]

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[292] https://ashtracker.org/.
[293] The Environmental Integrity Project created Ashtracker with data obtained from state agencies, through public records requests and by downloading data directly from state agencies' websites.
[294] Appendix to Section V of Comments of Earthjustice et al., "Groundwater Contamination Snapshots for sites regulated by the 2015 CCR Rule with at least one regulated surface impoundment likely affected by the Part A Proposal" (Jan. 2020) (attached).
[295] Although Ashtracker does not indicate whether downgradient concentrations exceeded upgradient concentrations and well information is not directly linked with particular ash disposal units at the facilities, the considerable number of sites with groundwater contamination demonstrates that utilities have long been on notice of groundwater issues at their sites.
[296] 80 Fed. Reg. at 21,485 (promulgating 40 C.F.R. § 257.94(b)).
[297] Environmental Integrity Project, Coal's Poisonous Legacy – Groundwater Contaminated by Coal Ash Across the U.S. (July 2019), https://www.environmentalintegrity.org/wp-content/uploads/2019/03/National-Coal-Ash-Report-Revised-7.11.19.pdf ("EIP 2019 Report") (attached).

nearly all utilities knew by October 2017 – many well before then – that they might have to close those ponds.[298]

2. *Utilities knew or should have known shortly after the 2015 CCR Rule was signed whether their ponds met the Rule's location standards.*

Similarly, utilities knew or should have known by December 2014, when EPA signed the 2015 CCR Rule, whether their ponds satisfied the Rule's location standards. For example, they needed only to consult their plant's construction and/or other records to determine whether they could certify that the bases of their ponds were built at least five feet above the upper limit of the uppermost aquifer[299] – a test that many ponds, particularly those along major rivers, failed. In the event that a utility did not have the data available in December 2014, it could have determined in fairly short order whether its ponds met the aquifer location test.[300] At the very latest, utilities were required to determine by October 2018 whether their ponds met or failed this test,[301] and to cease using them and commence closure by April 2019.[302] Many utilities responded to the 2015 CCR Rule by closing their ponds.

Based on information that was readily available to them about their surface impoundments, some utilities in Florida, Indiana, Kentucky, and elsewhere responded to the 2015 CCR Rule by commencing closure of their ponds long before the Rule's formal deadline.[303] Georgia Power commenced its pond closure activities in early 2016 and had completed closure and removed all ash from five ponds at four of its plants by March 2018, with plans to complete closure at another six ponds by the end of 2017.[304]

The utility industry knew that the 2015 CCR Rule does not allow postponement of closure deadlines for lack of alternative capacity for non-CCR wastestreams.[305] Thus, utilities have long known of the likelihood that their ponds would have to be closed, and of the need to find alternative ways of disposing of non-CCR wastes to meet the closure deadlines in the 2015 CCR Rule.

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[298] Utilities had until October 2018 to determine whether the signs of leakage evidenced by the October 2017 monitoring results exceeded groundwater protection standards, requiring unlined ponds to close under the since-vacated provisions of 40 C.F.R. § 257.101(a)(1).
[299] 80 Fed. Reg. at 21,471-72 (promulgating 40 C.F.R. § 257.60(a)-(c)).
[300] Dr. Ranajit (Ron) Sahu, Expert Report/Comments on Alternate Disposal Timing at 4 (Jan. 31, 2020) (attached).
[301] 80 Fed. Reg. at 21,472 (promulgating 40 C.F.R. § 257.60(c)(1)).
[302] *Id.* at 21,490 (promulgating 40 C.F.R. § 257.101(b)(1)).
[303] Comments of Earthjustice et al. at 132 (Apr. 30, 2018), Docket ID No. EPA-HQ-OLEM-2017-0286-2136 (attached).
[304] Georgia Power, Ash Pond Closure Efforts Continue Across Georgia (Mar. 2, 2018), https://www.georgiapower.com/company/news-center/2018-articles/ash-pond-closure-efforts.html (attached). The adequacy of Georgia Power's closure plans is being challenged. https://www.13wmaz.com/article/news/local/environmental-groups-fight-georgia-power-coal-ash-disposal-plans/93-aa61592b-9530-4265-b2e7-e360af021158.
[305] Comments of USWAG at 73-93, Docket ID No. EPA-HQ-OLEM-2017-0286-1717 (Apr. 30, 2018) (attached).

D. EPA's Use of the *USWAG* Decision to Re-Start the Closure Deadline Clock Is Unlawful and Unjustified.

The Part A Proposal uses the date of the court's mandate in *USWAG* – October 15, 2018 – as a new start time for calculating pond closure deadlines and extensions thereof.[306] Although EPA's stated justification for moving the goalpost is to enable facilities "to develop alternate capacity . . . for their CCR and non-CCR wastestreams,"[307] that rationale only applies to disposal units that did not previously face closure deadlines but will now have to close – i.e., clay-lined ponds and the few if any unlined ponds that are not leaking and satisfy all of the location restrictions. For the rest – the vast majority – of the ponds affected by the Part A Proposal, there is no valid basis for moving back the deadline-triggering date.

EPA placed in the regulatory docket a brief filed in *Waterkeeper Alliance* by USWAG, arguing that "[a]lternative disposal capacity cannot be constructed overnight."[308] USWAG's argument reflects an odd view of time. As set forth above, utilities have known since the late 1970s, reinforced further in the 1980s and 1990s, that unlined ponds pose a threat to groundwater. They have known since 2000 that EPA was developing RCRA regulations for coal ash disposal, in large part because unlined ponds threaten, and actually cause, groundwater contamination. And they have known since 2010 that EPA was proposing to require all or, in USWAG's words, "a significant number," of coal ash ponds to close. Finally, they have known since 2015 the specific closure deadlines based on documented groundwater contamination and/or failing one or more of the location requirements. Throughout this period, trade organizations and others have been advising utilities to plan for pond closure, and discussing specific means of accomplishing pond closure. Moreover, many utilities have already closed their ponds since the 2015 CCR Rule was promulgated. The notion that all of a sudden utilities were caught off guard by the *USWAG* decision and have to confront a new regulatory requirement is contrary to fact and inconsistent with RCRA's requirement that regulations ensure "no reasonable probability of adverse effects on health or the environment from disposal of solid waste."[309]

VI. EPA'S PROPOSED AUGUST 31, 2020 DEADLINE FOR INITIATION OF POND CLOSURE IS UNLAWFUL, ARBITRARY AND CAPRICIOUS, AND WITHOUT A RATIONAL BASIS.

The Part A Proposal would allow owners and operators of unlined coal ash ponds and ponds located in or near aquifers to wait until August 31, 2020[310] (or later[311]), to cease disposal

[306] 84 Fed. Reg. at 65,951.
[307] *Id.*
[308] Response of USWAG and Luminant/Dynegy Companies in Support of Respondents' Motion for Voluntary Remand Without Vacatur and in Opposition to Petitioners' Motion for Partial Stay or, in the Alternative, for Partial Summary Vacatur at 8, Docket ID No. EPA-HQ-OLEM-2019-0172-0002 (Jan. 22, 2019).
[309] 42 U.S.C. § 6944(a).
[310] 84 Fed. Reg. at 65,961 (proposed 40 C.F.R. § 257.101(a)(1), (b)(1)).
[311] *Id.* at 65,942 (proposed 40 C.F.R. § 257.103(e), (f)(1)) (providing for "short-term" three-month extensions and site specific five-year extensions).

and begin closure. This represents a dramatic and unjustified extension of the 2015 CCR Rule requirements. The CCR Rule deadlines for commencing closure of ponds that leak or are located in or near aquifers were the minimum standard necessary to ensure no reasonable probability of adverse effect on human health or the environment.[312] None of EPA's subsequent rulemakings have identified any evidence showing that a later deadline meets RCRA's protectiveness standard. Moreover, both the current proposal and the 2018 Phase I, Part One Rule are based on impermissible considerations of cost raised in complaints by industry and ignore evidence of widespread contamination caused by leaking ash ponds. Lastly, the materials submitted by the industry about the time needed to find alternative disposal capacity and ready a facility for the initiation of closure do not support EPA's chosen August 31, 2020 deadline.

A. EPA's Extension of Deadlines for Initiating Closure at Ponds that Leak or Are Located in or Near an Aquifer that Violates the Protectiveness Standard of RCRA Section 4004(a).

The 2015 CCR Rule required that unlined ponds shown to be leaking stop receiving waste and begin closure or retrofit within six months of the detection of groundwater protection standard exceedances.[313] In practice, at many ponds – ponds where initial rounds of detection monitoring showed exceedances of background levels for certain coal ash constituents and where subsequent assessment monitoring showed exceedances of groundwater protection standards – the closure deadline was triggered in October 2018.[314] Accordingly, closure at such sites should have commenced by April 2019. For ponds that failed to comply with location restrictions, the 2015 CCR Rule required closure to begin by April 2019 (six months after the October 17, 2018, deadline for location standard compliance demonstrations).[315]

EPA first changed these requirements as part of its 2018 Phase I, Part One Rule where it extended the closure initiation deadlines until October 31, 2020, for leaking ponds and ponds not located at least five feet above the uppermost aquifer.[316] While EPA frames the August 31, 2020 deadline as giving the owners and operators of such ponds less time than the October 31, 2020 deadline established in the Phase I, Part One Rule, the Part A Proposal also allows for three-month extensions, making the effective deadline November 30, 2020,[317] later than the Phase I, Part One Rule. But the more relevant comparison is with the deadlines in the 2015 CCR Rule: the Part A Proposal would allow more than two additional years from the original deadline during which unlined, leaking ponds could continue to accept waste and to release pollutants into the environment and an additional sixteen months of operation at ponds near aquifers. EPA has

[312] 80 Fed. Reg. at 21,490 (40 C.F.R. § 257.101(a)(1)).
[313] *Id.*
[314] The 2015 CCR Rule requires owners and operators to conduct detection monitoring by October 17, 2017, 40 C.F.R. § 257.94(b), to calculate statistically significant increases for detection monitoring pollutants within ninety days (by January 15, 2018), 40 C.F.R. § 257.93(h)(2), to begin assessment monitoring within ninety days (by April 15, 2018), 40 C.F.R. § 257.94(e)(1), to complete assessment monitoring within ninety days (by July 14, 2018), 40 C.F.R. § 257.95(b), and to determine compliance with groundwater protection standards within ninety days (by October 12, 2018), 40 C.F.R. § 257.95(d).
[315] 80 Fed. Reg. at 21,490 (40 C.F.R. § 257.101(b)(1)).
[316] 83 Fed. Reg. at 36,454-55 (promulgating 40 C.F.R. § 257.101(a)(1), (b)(1)(i)).
[317] 84 Fed. Reg. at 65,962 (proposing 40 C.F.R. § 257.103(e)(1)).

identified no evidence that undermines its prior conclusion that to meet the protectiveness standard, ponds that violate the location restrictions or lack liners and are leaking must close within six months. In fact, the rulemaking record is replete with documentation of the risks posed by improperly sited and unlined coal ash ponds.

As part of its initial rulemaking, EPA made detailed findings in 2015 about the dangers of unlined impoundments and impoundments that sit close to or in groundwater.[318] Discussing the need for strict closure deadlines, EPA found that "CCR units present significant risks, and *it is critical that facilities complete closure expeditiously* – particularly those that are closing because they are structurally unsound or are contaminating groundwater."[319] The extension of deadlines by which ponds that leak or are located in or too close to aquifers must begin closure conflicts with factual findings EPA made in support of the 2015 CCR Rule, but EPA does not explain the inconsistency.[320] Neither the Phase I, Part One Rule nor the Part A Proposal includes any attempt by EPA to explain its departure from the 2015 CCR Rule's requirements. Instead, EPA focused its attention on vague and inadequately-substantiated claims by industry that compliance with the 2015 CCR Rule deadlines would be difficult given the time needed to secure alternate disposal capacity.[321] No mention was made of the impact on human health and the environment by allowing leaking and improperly sited ponds to operate for months longer. Nor did EPA make any effort to determine as-soon-as-possible timeframes rather than the simply accepting industry's more leisurely timeframes.[322]

After examining the abundant evidence in EPA's rulemaking record showing that unlined or improperly sited ponds "pose substantial risks to humans and the environment," the *USWAG* court concluded that allowing unlined ponds to continue to operate creates health and environmental risks that violate RCRA's protectiveness standard.[323] Thus, by allowing the most dangerous impoundments to operate for even longer than under the 2015 CCR Rule, EPA's proposed August 31, 2020 closure initiation deadline (or the November 30, 2020 deadline that follows a three-month extension) also violates RCRA and is directly at odds with the *USWAG* decision. By extending the operating life of dangerous coal ash impoundments, more waste will be placed in leaking and dangerously-sited ponds and those ponds will have more time to leak, thereby increasing the amount of harmful contamination released into the environment.[324]

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[318] *See, e.g.*, 80 Fed. Reg. at 21,362 ("Placement of CCR into un-engineered, unlined units in permeable strata has plainly led to adverse impacts to groundwater.").
[319] *Id.* at 21,419 (emphasis added).
[320] "[A]n '[u]nexplained inconsistency' in agency policy is 'a reason for holding an interpretation to be an arbitrary and capricious change from agency practice.'" *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126 (2016) (quoting *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005)).
[321] *See* 84 Fed. Reg. at 65,951-52; 83 Fed. Reg. at 36,439-42.
[322] Dr. Ranajit (Ron) Sahu, Expert Report/Comments on Alternate Disposal Timing (Jan. 31, 2020) ("Sahu Expert Report") (attached).
[323] *See* 901 F.3d at 426-30.
[324] *See id.* (describing "the harms from continued leakage during the years before leakage is ultimately halted by retrofit or closure").

In addition to disregarding the evidence collected during the initial rulemaking, EPA also has ignored the results of recent groundwater monitoring that reveals serious and widespread contamination at coal ash disposal sites across the country. In comments on the 2018 Phase I Proposal, commenters presented an analysis of groundwater monitoring data reported by owners and operators of coal ash sites showing that the majority of ponds violate either the prohibition on location within five feet of an aquifer or a groundwater protection standard or both.[325] Specifically, the deadline extensions first adopted in EPA's 2018 Phase I, Part One Rule delayed for eighteen months the closure of at least 174 impoundments that sit within five feet of the uppermost aquifer.[326] As of December 2018, 283 unlined ponds had entered assessment monitoring, and of these at least eighty-seven had already determined that they violate a groundwater protection standard.[327] In sum, this new information reported by utilities pursuant to the 2015 CCR Rule shows that there are more unlined impoundments, and that unlined impoundments leak contaminants at higher rates, than EPA knew when it issued the Rule.[328] These more recent data reinforce the *USWAG* court's conclusion that all unlined impoundments must close expeditiously. While EPA's Part A Proposal does acknowledge that "more recent data suggest that a greater number of units are leaking than EPA originally estimated during the rulemaking" and that "EPA has also learned that some units were constructed such that the base of the unit is located within the underlying aquifer,"[329] EPA admittedly decided not to prepare a risk assessment utilizing this new information before rushing to give the utilities this new package of deadline extensions.[330]

Given the overwhelming evidence in the original rulemaking record about the risks posed by unlined and improperly sited coal ash ponds, the reliance on such evidence by the *USWAG* court, and the additional evidence of widespread groundwater contamination at the large majority of coal ash ponds in the U.S., the provisions of EPA's Part A Proposal allowing the continued operation of leaking and improperly sited ash ponds for another seven months from now fails to ensure the protection of human health and the environment and, therefore, violates RCRA.

B. EPA's Extension of Deadlines for Initiating Closure at Ponds that Leak or Are Located in or Near Aquifer Is Not Justified by the Rulemaking Record and Is Impermissibly Based on a Consideration of Costs.

EPA adopted the Phase I, Part One Rule based on petitions from industry and despite the fact that the record before the Agency did not show that the changes satisfied RCRA's protectiveness standard. Similarly, the deadline extensions contemplated in the Part A Proposal

[325] *See* 2018 Comments at 54-57; *see also* Decl. of Flora Champenois, ¶¶ 9, 11-16, *Waterkeeper All., Inc. v. EPA*, No. 18-1289 (D.C. Cir. Dec. 17, 2018) ("Champenois Dec. 17, 2018 Decl.") (attached).
[326] See Champenois Dec. 17, 2018 Decl. ¶ 9.
[327] *See id.* ¶¶ 12-13.
[328] *See, e.g.*, Earthjustice, et al. April 30, 2018 Comments at 54-58.
[329] 84 Fed. Reg. at 65,945.
[330] *Id.* ("Unfortunately, this new information is not presented in a form that can be readily incorporated into a nationwide risk assessment. Additionally, given the expedited timeframe needed to complete the reconsideration of the deadline for a unit to cease receiving waste and initiate closure, EPA was unable to develop a nationwide risk assessment of continued operation of these units.").

are designed to give industry the additional time for compliance it has requested, but are based on incomplete and inadequate information provided by industry and impermissibly consider cost.

As discussed in Section V – Utilities on Notice, EPA's attempt to use the *USWAG* decision to restart the clock for commencement of closure at these ponds is unlawful. While ponds that were lined with clay and those few where groundwater contamination had not been observed[331] by the time the *USWAG* court's mandate was issued arguably were on notice only since October 15, 2018,[332] ponds that would have had to close under the 2015 CCR Rule had ample time to develop alternate capacity for their CCR and non-CCR wastestreams. EPA has pointed to no reason why these ponds require additional time. Prudent utilities, upon learning that their ponds were located in or too close to aquifers or were leaking, would have taken appropriate steps to ready their facilities for a cessation of coal ash disposal in those ponds and the commencement of closure. Indeed, many utilities did just that. For example, Louisville Gas & Electric (LG&E) made plans in 2016 to close ash ponds at its Mill Creek and Trimble plants in Kentucky before the closure requirements were triggered because, based on its understanding of its sites, "there is a high probability that the groundwater monitoring and assessment requirements could trigger closure obligations for one or more of the surface impoundments."[333] Likewise, Duke Energy took early action to address 2015 CCR Rule compliance at its facilities rather than wait for closure requirements to be triggered.[334]

Thus, industry's claim that the extension of deadlines is needed because "[a]lternative disposal capacity cannot be constructed overnight,"[335] should be rejected. Owners and operators of ponds located within five feet of aquifers have had a year to find alternative disposal capacity and owners and operators of the large majority of unlined leaking ponds have had ten months, at the very least. Compliance with the 2015 CCR Rule deadlines simply does not require overnight action. Moreover, even if closure of such ponds had not begun by the deadlines established in the 2015 CCR Rule, by EPA's own 22.5-month measure, ample time has passed during which owners and operators should have been able to secure alternate disposal. As of the date of this writing, twenty-seven months have passed since owners/operators knew closure was required at

[331] *See* Environmental Integrity Project and Earthjustice, *Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S.*, at Tbl. 2 (rev. July 11, 2019) ("EIP 2019 Report") (attached).
[332] 84 Fed. Reg. at 65,951.
[333] *See* Direct Test. of John N. Voyles, at 8:23–9:1 (Jan. 29, 2016), Docket ID No. EPA-HQ-OLEM-2017-0286-2155 ("Voyles Testimony") (attached).
[334] Direct Test. of David Renner, at 14: 4-11(June 23, 2016), Docket ID No. EPA-HQ-OLEM-2017-0286-2155 ("Given the size of Gibson Station and the complexity of flows, we are proceeding at this time [June 2016] with pursuing alternative means of disposing of and treating CCR and water – specifically, a conversion to dry bottom ash handling, re-routing of all station and storm water and construction of a new water retention basin. Therefore, regardless of whether stability assessment, groundwater or location restriction demonstrations require the closure of the remaining ash impoundments at Gibson, the Company will be able to demonstrate compliance with the CCR rule.") (attached) ("Renner Testimony").
[335] Response Brief of Intervenor at 8, *Waterkeeper All., Inc., et al. v. EPA*, No. 18-1289 (D.C. Cir. Jan. 22, 2019), Docket ID No. EPA-HQ-OLEM-2019-0172-0002.

ponds located within five feet of aquifers, and more than fifteen months have passed since owners knew closure was required due to groundwater contamination.[336]

In addition, EPA seems to assume that the *Waterkeeper* court's granting of remand on the 2018 Phase I, Part One Rule means that it can simply pick a new date by which ponds required to close under the 2015 CCR Rule must start the closure process. This position ignores the fact that the Phase I, Part One deadline extensions themselves violated RCRA,[337] were unsupported by the rulemaking record,[338] were the product of arbitrary and capricious decision-making that impermissibly relied on compliance costs,[339] and were adopted without notice and an opportunity for public comment, as required by the Administrative Procedure Act.[340] The Part A Proposal is not a genuine reconsideration of the Phase I, Part One Rule in that it assumes that the October 31, 2020 deadline adopted in the Phase I, Part One Rule is a lawful starting point.

EPA devotes the majority of the Part A Proposal preamble to a recitation of various industry stakeholder submissions purporting to establish the amount of time needed to develop alternate disposal capacity for wastestreams that are being or had been disposed of in coal ash ponds. At the outset, it bears noting that industry has fought tooth and nail against requirements that coal ash ponds be closed and petitioned EPA to extend the time by which the requirements of the 2015 CCR Rule would go into effect.[341] It is no surprise, then, that industry again has tried to paint a desperate picture of blackouts and financial ruin if it is held to requirements that it has known about for more than five years.[342]

But despite its best efforts, industry cannot escape the fact that coal ash pond operators have had ample time to prepare for initiation of pond closure and that many utilities already have

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[336] Owners and operators knew whether their ponds violated location restrictions by October 17, 2017, if not earlier, when demonstrations of compliance with locations standards were due and whether closure would be required due to groundwater contamination by, at the latest, October 12, 2018 – though monitoring completed in October 2017 would have put ponds operators on notice of contamination.
[337] Mot. of Waterkeeper All., at 10-12, *Waterkeeper All., Inc. v. EPA*, No. 18-1289 (D.C. Cir. Dec. 17, 2018) (attached).
[338] *Id.* at 10-12.
[339] *Id.* at 12-15.
[340] *Id.* at 15-17.
[341] USWAG, Utility Solid Waste Activities Group Petition for Rulemaking to Reconsider Provisions of the Coal Combustion Residuals Rule, 80 Fed. Reg. 21,302 (Apr. 17, 2015), and Request to Hold in Abeyance Challenge to Coal Combustion Residual Rule, No. 15-1219, et al. (D.C. Cir.), Docket ID No. EPA-HQ-OLEM-2017-0286-2231 (May 12, 2017) (attached); AES Puerto Rico, AES Puerto Rico LP's Petition for Rulemaking to Reconsider Provisions of the Coal Combustion Residuals Rule, 80 Fed. Reg. 21,302 (Apr. 17, 2015), and Request to Hold in Abeyance Challenge to the Coal Combustion Residuals Rule, No. 15-1219, et al. (D.C. Cir.), Docket ID No. EPA-HQ-OLEM-2017-0286-2228 (May 31, 2017).
[342] Resp. Br. of Intervenor at 12-15, *Waterkeeper Alliance, Inc. v. EPA*, No. 18-1289 (D.C. Cir. Jan. 22, 2019), EPA-HQ-OLEM-2019-0172-0002. In its brief, USWAG misrepresents the facts regarding volumes of non-CCR wastestreams for which it claims to lack alternate capacity, stating that "[n]on-CCR wastestreams are produced in large volumes –sometimes in larger quantities than CCR, reaching *hundreds* of millions of gallons a day." *Id.* at 7 (emphasis added). The declaration USWAG cites does not support this figure; instead, paragraph 6 of the Roewer Declaration states that "millions of gallons" of non-CCR wastes can be produced each day. *Id.*, Ex. A, at A4.

finished closing their ponds.[343] Far from being impossible, the Phase I, Part One Rule record and the Part A Proposal with its supporting documents indicate that alternative disposal arrangements – including for non-CCR wastestreams – are readily available. (Whether the regulated entities are willing to devote the resources necessary to such arrangements is a separate issue.)

For example, the submission by Duke Energy (the one submission that identifies completed projects and timelines) identifies nine different facilities where projects necessary to cease flows to ash ponds were completed before April 2019[344] – the 2015 CCR Rule deadline for ceasing flows where ash pond is located within five feet of an aquifer. Of those nine sites, eight did not comply with the location restriction on placement within five feet of an aquifer.[345] Although the submission states "as a result of CAMA [the North Carolina Coal Ash Management Act] and other policy considerations unrelated to the CCR rule, Duke Energy is on track to complete all projects and cease flows into impoundments by April 2019,"[346] the company's request for rate recovery of coal ash basin closure costs makes clear that the 2015 CCR Rule *was* a driver behind pond closures: "In compliance with CAMA and the CCR Rule, the Company has now prepared closure plans or site analysis and removal plans, as applicable, for all of its ash basins and is excavating ash at Asheville and Sutton. . . . Following the passage of CAMA and promulgation of the CCR Rule, however, the Company is converting to full dry ash handling at all operating plants as required by those requirements and as the only viable alternative to plant closure."[347] Thus, rather than support EPA's proposed extension of deadlines, Duke's submission provides evidence of the feasibility of compliance with the requirements of the 2015 CCR Rule. Like the 2015 CCR Rule, North Carolina's CAMA established future deadlines for pond closure.[348] CAMA was passed on September 20, 2014, just a few months before EPA finalized its CCR Rule on December 19, 2014. It follows, therefore, that Duke has been on notice of federal and state requirements for ash pond closure for basically the same amount of time. Notably, while CAMA required the cessation of CCR and non-CCR disposal in ponds by December 31, 2019, Duke completed projects to cease flows into its ponds at nine different sites all before April 2019.[349]

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[343] *See* Section V – Utilities on Notice.
[344] Duke Energy: Information on Projects to Support Ash Impoundment Closure at 6, Docket ID No. EPA-HQ-OLEM-2019-0172-0006.
[345] *See* Duke Energy, CCR Compliance Data & Information website, https://www.duke-energy.com/our-company/environment/compliance-and-reporting/ccr-rule-compliance-data.
[346] Duke Energy: Information on Projects to Support Ash Impoundment Closure at 7, Docket ID No. EPA-HQ-OLEM-2019-0172-0006.
[347] Direct Test. of Jon F. Kerin, at 18: 9-12, 17-20, (June 1, 2017) (attached).
[348] N.C. Gen.Stat. § 130A-309.214.
[349] In addition, in June 2016, Duke Energy sought state regulatory approval to construct basins for non-CCR wastewater to be redirected from closing impoundments less than ten months later. *See* Renner Testimony at 7:14 to 8:3, 10:18 to 11:4, 12:3 to 13:13; *see also* Voyles Testimony at 13:18 to 22:12 (detailing LG&E's request for approval to "construct process water systems" including "elevated tanks, concrete basins, or a combination of both, to process the water involved in [impoundment] closures and ongoing operations"). Disposal using tanks or basins does not require advanced technologies or lengthy construction times. *See* Renner Testimony at 7:14 to 8:3, 10:18 to 11:4, 12:3 to 13:13; Voyles Testimony at 13:18 to 22:12.

The remainder of the industry submissions included as supporting documents to the Part A Proposal set forth hypothetical or proposed timelines, ignoring the myriad examples of timely pond closure commencing across the country. One such submission upon which EPA relies is a set of comments submitted by Southern Company on the proposed Phase I Rule for its conclusion that industry needs additional lead time to make alternative disposal arrangements and which states "that the six-month regime provided for by the [2015 CCR Rule] provides 'at best, [a] *barely adequate*' amount of time."[350] However, the Southern Company comments merely provide *hypothetical* timeframes for establishment of alternative disposal capacity for non-CCR wastestreams, with no supporting documents. Further, Southern Company recognizes that if permanent treatment facilities are not yet ready when disposal units must close, utilities "*will have limited compliance options*, such as the installation of one or more portable treatment systems until construction of the permanent system is complete."[351] Thus, the very documents EPA points to as its principal evidence for the need for extended deadlines concede that a six-month closure timeframe is feasible; the most Southern Company can say is that it believes the timeframe is "barely adequate" and allows only "limited" compliance options, *not* that compliance is physically impossible. In addition, as detailed in the attached report by Dr. Ranajit Sahu, an engineer with over thirty years of experience regarding environmental remediation projects and power plant pollution control technologies,[352] the company's discussion of project timelines includes vague statements and lacks supporting technical data, making the submission a questionable data point on which to base regulatory changes.[353] Additionally, Southern Company's submission does not make any indication that the company proceeded with any particular haste or that it began and completed projects as soon as possible.[354]

Dr. Sahu's report details further shortcomings in the industry submissions – e.g., no explanation regarding permitting timelines and whether attempts to expedite were made; an inflated timeframe for closure plan development; and inflated timelines for engineering and design tasks.[355] In addition, he identifies three additional options for alternate disposal apparently not considered by EPA. These options – staged construction, storage followed by treatment and/or disposal, and prevention of stormwater and process water commingling – could be completed on shorter timelines than what industry has claimed necessary for compliance.[356]

Additional options may also be available. Indeed, comments in this docket indicate that treatment equipment adequate for CCR and non-CCR wastestreams is readily available for lease on just weeks' notice, and is already being used for this purpose at a number of power plants.[357]

The preamble to the Part A Proposal lists six options for securing alternate disposal identified by the industry representatives aiming to postpone compliance. EPA bases its

[350] Comments of Southern Company at 14 (Apr. 30, 2018), Docket ID No. EPA-HQ-OLEM-2019-0172-0003 (emphasis added).
[351] *Id*. at 9 (emphasis added).
[352] *See* Sahu Expert Report.
[353] *Id.* at 5-6; Southern Company Timing to Initiate Closure Information Submission, Docket ID No. EPA-HQ-OLEM-2019-0172-0011.
[354] Sahu Expert Report at 5.
[355] *Id.* at 4-10.
[356] *Id.* at 3-4.
[357] *See* Comment of Purestream Services, Docket ID No. EPA-HQ-OLEM-2019-0172-0043.

rulemaking on the various timelines associated with these six options. While the timelines EPA presents range from four to thirty-six months, EPA has derived an "average amount of time required to obtain alternate capacity" of 22.5 months. Neither the preamble nor EPA's supporting documents explain how this "average" was calculated. EPA makes no determination about whether the projects reflected in the industry submissions are representative of conditions at coal ash sites across the country, whether they were completed expeditiously, or whether pond operators picked from among the various options based on the need for timely compliance with the CCR Rule or on the relative costs of the options. Moreover, as discussed in Section IV – Inconsistent with USWAG, the use of an industry "average" violates RCRA's protectiveness standard by basing regulatory requirements on what is convenient or most affordable for utilities rather than the most expeditious schedule that is technically feasible for ensuring there is no reasonable probability of adverse effects on health or the environment.

The fact that EPA gives no indication of whether the Duke projects were completed as quickly as possible or whether the other projected timelines represent expeditious scheduling is important because project timelines can be expected to differ based on whether a regulatory deadline is impending. Certainly, where regulated entities experience the pressure of mandatory compliance deadlines, they will allocate more resources to projects designed to meet regulatory requirements by those deadlines than they would under a business-as-usual scenario where no deadline is pending. Here, arguments by EPA and industry that timely compliance with the 2015 CCR Rule is not "feasible" amount to arguments that it will be too costly. As discussed in Section IV – Inconsistent with USWAG, EPA may not consider costs in setting its standards for coal ash disposal.[358] The deadline extensions adopted in the Phase I, Part One Rule were based on impermissible consideration of costs.[359] Indeed, as EPA itself noted, the deadline extensions directly benefit the industry's bottom line: "The majority of cost savings attributable to the [Phase I, Part One Rule] come from the provisions extending the date by which facilities must cease placing waste in CCR units."[360] For the Part A Proposal, too, EPA bases its justification for rule revisions on the cost savings for industry: "The provisions of the proposed rule decrease costs by extending certain existing compliance deadlines. The proposed rule is therefore considered a cost savings rule. This action is expected to result in net cost savings amounting to an annualized $39.5 million per year when discounting at 7%."[361]

In short, EPA's record reveals that rapidly procuring alternative disposal capacity is neither physically impossible nor infeasible, but rather that some utilities simply do not want to pay the cost of procuring that capacity, as USWAG has acknowledged.[362] Industry's objections

[358] *See USWAG*, 901 F.3d at 447-49 ("[u]nder any reasonable reading of RCRA, there is no textual commitment of authority to the EPA to consider costs" in CCR regulations).
[359] *See* 83 Fed. Reg. at 36,441-42 (asserting that delaying closure will make compliance less burdensome for operators and explaining that industry commenters "consistently identified the placement above the uppermost aquifer location restriction as the critical standard, and so EPA has limited its revision to address this specific concern").
[360] *Id*. at 36,449.
[361] 84 Fed. Reg. at 65,942.
[362] *See* Opening Brief of USWAG at 38-39, *USWAG v. EPA*, No. 15-1219, Doc. 1634091 (D.C. Cir. filed Sept. 6, 2016) ("[i]f costs or inconvenience cannot be evaluated, off-site disposal capacity – no matter where it is located or how much it will cost to send CCR there – will always be 'available' somewhere")

to the "feasibility" of arranging alternative disposal capacity boil down to its objections to the cost of doing so. EPA must require the earliest deadline for initiation of closure that is physically possible, without allowing consideration of cost or convenience to industry, and should not allow industry a variable deadline for initiation of closure.

VII. THE EXPANSION OF ALTERNATE CLOSURE PROVISIONS TO INCLUDE CCR UNITS THAT FAIL THE FOUR OTHER LOCATION RESTRICTIONS IS UNJUSTIFIED AND INCONSISTENT WITH RCRA.

The 2015 CCR Rule, signed on December 19, 2014,[363] established deadlines for closure for coal ash surface impoundments sited in five locations that present unacceptable risk to safe CCR storage and disposal, including sites within five feet of the uppermost aquifer, within wetlands, in fault areas, in seismic zones, and over unstable areas.[364] All owners or operators of existing surface impoundments were required to make a determination regarding their units' compliance with the five location restrictions by October 17, 2018.[365] Pursuant to the requirements of the 2015 CCR Rule, owner/operators of existing impoundments that were unable to make a demonstration that the units met any of the five location restrictions had to cease placing CCR and non-CCR wastestreams into the unit within six months of the determination (by April 17, 2019 at the latest) and close the impoundment.[366]

In its Phase One, Part One Rule, published in July 2018, EPA extended the deadline for closure of existing surface impoundments that are violating the aquifer separation requirement. EPA took no action to extend the deadlines to cease operations for existing surface impoundments for the four other location restrictions. These impoundments remained subject to the requirement to cease operations by April 17, 2019 and initiate closure. Thus the requirement to cease placement of waste has been in effect for more than eight months and owner/operators have had notice that closure would be necessary for surface impoundments in unacceptable locations for more than five years.

In the Part A Proposal, nevertheless, EPA is proposing to allow owners and operators of surface impoundments located in areas of unacceptable risk to continue to place CCR and non-CCR wastestreams into the impoundments until at least August 30, 2020. In addition, these owner/operators will be able to extend the operating life of these non-compliant impoundments with an "automatic" extension until November 30, 2020, and then apply for additional time to place waste potentially in the impoundments until October 2023. Consequently, the Part A proposal violates the RCRA § 4004(a) protectiveness standard because there is an unreasonable probability of adverse effects on health or the environment from disposal of CCR and non-CCR wastes in these surface impoundments, which the owners and operators have already determined

(attached); Letter from USWAG to EPA, at 4, Docket ID No. EPA-HQ-OLEM-2017-0286-0021 (Dec. 12, 2016) (citing "the cost . . . for a redundant wastewater treatment system" as a key factor "prohibit[ing] the maintenance of an alternate back-up system" for non-CCR wastestreams) (attached).

[363] *See* EPA, Fact Sheet: Final Rule on Coal Combustion Residuals Generated by Electric Utilities (Dec. 2014), https://www.epa.gov/sites/production/files/2014-12/documents/factsheet_ccrfinal_2.pdf.

[364] *See* 40 C.F.R. § 257.60 (Placement above the uppermost aquifer), § 257.61 (Wetlands), § 257.63 (Fault areas), § 257.63 (Seismic impact zones), § 257.64 (Unstable areas).

[365] *See id.* §§ 257.60(b)(1), 257.61(c)(1), 257.62(c)(1), 257.63(c)(1), and 257.64(d)(1).

[366] *Id.* § 257.101(b)(1).

do not meet safety criteria established by EPA. Furthermore, EPA provides no rationale to support allowing these units to continue to accept wastes and provides no analysis of the increased risk inherent in doing so. This is arbitrary and capricious.

A. EPA Fails to Provide a Reasoned Explanation for Its Application of Alternative Timeframes to Violators of Location Standards and Consequently the Part A Proposal Is Arbitrary and Capricious.

EPA is proposing to allow all CCR surface impoundments required to close under section 257.101(b) to operate until August 31, 2020, and to be eligible for the two alternative timeframes to initiate closure.[367] EPA is basing its extension of operating periods and closure dates on the fact that some facilities, namely those with clay liners and unlined surface impoundments that are not leaking, did not have notice of a closure deadline and would not have conducted "any preliminary planning" for ceasing operation and closure.[368] This, however, is not true for owners and operators of surface impoundments that failed any of the four location restrictions established in sections 257.61-64. The owners and operators of these units had to make a determination by October 17, 2018, regarding whether their units complied with the restrictions. Thus, at the latest, owners and operators knew by this date that it was necessary to cease operation by April 17, 2019. Further, since owner/operators were aware of these requirements since December 2014, and since knowledge of their units' compliance or noncompliance with these requirements is exceedingly straightforward, every owner and operator should have had notice of the requirement to cease operation up to 4.5 years prior to the deadline.[369] EPA provides no other reason to extend the operating lives of these impoundments, other than the lack of "preliminary planning," which clearly does not apply.

Paradoxically, EPA states in its discussion of "Applicability of Alternative Timeframes" in the Part A Proposal that the agency is interested in creating a regulatory system that will "move CCR surface impoundments to initiate closure as quickly as possible."[370] EPA could accomplish this goal by maintaining the cease operation and closure requirements in the 2015 CCR Rule for owners and operators whose surface impoundments are located in wetlands, within fault areas, in seismic impact zones, and in unstable areas. These owner/operators had ample

[367] 84 Fed. Reg. at 65,953.
[368] *Id.*
[369] For each of the four location standards, evaluation of compliance is straightforward. The wetlands restrictions at § 257.61 requires the identification of a wetland, as defined in 40 C.F.R. § 232.2, and, if the unit is located in a wetland, the determination of whether an alternative location is reasonably available, whether the CCR unit causes specific adverse impacts listed at § 257.61(a)(2)(i)-(iv), and whether unavoidable impacts to wetlands have been minimized and offset. The fault area restriction (§ 257.62) requires the identification of a fault area, and if the unit is within sixty meters of the outermost damage zone, the determination that the structural integrity of the CCR unit will be prevented. For seismic impact areas pursuant to § 257.63, the owner/operator must demonstrate that all structural components are designed to resist the maximum horizontal acceleration in lithified earth material for the site. Lastly, for units in unstable areas, § 257.64 requires a demonstration showing that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.
[370] *Id.*

notice of the closure deadlines and a very long lead time to do extensive preliminary planning for closure. EPA, nevertheless, takes the opposite approach and offers no reason why these alternative timelines should apply to these surface impoundments.

EPA also turns a blind eye to the impact of allowing owners and operators to continue to place CCR and non-CCR waste in impoundments that are violating location standards. For each day the operating life of a surface impoundment is extended, additional toxic waste is placed in the unit. Over the course of a 4.5 years, an average size coal plant will dispose of about one million tons of CCR and an unknown quantity of wastewater and non-CCR waste. Over ninety-four percent of the impoundments that failed to comply with the 2015 location standards in sections 257.61-64 are unlined.[371] The placement of additional CCR and non-CCR waste in an unlined pit that is poorly located and probably already leaking will make closure more difficult and time-consuming and therefore increase toxic releases to the environment. Delaying the closure of a poorly-sited surface impoundment is highly likely to increase adverse effects of the impoundment on groundwater, surface water, air and human health.

B. EPA's Failure to Require Timely Cessation of CCR Placement and Closure of Surface Impoundments in Prohibited Locations Contradicts the Factual Record and Violates the RCRA Protectiveness Standard.

Extension of the operating life and delay in closure of dangerously located CCR impoundments blatantly violates the protectiveness standard of RCRA § 4004(a). In the preamble to the 2015 CCR Rule, EPA states that it included the five location restrictions "to ensure there will be no reasonable probability of adverse effects on health or the environment from the disposal of CCR."[372] EPA states that the requirements applicable to existing CCR surface impoundments are central to meeting the section 4004(a) standard. EPA explicitly explains that section 4004(a) requires EPA to force the timely closure of existing surface

[371] *See* EPA, Memo re: Request for Underlying Data for Exhibits 2-1-A, B, and C of the Regulatory Impact Analysis of the *A Holistic Approach to Closure Part A: Deadline to Initiate Closure*, Docket ID No. EPA-HQ-OLEM-2019-0172-0044 (Jan. 22, 2020) ("January 2020 Memorandum"). The January 2020 Memorandum does not differentiate between lists 107 units as "Fail" and "Missing All" for Location Restrictions, and 101 of these are also "Unlined." Excluding the units listed as "Yes" under "Unit Closed" and/or "Missing All" for Location Restrictions does not substantially affect the percentage. It is important to note that EPA failed to provide data regarding the specific units impacted by the Part A Proposal other than high-level information in the Regulatory Impact Analysis. For example, the rulemaking record and Memorandum fail to provide much of the basic information needed for the public to adequately assess the consequences of the Proposal, such as the names of the facilities (plants) and individual units affected according to EPA. To tabulate the ninety-four percent figure, Commenters digitized the January 2020 Memorandum information as it was not provided in spreadsheet form. *See* "EPA-HQ-OLEM-2019-0172-0044_Digitized by Earthjustice (2020).xlsx" spreadsheet (attached). Based on a 2019 review of owner/operator websites, Commenters identified seventy-seven surface impoundments that failed to comply, or post about compliance, with the 2015 location standards in sections 257.61-64 (*ignoring* 257.60 compliance/posting status), and *all* of them were unlined. *See generally* Appendix to Section VII of Comments of Earthjustice et al., "Surface Impoundments in Non-Compliance with Location Standards" (Jan. 2020) (attached); Earthjustice, Mapping the Coal Ash Contamination, https://earthjustice.org/features/map-coal-ash-contaminated-sites.

[372] 80 Fed. Reg. at 21,304.

impoundments operating in dangerous locations because "the factual record" supported the need for the location standards.[373] Below is a summary of EPA's justification for three of the location standards, illustrating the agency's often heavy reliance on the factual record.[374]

1. *Prohibition on Location in Wetlands (40 C.F.R. § 257.61).*

In section 257.61 of the CCR Rule, EPA prohibits the location of all CCR surface impoundments and new CCR landfills, as well as lateral expansions of existing CCR units, in wetlands, absent specific demonstrations by the owner or operator that ensure the CCR unit will not degrade sensitive wetland ecosystems. In the preamble to the 2015 CCR Rule, EPA describes in detail the harm documented to aquatic environments from CCR disposal.[375] EPA also expounds at length on the value of wetlands to water quality; provision of essential breeding, rearing, and feeding grounds for fish and wildlife; reduction of shoreline erosion; absorption of flood waters and pollution; and as source areas of commercial products such as timber, fish, and shellfish as well as recreational hunting areas.[376]

To justify the wetlands location standard, EPA cited numerous damage cases, including thirty cases of "proven" damage to the environment that involve aquatic disposal of CCR, fourteen of which involve impacts to wetlands from release of CCR.[377] In the preamble to the 2015 CCR Rule, EPA provided the following example illustrating damage of wetlands damage from CCR:

> For example, at the Hyco Reservoir in Roxboro, North Carolina from 1966 to 1990 the lake received contaminated effluent from coal ash disposal basins that were authorized by National Pollutant Discharge Elimination System (NPDES) permits under the CWA. High levels of the trace element selenium bioaccumulated in aquatic food chains (phytoplankton), poisoning invertebrates and fish in the lake, particularly species of sport fish (bluegill, largemouth bass), causing reproductive failure and severe declines in fish populations in the late 1970's and early 1980's. Consequently, from 1988-2001 the North Carolina Department of Health and Human Services (NCDHHS) issued a consumption restriction advisory for selenium contamination in fish from the reservoir. In 1990, a dry ash handling system was implemented resulting in lower selenium discharge and reduced mean selenium concentration in reservoir waters. As of 2005, concentrations of

[373] *Id.*
[374] Excluding the significant number of surface impoundments that have failed to post the demonstration required per 40 C.F.R. § 257.62 (Forty-nine units, *see generally* Appendix to Section VII of Comments of Earthjustice et al., "Surface Impoundments in Non-Compliance with Location Standards," at Section VI), there appear to be no certifications of violation of the location standard for fault zones at 40 C.F.R. § 257.62.
[375] *Id.*
[376] 80 Fed. Reg. at 21,364.
[377] *Id.* at 21,363.

> selenium in fish tissues remained above a toxic threshold even with reduced influx of selenium, due to migration of the element from contaminated sediments to benthic food chains.[378]

According to the data published on publicly accessible websites, owners and operators of CCR surface impoundments certified non-compliance with the wetlands requirement for twenty-three surface impoundments at seventeen facilities in five states.[379] In other words, owners and operators could not demonstrate that these impoundments are not causing specific adverse effects to wetlands or show that the harm is minimized and offset. By allowing such harm to continue, and likely increase for years, EPA violates the RCRA protectiveness standard. EPA must ensure that these impoundments cease operation within the timeframe established by the 2015 CCR Rule.

2. *Prohibition on Location in Seismic Impact Zones (40 C.F.R. § 257.63).*

EPA prohibits existing surface impoundments from being located in seismic impact zones unless the owner or operator makes a demonstration, certified by a qualified professional engineer, that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material from a probable earthquake. EPA explained in the preamble to the proposal for the 2015 Rule that the location standards, including the seismic impact zone restriction, were primarily based on the location standards developed for municipal solid waste landfill units, and represented "provisions to ensure that the structure of the disposal unit is not adversely impacted by conditions at the site, or that the location of a disposal unit at the site would not increase risks to human health or the environment."[380]

Owners and operators certified non-compliance with the seismic impact zone standard for twelve surface impoundments at ten facilities in six states.[381] EPA fails to address how the proposed extension of operating life and increase in volume of CCR and non-CCR waste will

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[378] *Id.*

[379] Appendix to Section VII of Comments of Earthjustice et al., "Surface Impoundments in Non-Compliance with Location Standards," at Section II. In addition, owners and operators failed to post the demonstrations required by 40 C.F.R. § 257.61 for 49 surface impoundments. *See generally id.* at Section VI. Although owners and operators for a small number of units have attempted to categorize this non-compliance, many have not. *See, e.g.*, Tennessee Valley Authority, Allen Fossil Plant Location Restriction Demonstrations, https://ccr.tva.gov/Plants/ALF/Surface%20Impoundment%20-%20East%20Ash%20Disposal%20Area/Location%20Restrictions/Wetlands/ALF_Location%20Restriction%20Posting.pdf. These types of failures to post highlight how detrimental any further extensions to the 2015 CCR Rule's timeframes to cease operations and to close could be.

[380] 75 Fed. Reg. at 35,197.

[381] Appendix to Section VII of Comments of Earthjustice et al., "Surface Impoundments in Non-Compliance with Location Standards," at Section IV. In addition, owners and operators failed to post the demonstrations required by 40 C.F.R. § 257.63 for 49 surface impoundments. *See generally id.* at Section VI.

"not increase risks to human health or the environment" in violation of section 4004(a) of RCRA.

3. *Prohibition on Location in Unstable Areas (40 C.F.R. § 257.64).*

In the 2015 CCR Rule, EPA prohibits new and existing CCR landfills, new and existing CCR surface impoundments, and all lateral expansions from locations classified as unstable areas unless the owner or operator makes a demonstration, certified by a qualified professional engineer, that engineering measures have been incorporated into the CCR unit's design to ensure that the structural components will not be disrupted.[382] The critical importance of this risk-reducing requirement is evidenced by EPA's application of the standard to both new and existing CCR landfills and impoundments. In contrast, EPA did not apply any of the other location restrictions to existing landfills in the 2015 CCR rule. In the preamble to the 2015 Rule, EPA explained the importance of the standard:

> Liners and leachate collection systems require a firm, secure foundation to maintain their integrity, and may be disrupted as a result of uneven settlement induced by hydrocompaction. Similarly, sudden differential movement resulting from CCR placement and the consequent exceedance of the weight-bearing strength of subsurface materials in unstable areas can destroy liners and damage the unit's structural integrity, resulting in catastrophic release of CCR. It is essential for the owner or operator of any CCR unit to extensively evaluate the adequacy of the subsurface foundation support for the structural components of the unit. Therefore, the Agency is making this demonstration mandatory for all CCR units; existing CCR units for which a demonstration cannot be made must be closed.[383]

In the 2015 preamble, EPA cited significant damage from two CCR surface impoundment failures caused by the units' construction in unstable areas, namely the 2002 collapse of portion of a CCR impoundment at Georgia Power's Plant Bowen and the catastrophic failure in 2008 of the coal ash impoundment at the Tennessee Valley Authority's Kingston Fossil Plant. EPA wrote:

> In one case, in 2002, the structural stability of a CCR surface impoundment was directly compromised by sinkhole development, leading to the release of 2.25 million gallons of CCR slurry. In another, an unusually weak foundation of ash and silt beneath a CCR surface impoundment (*i.e.*, man-made unstable ground) was identified as one of several likely factors contributing to the dike

[382] 40 C.F.R. § 257.64(a).
[383] 80 Fed. Reg. at 21,367.

> failure that in 2008 resulted in the largest CCR spill in United States history.[384]

Based on these and other damage cases, EPA concluded that "to provide a reasonable probability of preventing releases and consequent damage to health and the environment from CCRs released from landfills or surface impoundments, limits on the siting of such disposal units is appropriate."[385]

The industry-generated information on publicly accessible CCR websites indicates that owners and operators certified non-compliance with the unstable area requirement for nine CCR surface impoundments at six facilities in three states.[386] This increased risk of catastrophic failure cannot be reconciled with the agency's stated rationale for the 2015 CCR Rule. Because EPA fails entirely to explain this inconsistency and provide a rational basis for this radical change, the proposal is arbitrary and capricious. Further, EPA fails to account for the increased likelihood of CCR releases and the reasonable likelihood of adverse effects to health and the environment from the continued operation of CCR impoundments in unstable areas. Therefore the proposal violates the protectiveness standard of RCRA.

In sum, the record for the Part A proposal indicates that EPA failed entirely to evaluate the universe of regulated facilities for noncompliance with the location standards. Thus EPA failed to evaluate the increased risk posed by extending the operating lives of these dangerously-located surface impoundments. Accordingly, EPA also failed to explain how this increased risk meets the RCRA protectiveness standard. This increased risk must be examined because EPA's proposal to extend closure dates conflicts directly with its rationale for timely closure of existing impoundments in the 2015 CCR Rule, which it concluded was "necessary to achieve the standard in section 4004(a)."[387] EPA found that, "[a]bsent these location restrictions, the risk of impacts to human health and the environment from releases from CCR units, including from the rapid and catastrophic destruction of CCR surface impoundments, sited in these sensitive areas would exceed acceptable levels."[388] This clear statement regarding risk cannot be reconciled with the current proposal, and EPA has failed to explain its contradictory proposal. Therefore the current proposal is arbitrary and capricious.

VIII. THE PROPOSED THREE-MONTH ALTERNATIVE CLOSURE EXTENSION IS UNJUSTIFIED AND INCONSISTENT WITH RCRA.

The Part A Proposal's short-term extension in 40 C.F.R. § 257.103(e) would grant facilities a three-month extension to continue to receive CCR and/or non-CCR wastestreams in order to complete the development of alternate capacity. The self-implementing extension is designed for owners and operators who need three additional months or less to complete

[384] *Id.* at 21,361.
[385] 75 Fed. Reg. at 35,201.
[386] Appendix to Section VII of Comments of Earthjustice et al., "Surface Impoundments in Non-Compliance with Location Standards," at Section V. In addition, owners and operators failed to post the demonstrations required by 40 C.F.R. § 257.64 for 50 surface impoundments. *See generally id.* at Section VI.
[387] 80 Fed. Reg. at 21,361.
[388] *Id.*

measures to cease receipt of waste into a CCR surface impoundment that is required to close. For units that qualify under this provision, the deadline to cease receipt of waste and initiate closure would be no later than November 30, 2020.

In order to receive this three-month extension, EPA is proposing that owner/operators demonstrate and certify that they will need additional time before they have the technical ability to cease receipt of waste and initiate closure. EPA has described this provision as "in essence" a "force majeure" provision which would apply when events "occur which are completely out of the facility's control, such as extreme weather or a delay in material fabrication."[389]

According to § 257.103(e), an owner or operator would have to certify that the facility continues to lack alternate capacity to manage their CCR and/or non-CCR wastestreams and that it was technically infeasible to meet the August 31, 2020 deadline to cease receipt of waste and initiate closure. This certification, along with the supporting documentation, would then be placed into the operating record, posted on the facility website for the unit in question, and sent to EPA as a notification. The owner or operator would have to simply certify the following: (1) that no alternative disposal capacity is available on-site or off-site (an increase in costs or inconvenience is not *sufficient* support), (2) that the owner or operator has made and continues to make efforts to obtain additional capacity, and (3) that the owner or operator is (and must remain) in compliance with all other requirements of Part 257. EPA will not review this certification or any of the documentation.[390] Upon filing, the extension is "automatic."[391]

Although EPA describes this as a "force majeure" provision, this is clearly incorrect. A "force majeure" provision refers to a provision that frees parties to a contract from obligations if an extraordinary event prevents performance. According to the legal definition, "these events must be unforeseeable and unavoidable, and not the result of the defendant's actions, hence they are considered 'an act of god.'"[392] As EPA itself has explained, "it is fundamental that *force majeure* does not include increased costs of mere inconvenience."[393]

Proposed § 257.103(e) fails to set an equivalent high bar for owners and operators who wish to take advantage of the three-month extension. First, directly contrary to EPA's own (correct) statement to the D.C. Circuit that force majeure does not account for costs or inconvenience,[394] as well as the court's clear holding that costs may not be taken into account in setting standards for CCR surface impoundments,[395] it impermissibly and explicitly allows consideration of costs. An "increase in costs or inconvenience" may not form <u>any</u> part of a RCRA-compliant demonstration concerning the availability of alternative disposal capacity.

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[389] 84 Fed. Reg. at 65,953.
[390] *Id.* at 65,953-54 (emphasis added).
[391] EPA states, "[t]he Part A Proposal provides *automatic extensions* to all units until November 2020." Proposed RIA at 2-4 (emphasis added).
[392] Cornell Law School, Legal Information Institute, https://www.law.cornell.edu/wex/force_majeure.
[393] EPA's brief in *USWAG* at 60.
[394] *Id.*
[395] *See* Section IV – Inconsistent with USWAG.

Second, the proposal falls short of requiring a supported demonstration of force majeure circumstances. Upon filing of the certification described above, the extension will be granted to any owner/operator who certifies that they believe an extension is necessary. No specific "force majeure" contingencies, as described in the preamble, need to actually be claimed or demonstrated. Because this provision fails to establish strict criteria that would actually ensure that this extension would only be used in true "force majeure" situations, EPA unlawfully allows costs and convenience to industry to factor into these extensions. As explained at length herein, the protectiveness standard of RCRA § 4004(a) bars EPA from to taking into account costs or the "practicable capabilities" of owner/operators when promulgating the required criteria.[396] Consequently, the three-month extension provision violates the RCRA protectiveness standard as well as RCRA's prohibition on considering cost.

IX. EPA'S PROPOSED EXTENSION OF DEADLINES FOR POND CLOSURE INITIATION WHERE OWNERS CLAIM UNAVAILABILITY OF ALTERNATE DISPOSAL CAPACITY VIOLATES RCRA'S PROTECTIVENESS STANDARD AND IS ARBITRARY AND CAPRICIOUS.

With its Part A Proposal, EPA seeks to expand the 2015 CCR Rule's narrow exception to closure requirements that allows a CCR disposal unit to delay closure and continue to accept waste if no alternative CCR disposal capacity is available. In order to qualify for the existing narrow exception, an owner or operator must demonstrate that no capacity for the disposal of CCR other than the CCR disposal unit that is required to close is available *anywhere*, on-site or off-site, regardless of cost.[397] The Part A Proposal grants an industry request that the exception also apply where owners or operators demonstrate that "it was infeasible to complete the measures necessary to provide alternative disposal capacity [for CCR and non-CCR wastestreams] on-site or off-site of the facility by November 30, 2020."[398]

EPA tries to justify its expansion of the alternative closure requirements by pointing to industry's contention that compliance with the 2015 CCR Rule would cause "potentially significant disruptions to plant operations and thus the provision of electricity to [utilities'] customers."[399] However, EPA fails to identify any evidence of such risks and relies, instead, on the conclusory assertions of industry representatives. Indeed, EPA has not identified a single power plant in the country that would be at risk of shutdown if its non-CCR wastestreams could no longer be disposed of in leaking unlined ash ponds or in CCR units that do not comply with

[396] *See* Section IV – Inconsistent With USWAG.
[397] 40 C.F.R. § 257.103.
[398] 84 Fed. Reg. at 65,962 (proposing 40 C.F.R. § 257.103(f)). EPA first proposed a rule change in response to industry's request in its 2018 Phase I Proposal, *see* 83 Fed. Reg. 11,584, 11,615 (Mar. 15, 2018), but did not finalize the proposed revisions in the 2018 Phase I Rule, *see* 83 Fed. Reg. 36,435. In the Part A Proposal, EPA notes that, "[i]n [the] March 2018 Phase One proposed rule, EPA proposed amendments to 257.103. The EPA received comments on those proposed provisions. Therefore, EPA is still considering those comments from the proposed amendments from March 2018 and may take final action in a future rulemaking." 84 Fed. Reg. at 65,952 n.31. Earthjustice *et al.* addressed EPA's lack of support for its proposed changes to 40 C.F.R. § 257.103 in comments on the 2018 Phase I Proposal, *see* 2018 Comments at 42-54, and incorporate those comments by reference herein.
[399] 84 Fed. Reg. at 65,945.

location standards. Instead, the preamble to the Part A Proposal merely states that "[t]he information that EPA has reviewed indicates that some facilities will be unable to cease receiving waste by the new deadline of August 31, 2020,"[400] but does not identify any such facilities or explain why they will be unable to stop disposal. EPA's attempt to explain the hypothetical inability to initiate closure is no more than guesswork: "it may be due to circumstances beyond the facility's control, such as extreme weather," and "delays may result from permitting requirements."[401]

As with the new August 31, 2020 deadline, EPA points to industry submissions regarding timing for securing alternate disposal capacity in support of its proposed changes to the alternative closure provisions. As discussed in Section VI – August 31, 2020 Deadline, the industry submissions lack the detail necessary for EPA to determine whether they represent expeditious schedules for the completion of projects needed to ready a facility for pond closure and, therefore, cannot provide a lawful basis for EPA to set an extended deadline for commencement of closure. The same is true for the proposed changes to the alternative closure provisions. In addition, as discussed in Section IV – Inconsistent with USWAG, basing the proposed changes on cost considerations also violates RCRA.

EPA also points to the impact of the *USWAG* decision and the fact that ponds underlain with clay can no longer be considered lined as justification for the expansion of alternative closure provisions.[402] But the proposed changes are not narrowly tailored to address this issue and would apply to all ponds, regardless of whether *USWAG* resulted in a status change. To the extent EPA argues that owners who could not have expected certain regulatory requirements to apply to them in a pre-*USWAG* world should be afforded leniency in a post-*USWAG* one, it must also acknowledge that owners of ponds who have been on notice for years of their compliance obligations should not be given additional time.

The Part A Proposal calls for the submission of infeasibility demonstrations to the EPA Administrator or the Participating State Director.[403] Absent a rule establishing the bounds of EPA's authority to review such submissions and according to what criteria they shall be evaluated, this part of the proposed rule does not appear workable and cannot guarantee that human health and the environment will be protected, as RCRA requires. Moreover, as drafted, the proposed revisions provide for the tolling of compliance deadlines upon the submission of a complete demonstration. Because the proposal affords EPA four months to issue a decision, the tolling provision in effect creates a four-month extension for any owner/operator, regardless of whether infeasibility can be shown.

EPA has proposed a public comment period on its decisions regarding infeasibility demonstrations but contemplates only a fifteen-day period (up to thirty days if a demonstration is deemed "particularly complex"). EPA's failure to address facility noncompliance with the groundwater monitoring requirements and perform its own due diligence to ensure violators are identified is not cured by the proposed opportunity for public comment on EPA's draft approval

[400] *Id*. at 65,952.
[401] *Id.*
[402] *Id.*
[403] *Id.* at 65,962 (proposing 40 C.F.R. § 257.103(f)).

of extensions. Even if it was appropriate to rely on the public to identify the noncompliance at every CCR surface impoundment that submitted a demonstration, which it is not, EPA has not provided enough time for the public to be able to review, evaluate, and give meaningful comment on a decision that could have serious impacts on the wellbeing of the surrounding community. Accordingly, the proposed public comment period does not satisfy the statutory requirement that public participation in the implementation and enforcement of any regulation or program under federal solid waste law be "provided for, encouraged, and assisted by" EPA.[404] Approval of an infeasibility demonstration that would allow the continued operation of leaking and/or improperly sited ponds should be afforded the same level of public participation as a permitting action, with the requisite notice and opportunity for public comment and hearing.

The Part A Proposal does not require that infeasibility demonstrations or subsequent progress reports address the risks posed by the continued operation of a pond seeking additional time before commencement of closure or demonstrate compliance with the CCR Rule's requirements.[405] The report simply has to document the continued lack of alternative capacity and the progress toward the closure of the CCR surface impoundment.[406] Nor does the Part A Proposal require EPA or states to consider risks to human health and the environment when issuing decisions about infeasibility demonstrations. Absent a consideration of such risks, including consideration of groundwater monitoring data and corrective measures, the Part A Proposal does not comply with RCRA.

The Part A Proposal includes changes to the introductory language of 40 C.F.R. § 257.103 that would allow owners or operators of CCR units that are subject to closure to continue receiving CCR in those units even if alternative disposal capacity for CCR is available, as long as they demonstrate that they lack alternative disposal capacity for non-CCR wastestreams. EPA cannot justify allowing the continued disposal of CCR in a leaking or improperly sited pond where alternate disposal capacity for that CCR is available. Every additional ton of CCR that is disposed of in a leaking, unlined unit increases the probability of adverse effects on health or the environment. The fact that a disposal unit's closure may be delayed in order to accommodate non-CCR wastestreams with nowhere else to go does not justify an exemption of the requirement that an owner or operator cease placing CCR in the disposal unit if alternative capacity for disposal of the CCR is available. As discussed above, the other changes to the alternative closure provisions are unlawful and should be abandoned. However, if EPA does finalize the proposed expansion, it should make clear that *CCR* may continue to be managed only if it was infeasible to complete the measures necessary to provide alternative disposal capacity *for CCR* by the relevant deadline and that non-CCR wastestreams may continue to be managed only if it was infeasible to complete the measures necessary to provide alternative disposal capacity *for non-CCR wastestreams* by the relevant deadline. A separate analysis of feasibility should be conducted for each distinct wastestream.

Finally, as if the extension of closure commencement deadlines and expansion of alternative closure provisions to include non-CCR wastestreams were not enough, EPA is

[404] 42 U.S.C. § 6974(b)(1).
[405] 84 Fed. Reg. at 65,963-64 (proposing 40 C.F.R. § 257.103(f)(2)(vii)).
[406] *Id.*

proposing to give pond operators *even more time* to meet regulatory requirements – an extension up to October 15, 2023.[407] Both EPA (in the 2015 CCR Rule) and the D.C. Circuit Court of Appeals concluded that the Rule's requirements are necessary to meet RCRA's protectiveness standard, but the multiple opportunities for delay that the Part A Proposal would introduce into those requirements would render those requirements much less protective and thus contrary to RCRA. Accordingly, and for the reasons stated above and because EPA has failed to evaluate the risks associated with allowing owners and operators to continue dumping non-CCR wastestreams in those units, the proposed changes to the alternative closure requirements should not be adopted.

X. THE PROPOSED ALTERNATIVE CLOSURE EXTENSION FOR UNITS WHOSE OWNERS SAY THEY WILL PERMANENTLY RETIRE THEIR COAL-FIRED BOILERS BY A DATE CERTAIN IS UNJUSTIFIED AND INCONSISTENT WITH RCRA.

The proposed closure deadline extensions for CCR impoundments at retiring coal plant sites are likewise unlawful. To begin with, as explained herein, the proposed deadline extension is impermissible under RCRA because it takes costs into consideration.[408] It does so in two separate ways. First, the proposed extensions explicitly allow costs to be considered in conjunction with other factors in "demonstrations" that an extension is purportedly warranted.[409]

Second, the proposed extensions implicitly take cost into consideration because there is no other reason presented aside from cost considerations for not requiring alternative disposal capacity to be pursued as quickly as is technically feasible at retiring coal plants.[410] As further explained herein, technically feasible alternative disposal capacity is likely far less challenging and less time-consuming to set up than EPA's proposal indicates.[411] Indeed, comments in this docket indicate that treatment equipment adequate for CCR and non-CCR wastestreams is readily available for lease on very short (mere weeks') notice, and is already being used for this purpose at a number of power plants.[412] It is therefore far from "illogical"[413] to refuse to give CCR impoundments at retiring coal plants a free pass to pollute for years longer than otherwise would be permissible. Because alternative disposal capacity can be quickly, easily, and – though legally irrelevant – economically set up at retiring coal plants, not requiring it would flagrantly run afoul of the *USWAG* decision and RCRA § 4004(a).

The proposed closure deadline extension for unlined or otherwise unsafe CCR surface impoundments at retiring coal plants also violates RCRA because it relies on owners and operators of CCR surface impoundments submitting a plan to "mitigate" risks from those

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[407] *Id.* at 65,963 (proposing 40 C.F.R. § 257.103(f)(1)(iii)) (emphasis added).
[408] *See* Section IV – Inconsistent with USWAG.
[409] 84 Fed. Reg. at 65,956 (providing that ". . . an increase in costs or the inconvenience of existing capacity is not sufficient to support qualification [for the deadline extension] under this section") (emphasis added); *see* Section IV – Inconsistent with USWAG.
[410] *See* Section IV – Inconsistent with USWAG.
[411] *See* Sections VI – August 31, 2020 Deadline & IX –Alt Closure Extension.
[412] *See* Comment of Purestream Services, Docket ID No. EPA-HQ-OLEM-2019-0172-0043.
[413] 84 Fed. Reg. at 65,956.

impoundments. EPA's proposal would turn RCRA § 4004(a) on its head. RCRA specifies that a disposal site is a prohibited open dump unless "there is no *reasonable probability* of adverse effects on health or the environment from disposal of solid waste at such facility."[414] It is a precautionary statute requiring that harm to health and the environment be prevented.[415] Mitigating risks is, by definition, an action taken after such risks are recognized. Where, as here, the evidence and the D.C. Circuit have left no doubt that these impoundments pose a "reasonable probability of adverse impacts to human health and the environment,"[416] no mitigation of the risks they pose can remove them from the category of open dump. They must be closed without delay.

The *USWAG* decision reinforces this conclusion. There, the D.C. Circuit weighed whether EPA – having found that unlined impoundments are "prone to leak"[417] – acted contrarily to RCRA in allowing those impoundments to continue operating until they leak.[418] The Court's conclusion was an unambiguous yes: "[i]t is inadequate under RCRA for the EPA to conclude that a major category of impoundments that the agency's own data show are prone to leak pose 'no reasonable probability of adverse effects on health or the environment,' 42 U.S.C. 6944(a), simply because they do not already leak."[419] EPA's framework of waiting until risks had mounted before requiring closure was, therefore, unlawful.[420] The same conclusion must be drawn here, where the evidence of the dangers posed by unlined impoundments and those violating location restrictions far surpasses what was before EPA at the time it promulgated the 2015 CCR Rule considered by the D.C. Circuit.[421]

In addition, as discussed in detail herein, the Part A Proposal's contemplated closure deadline extensions for unlined CCR surface impoundments and for those that violate location restrictions also run contrary to RCRA because owners and operators of such impoundments have known for years that those impoundments would need to close,[422] and those impoundments that do not meet the non-aquifer location restrictions should have already commenced closure.[423]

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[414] 42 U.S.C. § 6944(a) (emphasis added).
[415] *See, e.g.*, *USWAG*, 901 F.3d at 433 (explaining that "[s]imply hoping that somehow there will be last-minute warnings about imminent dangers at sites that are not monitored, or relying on cleaning up the spills after great damage is done and the harm inflicted does not sensibly address those dangers. Certainly it does not fulfill the EPA's statutory duty to ensure 'no reasonable probability of adverse effects' to environmental and human well-being.").
[416] *See* Section IV – Inconsistent with USWAG; *USWAG*, 901 F.3d at 427-32.
[417] *See USWAG*, 901 F.3d at 427.
[418] *See id*. at 427-30.
[419] *Id*. at 427.
[420] *Id*. at 429 ("The Final Rule's approach of relying on leak detection followed by closure is arbitrary and contrary to RCRA. [It] does not address the identified health and environmental harms . . . as RCRA requires. Moreover, the EPA has not shown that harmful leaks will be promptly detected; that, once detected, they will be promptly stopped; or that contamination, once it occurs, can be remedied.").
[421] *See* Section IV – Inconsistent with USWAG.
[422] *See* Section V – Utilities on Notice.
[423] *See* Section VII – Location Restrictions.

Finally, the closure deadline extension for impoundments at retiring coal plants is also unlawful because failing to set a deadline for initiation of closure creates greater risks at those impoundments. EPA has recognized the need to set specific deadlines for commencement and completion of closure, and indeed has set such deadlines for all other types of CCR impoundments that must close. EPA provides no reason why commencement of closure deadlines are not also essential to ensure no "reasonable probability of adverse effects to health or the environment" from impoundments at retiring coal plants. The deadline to commence closure , among other things like ceasing placement of CCR into impoundments, is critical to protecting public health and the environment because the more coal ash and water placed in an impoundment, the greater the risks they pose.[424]

In short, there is no lawful justification for allowing unlined or unsafely-located CCR surface impoundments at retiring coal plants to continue operating any longer than is technically feasible. Because the Part A Proposal would allow such impoundments to continue operating longer than the minimum time needed to find alternative disposal capacity, it is arbitrary and contrary to RCRA and must not be finalized as proposed.

XI. THE PART A PROPOSAL FAILS TO ADDRESS OTHER LEGAL FLAWS IN THE PHASE I, PART ONE RULE.

The Part A Proposal is also arbitrary, capricious, and contrary to law because it fails to address significant changes made in the Phase I, Part One Rule[425] that do not conform to either RCRA or the Administrative Procedures Act ("APA"). Several of the undersigned commenters challenged the Phase I, Part One Rule in *Waterkeeper Alliance, Inc. et al. v. EPA*, Case No. 18-1289 (D.C. Cir.) on multiple grounds, including, among other things, that the rule violated RCRA and the APA by creating a new CCR Rule provision that would allow utilities to suspend groundwater monitoring in certain circumstances; by failing to take extensive new groundwater data into account; and by "clarifying" the 2015 CCR Rule, without notice or opportunity for comment, in a manner that delays cleanup and public disclosure of groundwater contamination.[426] In requesting a voluntary remand of the Phase I, Part One Rule, EPA represented to the D.C. Circuit that it would address remand "expeditiously" and that it would consider "whether other aspects of" the Rule should be addressed on remand.[427] In granting

[424] *See, e.g.*, Section IV – Inconsistent with USWAG; 80 Fed. Reg. at 21,357 (explaining that "large quantities of CCR impounded with water under a hydraulic head . . . gives rise to the conditions that both promote the leaching of contaminants from the CCR and are responsible for the static and dynamic loadings that create the potential for structural instability."); *id*. at 21,342 ("EPA's risk assessment shows that the highest risks are associated with CCR surface impoundments due to the hydraulic head imposed by impounded water"); Dr. Ranajit Sahu, Expert Report/Comments on Specific Issues Raised by EPA's Proposed Revision to the CCR Rule (Phase One), at 15, Docket ID No. EPA-HQ-OLEM-2017-0286-1708 (Apr. 30, 2018) (attached).

[425] 83 Fed. Reg. 36,435 (July 30, 2018).

[426] *See* Non-binding Statement of Issues to be Raised by Petitioners Waterkeeper Alliance, Inc., et al., ¶¶ 6-9, *Waterkeeper All., Inc. v. EPA*, Case No. 18-1289 (D.C. Cir. filed Nov. 26, 2018), Document No. 1761429.

[427] *See* EPA's Motion for Voluntary Remand Without Vacatur at 13, 15, *Waterkeeper All., Inc.*, No. 18-1289, (D.C. Cir. filed Dec. 17, 2018), Document No. 1764500.

EPA's motion for remand, the court expressed its "confiden[ce] that EPA will, as represented, expedite its rulemaking proceedings on remand to the fullest extent possible"[428] – including, by implication, addressing on remand *all* of the legal issues raised by petitioners challenging the Phase I, Part One Rule.

Despite its representation to the Court, EPA has failed to address numerous issues raised by petitioners in the *Waterkeeper* litigation. In particular, EPA has left in place an unlawful provision allowing a waiver of groundwater monitoring where industry asserts there is "no potential" for migration of CCR contaminants; EPA has failed, again, to take into account the growing body of groundwater monitoring, location, and impoundment design data that underscores the risks posed and harms caused by CCR surface impoundments; and EPA has failed to correct an incorrect, unlawful, industry-driven "clarification" of groundwater monitoring deadlines that delays both cleanup and public disclosure of contamination. By failing to address those unlawful amendments in this Part A Proposal, EPA fails to satisfy its commitment to the court to address these issues on remand and acts arbitrarily, capriciously, and contrary to law.

A. The Part A Proposal Fails to Withdraw Provisions Waiving Groundwater Monitoring Requirements Where Industry Claims There Is "No Potential for Migration" of CCR Contamination.

The Part A Proposal fails to address the Phase I Rule's unlawful revision of the 2015 CCR Rule to allow permitting authorities to suspend groundwater monitoring where a site operator certifies there is "no potential for migration" of pollutants into groundwater.[429] As explained in detail in comments submitted on the proposed Phase I Rule in April 2018,[430] the waiver provision is arbitrary and capricious because it conflicts with record evidence and lacks a reasoned justification. Recognizing that coal ash disposal units leak, EPA established groundwater monitoring requirements as a cornerstone of the 2015 Rule.[431] Indeed, EPA designed the groundwater monitoring program "to in fact be 'the minimum' necessary to protect human health and the environment across the country."[432] While the results of groundwater monitoring no longer trigger closure of unlined impoundments – being unlined presents enough risk to require closure[433] – groundwater monitoring remains essential to delineating the scope

[428] Order at 2, *Waterkeeper All., Inc.*, No. 18-1289, (D.C. Cir. Mar. 13, 2019), Document No. 1777351.
[429] 40 C.F.R. § 257.90(g).
[430] *See* Earthjustice et al., *Comments on Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One); Proposed Rule*, at 54-57, Docket ID No. EPA-HQ-OLEM-2017-0286-2136 (Apr. 30, 2018) (attached); Expert Report of Steven K. Campbell, EPA-HQ-OLEM-2017-0286-1708 (Apr. 27, 2018) (attached).
[431] *See* 80 Fed. Reg. at 21,396 (concluding that "a system of routine groundwater monitoring to detect any contamination from a CCR unit . . . [is] essential" to meeting the RCRA protectiveness standard).
[432] EPA *Response to Comments*, Vol. 9, at 74 (Dec. 2014), EPA-HQ-RCRA-2009-0640-12132 (attached) (emphasis added).
[433] *USWAG*, 901 F. 3d at 426-30.

and severity of pollution leaching from all CCR units and kick-starting corrective action at contaminated sites.[434]

In finalizing the Phase I rule, EPA offered no evidence that coal ash units eligible for waivers present no risk of groundwater or surface water contamination, nor has it done so in the Part A Proposal. While EPA claimed that "certain hydrogeologic settings may preclude the migration of hazardous constituents from CCR disposal units to groundwater resources," and that "no potential for migration" waivers will only be granted in "rare situations,"[435] the record of the Phase I rule is devoid of information supporting these claims and does not identify any site where conditions preclude migration of contaminants.[436] Once a waiver has been granted, there will be no groundwater monitoring and therefore no corrective action, even if contaminants are escaping into groundwater or surface water.[437]

EPA's "no potential for migration" waiver cannot be justified by pointing to similar waiver provisions in hazardous waste or municipal solid waste landfill regulations.[438] Unlike provisions in those different regulatory contexts, CCR impoundments present a far more serious risk of groundwater contamination – as EPA has recognized – because they can mix "thousands, if not millions, of tons" of coal ash with water, creating a hydraulic head that drives contaminants into underlying groundwater.[439] EPA also has recognized that coal ash contains toxic heavy metals whereas municipal solid waste contains organic compounds,[440] but failed to consider how this difference and the nature of coal ash disposal make a no-migration waiver inappropriate. Moreover, the municipal solid waste no-migration waiver provision, 40 C.F.R. § 258.50(b), was adopted under a less stringent standard than governs coal ash regulations.[441] EPA's failure to consider these important differences in promulgating the waiver of groundwater monitoring is a "hallmark[]" of arbitrary and capricious reasoning,[442] and its failure to withdraw this highly flawed, unsupported waiver in the Part A Proposal is arbitrary, capricious, and contrary to law.

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[434] *See* 40 C.F.R. §§ 257.90-98.
[435] 83 Fed. Reg. at 36,445.
[436] EPA cited a 1999 screening tool in response to Earthjustice et al.'s April 2018 comments, *Response to Comments*, at pdf p. 9 (July 2018), EPA-HQ-OLEM-2017-0286-2244, but that document sheds no light on how frequently no-migration waivers might be granted for coal ash units nor provides any information regarding the risk of suspending groundwater monitoring, see EPA, *Preparing No-Migration Demonstration* (Dec. 1998), EPA-HQ-OLEM-2017-0286-2239.
[437] *See* 40 C.F.R. §§ 257.90-98.
[438] *See* 83 Fed. Reg. at 36,439, 36,445.
[439] 80 Fed. Reg. at 21,327-28; *see also* Dr. Ranajit Sahu, *Expert Report/Comments on Specific Issues Raised by EPA's Proposed Revision to the CCR Rule (Phase One)*, at 15, Docket ID No. EPA-HQ-OLEM-2017-0286-1708 (Apr. 30, 2018) (attached) ("2018 Sahu Expert Report").
[440] 83 Fed. Reg. at 36,447.
[441] *Compare* 42 U.S.C. § 6949a(c)(1), *with id*. § 6944(a).
[442] *USWAG*, 901 F.3d at 430.

B. The Part A Proposal Unlawfully Fails to Account for Utility Groundwater Monitoring, Liner, and Location Data.

EPA's failure to consider the extensive new groundwater monitoring data, location documentation, and liner data, among other information, collected and reported by most[443] owners and operators of CCR surface impoundments pursuant to the 2015 CCR Rule – and failure to perform a new risk assessment accounting for that data – is fatal to this Part A Proposal. Commenters have assimilated, tabulated, and analyzed the groundwater monitoring data generated by the 2015 CCR Rule in comments to EPA[444] and in public reports.[445] These data show widespread leakage of harmful levels of pollution from virtually all coal ash impoundments in the United States, and they show that the risks of allowing the ongoing use of unlined surface impoundments are much greater than EPA previously assumed. The following discussion presents an updated analysis of a larger dataset, confirms that ongoing leakage is ubiquitous, and strengthens the conclusion that EPA's failure to consider these new data renders the Part A proposal unlawfully arbitrary and capricious.

At the outset, commenters note that EPA concedes that it now has access to new data showing greater risks than EPA previously assumed:

> [A]ny assessment to support continued operation likely would need to address the more recent information developed since 2015. For example, more recent data suggest that a greater number of units are leaking than EPA originally estimated during the rulemaking. The EPA has also learned that some units were constructed such that the base of the unit is located within the underlying aquifer, conditions that were not evaluated in the 2014 risk assessment.[446]

In addition, as discussed in more detail above, the proposed RIA for the Part A Proposal identifies 265 impoundments that EPA knows to be leaking, and an additional twenty-six that may be leaking, are all eligible for closure extensions of three to eight years under the Part A Proposal. Together, these two EPA findings show (a) that EPA knows that the "baseline" risks (risks in the absence of the Part A Proposal) are greater than EPA previously assumed, and (b) that the Part A Proposal would further increase these risks.

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[443] As discussed herein, EPA also has available to it extensive documentation of violations of the data collection, analysis, and reporting mandates of the 2015 CCR Rule, which it likewise has unlawfully failed to consider in developing this Part A Proposal. *See* Section XV – Noncompliance.

[444] Earthjustice et al., *Comments on Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One); Proposed Rule*, at 54-57, Docket ID No. EPA-HQ-OLEM-2017-0286 (Apr. 30, 2018) (attached).

[445] Environmental Integrity Project and Earthjustice, *Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S.*, at Tbl. 2 (rev. July 11, 2019) ("EIP 2019 Report") (attached).

[446] 84 Fed. Reg. at 65,945. *See also id*. at 65,942 ("[R]eporting data show that the affected universe of surface impoundments is composed of more unlined units, and that more surface impoundments regardless of liner type are leaking than was modeled in the [2014] RIA.").

Allowing for these known, increased risks at all fundamentally violates EPA's statutory duty under RCRA.[447] Doing so without updating its analysis of the risks further aggravates the unlawfulness of the Part A Proposal by violating EPA's basic administrative duty to conduct reasoned decision-making and consider all aspects of the issue.[448]

For the record, commenters have evaluated an updated database of groundwater monitoring data generated pursuant to the 2015 CCR Rule. The updated database includes new data for surface impoundments that were eligible for an extension of certain compliance deadlines pursuant to 42 U.S.C. § 257.100(e).[449] The updated database confirms and reinforces the conclusions that commenters have previously reached, and also confirm EPA's findings regarding the extent of surface impoundment leakage.

The updated database includes 321 surface impoundments.[450] Commenters analyzed the data in two ways. The first analysis looked at the extent to which disposal units appear to be causing groundwater contamination in excess of groundwater protection standards. Second, a more statistically restrictive screen was applied to answer the narrower question of whether each disposal unit is leaking.

To verify and update the conclusions of the 2019 report, each disposal unit was evaluated as to whether it caused unsafe levels of contamination. This analysis is identical to that used for Tables 1 and 2 of the 2019 report.[451] In short, for any given pollutant, the conclusion is that a disposal area was causing unsafe contamination if the mean concentration in any downgradient well exceeded both (a) the relevant health-based guideline[452] and (b) the mean value of that pollutant in the upgradient wells for the disposal unit. For surface impoundments, the following was found:

Table ND1: Unsafe levels of coal ash pollutants at surface impoundments (% of ponds showing unsafe levels of each pollutant)

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[447] 42 U.S.C. § 6944(a).
[448] *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015); *Motor Vehicle Mfrs.' Ass'n of United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).
[449] These are the 'early closure' impoundments that were previously eligible for an exemption from various CCR Rule provisions, including groundwater monitoring; after the D.C. Circuit Court of Appeals vacated that exemption, EPA granted extensions for those units to come into compliance with those provisions. 81 Fed. Reg. 51,802 (Aug. 5, 2016); 42 U.S.C. § 257.100(e).
[450] Commenters will be submitting the complete database separately as an electronic file. The surface impoundment total includes multi-unit monitoring networks surrounding multiple surface impoundments, but excludes any multi-unit monitoring networks surrounding a mix of landfills and surface impoundments.
[451] EIP 2019 Report at 13-15, Appendix B.
[452] The health-based guidelines that Commenters use are identical to the groundwater protection standards under the CCR Rule with three exceptions. For boron and sulfate, which do not have groundwater protection standards under the CCR Rule, Commenters used EPA drinking water advisories. For molybdenum, which has a groundwater protection standard of 0.1 mg/L under the CCR Rule, Commenters chose to use EPA's slightly more protective lifetime health advisory of 0.04 mg/L. *Id.* at App. B.

	Arsenic	Boron	Cobalt	Lithium	Moly-bdenum	Sulfate	One or more[453]
Original analysis (273 ponds)	42%	45%	44%	47%	40%	46%	92%
Updated analysis (321 ponds)	42%	41%	43%	47%	42%	46%	92%

Table ND1 shows that the addition of the 'early closure' impoundments does not affect the original results: 92% of surface impoundments are causing unsafe levels of one or more pollutants. A more restrictive statistical screen of the data was applied in order to answer the narrower question of whether each disposal area is leaking. For any given pollutant, the minimum concentration in each well downgradient of a disposal unit was compared to the maximum concentration from all of the wells upgradient of the disposal unit. The conclusion is that a unit is 'leaking' a pollutant if all of the data from one or more downgradient wells exceed all of the upgradient data. While there is not perfect overlap between the two sets of data, Commenters are confident that any legitimate statistical comparison would find the downgradient well(s) in question to have statistically significant increases over background. If a disposal unit has a statistically significant increase of at least one pollutant, the conclusion is that it is leaking. As shown in Table ND2 below, this analysis yields the same result – virtually all surface impoundments are leaking.

Table ND2. Leaking landfills and surface impoundments.

	Number of leaking surface impoundments (% of total)
Appendix III constituents only	278 (90%)
Appendix III and Appendix IV constituents	293 (95%)

Tables ND1 and ND2 above directly contradict the Regulatory Impact Analysis (RIA) for the 2015 CCR Rule. In that RIA, EPA assumed that fifty-seven percent of unlined impoundments will cause contamination at a distance of one meter from the impoundment within 100 years.[454] This estimate was cited by the D.C. Circuit Court of Appeals when it vacated EPA's decision to allow unlined impoundments to remain active.[455] In effect, the court determined that a fifty-seven percent risk of contamination is incompatible with EPA's mandate

[453] This column shows the percentage of impoundments causing unsafe levels of one or more pollutants, including those individually listed in this table or any other Appendix III or Appendix IV pollutant.
[454] EPA, *Regulatory Impact Analysis for EPA's 2015 RCRA Final Rule Regulating Coal Combustion Residual (CCR) Landfills and Surface Impoundments At Coal-Fired Electric Utility Power Plants* at 4-9 to 4-10, Ex. 4-A (Dec. 2014) ("2014 RIA").
[455] *USWAG*, 901 F.3d at 428.

to prevent the "reasonable probability of adverse effects on health or the environment."[456] However, it is known, given the analysis, and EPA now knows, that the estimate is far too low. In fact, after much less than 100 years, the frequency of contamination is already greater than 90 percent.

These data deserve special emphasis: EPA has access to data showing that the risks of allowing surface impoundments to continue receiving waste are much greater than the risks that the D.C. Circuit found to be unacceptable and contrary to EPA's RCRA mandate.

Not only does EPA have access to data about the prevalence of leaking surface impoundments, EPA also has data about the magnitude of contamination at each site. These data were explored in detail in the 2019 report.[457] Suffice it to say that pollutants frequently exceed safe levels by one or two orders of magnitude.

Again, the fundamental problem presented by the new data is that they undermine and contradict the assumptions EPA made in creating the 2015 CCR Rule. The 2014 risk assessment and regulatory impact analysis are built on assumptions that EPA now knows to be wrong. They overestimate the number of surface impoundments that are lined, they underestimate the prevalence of leakage, and they incorrectly assume that coal ash is never buried below the groundwater table.[458] Moreover, where EPA was previously dependent on modeled groundwater concentrations, EPA now has hard data (groundwater monitoring data) from across the country.

In short, EPA knows that the problem is much worse than it assumed in 2015, and has everything it needs to calculate exactly how much worse the problem is. EPA does not have the option of ignoring the vast, unquestionably relevant data at its disposal. As the D.C. Circuit highlighted, "[a]n agency's failure to consider an important aspect of the problem is one of the hallmarks of arbitrary and capricious reasoning."[459] EPA can – and must – use the new data to calculate the environmental impacts of allowing hundreds of leaking surface impoundments to keep leaking for up to eight years.

C. EPA Fails to Correct Its Unlawful Interpretation Resulting in Delayed Groundwater Monitoring Reporting.

EPA also fails to address in this Part A Proposal its unlawful, unsupported change in interpretation of groundwater monitoring deadlines which effectively postpones requirements for operators to initiate assessment monitoring and to report the results of assessment monitoring until the following year's annual groundwater monitoring report. In the Phase I Rule – without warning or prior notice in the Federal Register – EPA purported to "clarify" the timing requirements for performing groundwater analyses under the 2015 Coal Ash Rule. Specifically,

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[456] *Id.* at 427 ("It is inadequate under RCRA for the EPA to conclude that a major category of impoundments that the agency's own data show are prone to leak pose 'no reasonable probability of adverse effects on health or the environment,' 42 U.S.C. § 6944(a), simply because they do not already leak.").
[457] *See, e.g.*, EIP 2019 Report at Tbl. 5, App. A.
[458] 84 Fed. Reg. at 65,942, 65,945.
[459] *USWAG*, 901 F.3d at 430 (citing *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 606 (D.C. Cir. 2016)).

EPA incorporated by reference a letter it had sent to a trade association (USWAG) in January 2018, which re-interpreted the 2015 CCR Rule to effectively grant utilities another 90 days to complete their statistical evaluations, on top of the three years already provided under the Rule.[460] This unlawful 90-day extension is consequential because it means that the results of groundwater monitoring will be delayed for an additional year (i.e., until the following year's annual report).

EPA's unlawful re-interpretation concerns the deadline to commence assessment monitoring. Under the 2015 CCR Rule, "[i]f the owner or operator of the CCR unit determines, pursuant to § 257.93(h), that there is a statistically significant increase over background levels for one or more of the constituents listed in appendix III . . . , the owner or operator must" either "establish an assessment monitoring program" within 90 days of detecting that increase, or "demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels," which demonstration "must [be] complete[d] . . . within 90 days of detecting the statistically significant increase over background . . . ." [461] EPA explained in the preamble to the 2015 CCR Rule that the periods are, and are intended to be, concurrent:

> If assessment monitoring is triggered, within three months the owner or operator must sample all wells for all appendix IV constituents (minimum of one sample) and resample (minimum of one sample) all wells for all appendix III parameters and those appendix IV constituents that were detected in the first round of sampling. The owner or operator could also *simultaneously* use this three month timeframe to demonstrate that the statistically significant increase found in detection monitoring was due to another source or sampling and analysis error.[462]

In response to a comment that ninety days might be too short to complete a demonstration, EPA explained its reasoning behind the mandate for these two 90-day periods to run concurrently. EPA acknowledged the commenter's concern but held firm that only concurrent 90-day periods could meet the protectiveness standard in RCRA § 4004(a):

> The Agency recognizes that in some circumstances it could take more than 90 days to resample and have laboratories conduct new analyses, or to conduct field investigations to determine that another source is causing the contamination. As a result, § 257.94(e)(3) does not place an ultimate time limit for owners and operators to complete the demonstration. However, if after 90 days the owner or operator has not made a successful demonstration, (s)he must begin an assessment monitoring program. At this stage, there is evidence to indicate that a release has occurred from the CCR unit, and while EPA agrees that the facility may want to

[460] *See* 83 Fed. Reg. at 36,437 (stating that the deadline for groundwater analyses is January 14, 2019, rather than October 15, 2018).
[461] *See* 40 C.F.R. § 257.94(e)(1)-(2).
[462] 80 Fed. Reg. at 21,408 (emphasis added).

> confirm that the information is accurate, *it is critical that the facility not delay indefinitely the more targeted monitoring to determine whether a constituent of concern is contaminating groundwater*. It would not be consistent with the statutory standard to allow a facility unlimited time to delay taking reasonable steps to assess, and if necessary, address potential contamination by continuing to resample until they obtain a 'better' answer.[463]

Notwithstanding both the clear language of the regulatory provisions and the well-justified explanation of the concurrence of the 90-day periods that EPA itself offered in the 2015 CCR Rule preamble, less than three years later and after prompting from industry, EPA suddenly changed its mind.[464] In the final Phase I, Part One Rule, EPA reported that it had "clarified" that the "alternate source demonstration in detection monitoring (§ 257.94(e)(2)) *does not run concurrently* with the 90-day time frame in § 257.94(e)(1) or § 257.95(b)."[465] What is more, EPA further "clarified" that, if a facility "take[s] advantage of the 90-day option in § 257.94(e)(2) . . . , *January 14, 2019* as [sic] the deadline for facilities to make their initial determination of whether there has been the detection of a statistically significant increase of an Appendix IV constituent above the relevant groundwater protection standard . . . ."[466] Because annual groundwater monitoring reports – the only document in which owners and operators are required to publicly provide the demonstrations pursuant to 40 C.F.R. § 257.94(e)(2)[467] – need only report on groundwater monitoring related actions "for the preceding calendar year,"[468] a January deadline for determining whether groundwater protection standards have been exceeded means the public will not be informed of such exceedance for more than a full year after it has been detected.[469]

EPA's original interpretation of its own rules must be re-established. The language of the 40 C.F.R. § 257.94(e) is clear that the 90-day periods for commencing assessment monitoring

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[463] 80 Fed. Reg. at 21,404 (emphasis added). It is worth noting EPA's further observation that "initiation of an assessment monitoring program does not involve an irretrievable commitment of resources or even a significant investment by the facility, but only requires the facility to begin more targeted sampling for constituents of concern." *Id.* Costs and inconvenience may not be considered in setting standards for solid waste disposal units including CCR impoundments, *USWAG*, 901 F.3d at 447-49, but even if they could be taken into account, they would pose only an insignificant hindrance to beginning assessment monitoring within 90 days after detection of a statistically significant increase over background.
[464] *See* 83 Fed. Reg. at 36,437.
[465] 83 Fed. Reg. at 36,437 (emphasis added).
[466] *Id.*
[467] *See* 40 C.F.R. § 257.94(e)(2); *Id.* § 257.107(h).
[468] 40 C.F.R. § 257.90(e).
[469] *See id.* (requiring preparation of an annual groundwater monitoring and corrective action report "not later than January 31, 2018, and annual thereafter. . . .); *id.* § 257.105(h)(1) (requiring that the annual groundwater monitoring and corrective action report be placed in the facility's operating record "as it becomes available"); *id.* § 257.107(d) (requiring posting of documents on the owner or operator's public website "within 30 days of placing the pertinent information required by § 257.105 in the operating record.").

and for completing an "alternate source demonstration" are concurrent,[470] and EPA's explanation of the reasoning behind that concurrency is cogent and well-supported, given the risks of allowing delay in cleaning up leaking CCR impoundments.[471] Indeed, any delay in cleaning up leaks is contrary to RCRA, given the risks such leaks pose.[472] Moreover, the APA prohibits EPA from simply "clarify[ing]" its interpretation of the rule in the preamble to a final rule, with no notice in the proposal – particularly when that "clarification" results in major changes to the rule, including delayed public disclosure, consequent major delays in the opportunity to enforce the rule's cleanup provisions, and knowing the associated increased risks to communities and the environment.[473] EPA's failure to expressly withdraw this unauthorized "clarification" in the Part A Proposal is arbitrary, capricious, and contrary to law.

XII. THE PROPOSED RULE FAILS TO ADDRESS LEGACY COAL ASH UNITS.

The Part A Proposal is also inconsistent with *USWAG*, and therefore arbitrary and capricious, because it fails to respond to the D.C. Circuit's decision vacating and remanding the exemption of "inactive surface impoundments at inactive power plants" (also known as "legacy ponds") from regulation. The Part A Proposal mentions the *USWAG* vacatur and remand only in passing, stating only that "[t]he USWAG decision also vacated the exemption from the 2015 rule for inactive surface impoundments at inactive power plants. This will be addressed in a subsequent rulemaking."[474] EPA has yet to provide any timeframe for taking action in response to *USWAG*, seeking instead to prioritize other rulemakings over timely compliance with the D.C. Circuit's order. While EPA has sent to the White House Office of Management and Budget (OMB) a "Part B" proposal that will, according to the description on the OMB website, "request[] comments on inactive units at inactive facilities also known as legacy units,"[475] there is no indication that the "Part B" proposal will actually regulate such units as required by *USWAG*.

EPA's failure to regulate legacy impoundments is arbitrary and capricious. As explained by the D.C. Circuit, legacy impoundments "present a unique confluence of risks: They pose the same substantial threats to human health and the environment as the riskiest Coal Residuals disposal methods, compounded by diminished preventative and remediation oversight due to the absence of an onsite owner and daily monitoring."[476] EPA may not base any delay in regulating

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[470] *See id.* § 257.94(e).
[471] *See, e.g., USWAG*, 901 F.3d at 429 (noting that "EPA has not shown that harmful leaks will be promptly detected; that, once detected, they will be promptly stopped; or that contamination, once it occurs, can be remedied," and explaining that "[w]hen an unlined impoundment begins to leak, Coal Residual sludge 'will flow through the unit and into the environment unrestrained, . . .").
[472] *See id.*
[473] *See, e.g., Ne. Md. Waste Disposal Auth. v. EPA*, 358 F.3d 936, 952 (D.C. Cir. 2004) (per curiam) (a final rule may differ from the proposed rule, but it must remain a "logical outgrowth" of the rule made available for comment).
[474] 84 Fed. Reg. at 65,943.
[475] Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure; Legacy Units, RIN 2050-AH111 (screenshot of OMB website attached).
[476] *USWAG*, 901 F.3d at 432.

these dangerous impoundments – which available evidence indicate number in the hundreds[477] – on a claim that it lacks adequate information about them; the D.C. Circuit already rejected those grounds in *USWAG*.[478] Because "there is no gainsaying the dangers that unregulated legacy ponds present,"[479] and "EPA itself acknowledge[d] the vital importance of regulating [legacy impoundments] . . . because, if not properly closed, those impoundments will 'significant[ly]' threaten 'human health and the environment through catastrophic failure' for many years to come,"[480] RCRA demands that legacy impoundments be regulated without delay.

Moreover, EPA is not free to ignore court orders simply because the agency might prefer, for political or other reasons, not to respond to them in a timely manner. As the D.C. Circuit has noted, "a reasonable time for agency action is typically counted in weeks or months, not years."[481] Although it is not uncommon for agencies to take a year or more to respond to a court order, under the circumstances here it is patently unreasonable – and contrary to EPA's mission to protect public health and the environment – for the agency to delay commencement of a court-ordered rulemaking to strengthen provisions of the 2015 CCR Rule in favor of other discretionary rulemakings that are not legally required and whose primary purpose is to benefit private industry at the expense of health and environmental benefits to the broader public. In short, both RCRA and the D.C. Circuit have directed EPA to regulate legacy impoundments, and EPA's failure to do so here is arbitrary, capricious, and contrary to law.

XIII. EPA MUST ACT ON THE 2016 SETTLEMENT AGREEMENT AND ADD BORON TO THE LIST OF CONSTITUENTS IN APPENDIX IV OF PART 257 AS REQUIRED BY RCRA.

The Part A Proposal is also arbitrary and capricious because EPA has prioritized moving forward with these proposed revisions, many of which have the effect of weakening the 2015 CCR Rule in a manner inconsistent with the *USWAG* decision, instead of taking final action on its 2016 agreement with the *USWAG* parties that should result in EPA strengthening the 2015 CCR Rule. In April 2016, EPA executed a settlement agreement with petitioners in the *USWAG* case, agreeing, among other things, to engage in additional rulemaking to address several issues raised by petitioners in their legal challenges to the 2015 CCR Rule.[482] Among other things, EPA agreed to propose a rule to "[a]dd Boron to the list of contaminants in Appendix IV of the [2015 CCR] Rule that trigger the assessment monitoring and corrective action requirements under the [2015 CCR] Rule."[483] The settlement agreement stated that "EPA presently intends to take final

[477] *See*, *e.g.*, 2014 Risk Assessment at A-2.
[478] *See USWAG*, 901 F.3d at 433-34 ("The asserted difficulty in locating the owners or operators responsible for legacy ponds does not hold water. The record shows that the EPA knows where existing legacy ponds are and . . . the EPA already is aware of or can feasibly identify the responsible parties.").
[479] *Id*. at 433.
[480] *Id*. (citing *Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals from Electric Utilities,* 75 Fed. Reg. 35,128, 35,177 (June 10, 2010) & 80 Fed. Reg. at 21,344 n.40).
[481] *In re Am. Rivers & Idaho Rivers United*, 372 F.3d 413, 419 (D.C. Cir. 2004).
[482] Settlement Agreement between EPA, Environmental Petitioners, and Industry Petitioners (Apr. 18, 2016) ("2016 Settlement Agreement") (attached).
[483] *Id.* at 4.

action" on this boron proposal (along with other issues that were being remanded pursuant to the agreement) "within three years" of a court order remanding the issues back to EPA.[484] After the *USWAG* parties requested the agreed-upon remand of certain issues back to EPA in April 2016, the D.C. Circuit issued an order in June 2016 granting the requested remand.[485] As a result, EPA would have had to have finalized action on the boron issue and the other issues in that settlement agreement by June 2019 in order to comply with the "within three years" anticipated timeframe of the settlement agreement.

EPA has not lived up to these obligations under the April 2016 settlement agreement. Instead, the Agency has been prioritizing other rulemaking efforts, including this Part A rulemaking, over finalizing the rulemaking to which it agreed in the April 2016 settlement agreement.[486] It has been nearly four years since EPA agreed to propose adding boron to the list of assessment monitoring constituents found in Appendix IV of Part 257.[487] It has been nearly two years since EPA actually proposed to do so.[488] There has never been any question that boron – one of the most ubiquitous pollutants in groundwater contaminated by coal ash and the only pollutant that threatens both human health and aquatic life – should be on the Appendix IV list. Its omission from the list in the 2015 CCR Rule was, as EPA concedes, a mistake.[489] The result of that mistake has been several years of unnecessary, unwarranted, and harmful pollution. It is well past any reasonable length of time that EPA should have fixed its error. EPA must prioritize this overdue and critical correction, and finalize the addition of boron to Appendix IV immediately, with a groundwater protection standard no greater than 1.6 mg/L.

A. Boron Must Be Added to Appendix IV.

In this section, commenters cite, attach, and incorporate by reference our previous boron-related comments and public reports.[490] As stated in those prior comments, commenters strongly

[484] *Id.*
[485] Order, *USWAG v. EPA*, Case No. 15-1219, Doc. No. 1619358 (D.C. Cir. June 14, 2016) (attached).
[486] In the timeframe that EPA had previously promised that it would address the boron issue on remand, EPA has instead finalized the "Phase I, Part One" CCR revision rule, 83 Fed. Reg. 36,435 (July 30, 2018), and developed and proposed the "Phase 2" CCR revision rule, 84 Fed. Reg. 40,353 (Aug. 14, 2019), as well as the current Part A Proposal.
[487] *See generally* 2016 Settlement Agreement.
[488] 83 Fed. Reg. 11,584 (Mar. 15, 2018).
[489] *Id*. at 11,588-89.
[490] Comments of Earthjustice et al. on Docket ID No. EPA-HQ-OLEM-2017-0286, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One); Proposed Rule (Apr. 30, 2018) ("April 30, 2018 Earthjustice Comments") (attached); Comments of Earthjustice et al. on Docket ID No. EPA-HQ-OLEM-2018-0524, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Enhancing Public Access to Information; Reconsideration of Beneficial Use Criteria and Piles (Oct. 15, 2019) ("Oct. 15, 2019 Earthjustice Comments") (attached); Environmental Integrity Project and Earthjustice, Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S. at Table 2 (rev. July 11, 2019) ("EIP 2019 Report") (attached).

support the addition of boron to Appendix IV for all of the reasons articulated by EPA in the preamble to the 2018 Proposal:

"Boron is one of nine determined to present unacceptable risks under the range of scenarios modeled" in EPA's 2014 risk assessment.[491]

- "Of these, boron is the only one associated with risks to both human and ecological receptors."[492]
- "Boron can pose developmental risk to humans."[493]
- "[Boron] can result in stunted growth, phytotoxicity, or death to aquatic biota and plants when released to surface water bodies."[494]
- "Boron is a [contaminant of concern] in more damage cases (approximately [51 percent][495] of the total) than any Appendix IV constituent with the exception of arsenic."[496]
- "The damage cases reflect a range of waste types disposed in both surface impoundment and landfills. These damage cases corroborate the findings of the [risk assessment] and also capture other scenarios that were not modeled in the [risk assessment], such as units that intersect with the groundwater table."[497]
- "[O]ut of all the coal ash constituents modeled by EPA, boron has one of the shortest travel times, meaning that boron is likely to reach potential receptors before other constituents. As such, including it on Appendix IV would ensure corrective action occurs soon after a potential release," which would "better protect human health and the environment by allowing for a response to contamination more quickly and preventing further and more extensive contamination, thereby limiting the exposures to human and ecological receptors."[498]

[491] 83 Fed. Reg. at 11,589.
[492] *Id.*
[493] *Id.*
[494] *Id.*
[495] In the first column of 83 Fed. Reg. at 11,589, EPA states that boron is a constituent of concern in "approximately 50 percent" of damage cases. In the second column of the same page, EPA states that boron is a constituent of concern in "approximately 51% of the total damage cases." Commenters have reviewed the damage cases and believe that the correct number is fifty-one percent.
[496] 83 Fed. Reg. at 11,589.
[497] *Id.*
[498] *Id.*

Boron is a "risk driver."[499] EPA added other chemicals without Maximum Contaminant Levels to Appendix IV because they were "risk drivers." It only makes sense to do the same with boron.

"In response to [litigation over the 2015 CCR Rule] EPA reexamined its decision to remove boron [from Appendix IV] and concluded at that time that removing boron from Appendix IV had been inconsistent with other actions taken in the final rule. Specifically, fluoride had been included on both Appendix III and Appendix IV."[500]

For all of these reasons, and for all of the reasons previously raised by Commenters,[501] EPA's coal ash regulations will only meet the RCRA protectiveness standard and ensure that there is no reasonable probability of adverse effects if boron is included in assessment monitoring and listed in Appendix IV.

Again, as the above-cited language makes clear, the omission of boron from Appendix IV was a mistake on EPA's part – and a mistake that has gone uncorrected for several years. During that time, as commenters have noted previously[502] and confirm elsewhere in this comment letter,[503] evidence generated by the 2015 CCR Rule has proven that leaking coal ash disposal units have caused levels of boron to exceed EPA's Child Health Advisory at roughly half of the coal plants in the United States. A much larger percentage of disposal units are leaking boron. The Environmental Integrity Project's database of baseline monitoring data from coal ash disposal units now includes the "early closure" impoundments subject to monitoring and reporting extensions. The updated database includes 308 surface impoundments (or groups of surface impoundments sharing one well network), 181 landfills (or groups of landfills), and 12 "mixed" areas where both impoundments and landfills are sharing a well network. Of these, sixty-five percent show statistically irrefutable evidence of boron leakage.[504] The following table breaks the result down by disposal unit type:

Table: CCR disposal units with statistically irrefutable evidence of boron leakage[505]

Disposal unit type	Number of units	Units leaking boron (%)
Impoundment	308	223 (72%)
Landfill	181	93 (51%)

[499] *Id.*
[500] *Id.* at 11,588-89.
[501] Apr. 30, 2018 Earthjustice Comments at 22-25 (attached).
[502] *Id.* at 55 (attached); EIP 2019 Report (attached).
[503] *See* Section XI.B -_New Data.
[504] We only conclude that a disposal unit is leaking boron if the range of boron concentrations in one or more downgradient wells is always greater than the range of boron concentrations in all upgradient wells. In other words, we only conclude that a disposal unit is leaking boron if the minimum boron concentration in one or more downgradient wells exceeds the maximum boron concentration in all upgradient wells.
[505] See preceding footnote. Data obtained from each regulated entity's first annual groundwater monitoring report will be provided in a database submitted separately to the docket.

Mixed[506]	12	8 (67%)
Total	**501**	**324 (65%)**

Over the course of EPA's years-long delay in correcting its error, these leaking ash dumps have continued to add more boron to the contaminated groundwater, exacerbating the problem and making cleanup more difficult and more expensive. And now, EPA proposes to further exacerbate this problem by ignoring the D.C. Circuit's clear mandate that EPA must require the closure of unlined ash impoundments. EPA must reverse course. Instead of allowing the boron problem to grow, EPA must correct its error and minimize the ongoing damage. Any further delay would be arbitrary, capricious, and contrary to law.

B. EPA Must Establish a Stronger Groundwater Protection Standard for Boron Than It Proposed in 2019.

As noted previously, and for all of the reasons that commenters have already provided to EPA,[507] the Agency must also establish a groundwater protection standard that is truly protective of human health and the environment. The standard that EPA proposed in August 2019 – 4 mg/L[508] – is not protective of either human health or the environment.

First, EPA's proposed groundwater protection standard would not be adequately protective of human health. EPA has separately published a long-term child health advisory of 1.6 mg/L.[509] This is the concentration at which "adverse health effects" – in this case testicular damage – "are not anticipated to occur."[510] Conversely, children exposed to boron concentrations greater than 1.6 mg/L face an increased and unacceptable risk of testicular damage. EPA states in the proposal that it has "established [the groundwater protection standard] at the concentration to which the human population could be exposed to [sic] on a daily basis without appreciable risk of deleterious effects over a lifetime."[511] This statement is clearly false. According to EPA's own health advisory, daily exposure to 4 mg/L of boron in drinking water would present a significant risk to children's health over a period of seven or more years. By setting a groundwater protection standard at 4 mg/L, when the Agency has elsewhere established a child health advisory of 1.6 mg/L, EPA would be allowing an unacceptable risk to continue. This fails EPA's statutory mandate to ensure that "there is no reasonable probability of adverse effects on health or the environment."[512]

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[506] "Mixed" refers to a multi-unit monitoring well network that monitors a mix of impoundments and landfills.
[507] Oct. 15, 2019 Earthjustice Comments at 118-25 (attached).
[508] EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Enhancing Public Access to Information; Reconsideration of Beneficial Use Criteria and Piles, 84 Fed. Reg. 40,353 (Aug. 14, 2019).
[509] EPA, Drinking Water Health Advisory for Boron, Document Number 822-R-08-013 (May 2008) (attached).
[510] *Id.* at 1.
[511] 84 Fed. Reg. at 40,366.
[512] 42 U.S.C. § 6944(a).

EPA's proposed groundwater protection standard would also fail to protect aquatic life. According to EPA, boron is a constituent of concern because of unacceptable risks to both human health and ecological receptors (plants and wildlife):

> [B]oron is one of the nine constituents determined to present unacceptable risks under the range of scenarios modeled. Of these constituents, boron is the only one associated with risks to both human and ecological receptors. Specifically, the 2014 risk assessment shows that boron can pose developmental risk to humans when released to groundwater and can result in stunted growth, phytotoxicity, or death to aquatic biota and plants when released to surface water bodies.[513]

Yet, EPA's proposed groundwater protection standard is based exclusively on human health risks.[514] In its 2014 risk assessment, EPA used a "surface water benchmark" for boron of 1.1 mg/L.[515] Groundwater is frequently diluted when it enters a surface water body such that groundwater with a boron concentration of 4 mg/L will lead to a surface water concentration much less than 4 mg/L – but not always. In some cases, most or all of the flow in a stream will come from groundwater, through above-ground seeps and/or through below-ground baseflow. In these cases, there will be little or no dilution, and a groundwater concentration of 4 mg/L will result in a surface water concentration that exceeds the ecological benchmark of 1.1 mg/L. In other words, EPA's proposed groundwater protection standard would not protect against unacceptable ecological risk. Our earlier comment letter, incorporated here by reference, illustrated this very real possibility with a concrete example.[516]

For all of these reasons, EPA must fulfill its statutory mandate to ensure that "there is no reasonable probability of adverse effects on health or the environment"[517] by declining to allow extensions of closure deadlines for unlined and clay-lined coal ash impoundments, most of which are constantly leaking boron into the environment, and by instead prioritizing a correction of the error that it agreed to fix nearly four years ago. EPA must finalize the addition of boron to Appendix IV immediately, with a groundwater protection standard no greater than 1.6 mg/L.

XIV. THE PART A PROPOSAL FAILS TO ADDRESS THE RISKS POSED BY NON-CCR WASTESTREAMS AND TO REQUIRE COMPLIANCE WITH RCRA SUBTITLE C.

EPA is proposing revisions to the alternative closure provisions, §§ 257.103(a), (b), (e), and (f), to "grant facilities additional time to develop alternate capacity to manage their wastestreams (both CCR *and non-CCR*), to achieve cease receipt of waste and initiate closure of their CCR surface impoundments."[518] For the first time, EPA seeks not only to provide new alternative closure extensions for CCR surface impoundments, but to apply such extensions to

[513] 83 Fed. Reg. at 11,589 (emphasis added).
[514] 84 Fed. Reg. at 40,366.
[515] 2014 Risk Assessment at E-10 to E-11.
[516] *See* Oct. 15, 2019 Earthjustice Comments at 124 (attached).
[517] 42 U.S.C. § 6944(a).
[518] 84 Fed. Reg. at 65,942 (emphasis added).

non-CCR waste. EPA fails entirely, however, to provide any rationale for including non-CCR wastestreams. Furthermore, EPA offers no information whatsoever concerning the nature, quantity and toxicity of the non-CCR wastestreams and the impact that storage, treatment, and disposal of these wastestreams in surface impoundments will have on health and the environment. The Part A Proposal, nevertheless, would allow facilities to dispose of unlimited amounts of unspecified non-CCR waste in CCR surface impoundments without characterization for significant periods of time. Consequently, the Part A Proposal violates RCRA Subtitle C, is arbitrary and capricious, without rational basis and violates the protectiveness standard of RCRA § 4004(a).

A. Non-CCR Wastestreams Are Subject to Hazardous Waste Regulations if Not Co-Disposed with CCR Waste.

In the preamble to EPA's 2015 CCR Rule, the Agency explains that non-CCR wastes, such as those covered by section 261.4(b)(4)(ii),[519] also known as "uniquely associated wastes," are not subject to hazardous waste regulations when co-disposed with CCR.[520] EPA further explains that "these uniquely associated wastes are subject to hazardous waste regulations when they are not co-disposed with CCR."[521] Consequently, non-CCR wastestreams are subject to the hazardous waste regulations when disposed in impoundments without being mixed with CCR wastes. Thus, prior to the disposal of solely non-CCR wastestreams, owners and operators must determine whether they are listed wastes pursuant to 40 C.F.R. §§ 261.30-33 or whether they exhibit any of the characteristics of a hazardous waste pursuant to 40 C.F.R. §§ 261.20-24.

According to the preamble to the Part A Proposal, several stakeholders are currently using CCR surface impoundments for disposal of only non-CCR wastestreams after their facilities' conversion to dry handling.[522] EPA notes that some facilities thought it "was unnecessary to build a new basin for non-CCR wastestreams after converting to dry handling or switching to natural gas due to the ease of using the existing disposal unit."[523] Further, EPA anticipates that additional facilities will use non-CCR wastestream basins to store and treat non-CCR wastestreams. EPA states, "[t]o meet the need for handling non-CCR wastestreams a facility may decide to construct a basin for the non-CCR wastestreams, assuming they have the space to construct the new unit."[524] Furthermore, EPA admits that such basins are not being constructed to meet the standards for CCR surface impoundments set out in the CCR Rule. EPA stated, "[s]ince the CCR design criteria and groundwater monitoring network regulations do not apply to new non-CCR wastestream basins, such units may be constructed faster."[525] The

[519] 40 C.F.R. § 261.4(b)(4)(ii) codifies the list of uniquely associated wastes that are solid wastes and not hazardous waste when co-disposed with CCR, namely, coal pile run-off, boiler cleaning solutions, boiler blowdown, process water treatment and demineralizer regeneration wastes, cooling tower blowdown, air heater and precipitator washes, effluents from floor and yard drains and sumps, and wastewater treatment sludges.
[520] 80 Fed. Reg. at 21,461.
[521] *Id.* (emphasis added).
[522] 84 Fed. Reg. at 65,947.
[523] *Id.*
[524] *Id.*
[525] *Id.*

implication is that these new basins may not be constructed with composite liners and groundwater monitoring systems compliant with the CCR Rule or according to the structural integrity criteria and location criteria of the rule.

EPA's failure to characterize the non-CCR wastestreams and to require adequate containment of such wastestreams is a fatal flaw of the Part A Proposal. As a threshold matter, EPA fails even to identify what constitutes "non-CCR wastestreams." Totally absent is any requirement to evaluate different non-CCR wastestreams to determine whether they contain listed hazardous wastes or display hazardous waste characteristics. In light of evidence of the hazardous nature of some non-CCR wastestreams and evidence of environmental damage from the disposal of such wastestreams, discussed below and in the Expert Report of Mark Hutson,[526] EPA must evaluate the full nature and extent of the risk before allowing disposal of non-CCR wastestreams without adequate safeguards.

B. The Exclusion of NPDES-Permitted Discharges from RCRA Does Not Exempt All Non-CCR Wastes from Regulation as Hazardous.

EPA may respond that, to the extent that non-CCR wastestreams that are not co-disposed with CCR waste are handled wet and discharged to surface waters pursuant to a National Pollutant Discharge Elimination System ("NPDES") permit, they are not "solid waste" and therefore not subject to RCRA's requirements.[527] Such a response is insufficient, however, for at least two reasons. First, at sites where NPDES-permitted discharges, excluded from RCRA regulation, are present, EPA's longstanding position is that RCRA's requirements still apply to upstream waste storage and disposal activities at the source of those discharges.[528] Indeed, this is true of the CCR Rule in general: the mere fact that most impoundments discharge to surface waters pursuant to a NPDES permit does not exclude those impoundments from having to comply with the CCR Rule's requirements concerning storage and disposal. Likewise, the upstream storage and management of non-CCR wastes must conform to RCRA's requirements, including any applicable requirements for hazardous waste treatment, storage, or disposal if the non-CCR waste is determined to be hazardous.

Second, EPA has failed to consider in the record of the Part A Proposal whether the method by which non-CCR wastestreams are managed might result in storage or disposal of hazardous waste that is separate from any NPDES-permitted discharges. For example, if non-CCR wastestreams are managed in a settling pond that does not also manage CCR, particulates may settle out in the pond that would then likely have to be regulated as hazardous waste

[526] Mark A. Hutson, P.G., Geo-Hydro, Inc., Part A Proposal Review Comments, Non-CCR (Low-Volume) Waste Stream Impacts (Jan. 23, 2020) ("Expert Report of Mark Hutson") (attached).
[527] *See* 42 U.S.C. § 6903(27) (RCRA definition of "solid waste" excludes "solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to [NPDES] permits").
[528] *See* 40 C.F.R. § 261.4(a)(2) cmt; EPA, Interpretation of Industrial Wastewater Discharge Exclusion from the Definition of Solid Waste, at 1-3 (1995), https://www3.epa.gov/npdes/pubs/owm607.pdf (attached); *see also United States v. Dean*, 969 F.2d 187, 194 (6th Cir. 1992) (RCRA liability for waste present in point source lagoon that had not discharged to navigable waters); *Little Hocking Water Ass'n v. E.I. du Pont Nemours & Co.*, 91 F. Supp. 3d 940, 959-62 (S.D. Ohio 2015) (RCRA liability for seepage from ponds that ultimately discharged to navigable waters).

(particularly when the pond is dredged or ultimately closed) even if the bulk of the wastestream is discharged pursuant to a NPDES permit. Or alternatively, if non-CCR wastestreams are managed in wastewater treatment systems prior to discharge that are not also managing CCR wastestreams, any solid waste byproducts of such wastewater treatment would need to be managed as hazardous waste.

Because EPA's Part A Proposal "entirely fail[s] to consider" this "important aspect of the problem" of management of non-CCR wastestreams, the Part A Proposal is arbitrary and capricious.[529]

C. EPA's Past Evaluation of Non-CCR Wastestreams Indicates Risks to Human Health and the Environment if Mismanaged.

For decades, EPA has broadly identified and discussed non-CCR wastestreams that were disposed in surface impoundments along with CCR wastes. Generally, EPA found that when non-CCR wastes are disposed in surface impoundments along with the higher volume CCRs, the higher volume waste diluted non-CCR wastestreams, including low-volume hazardous wastes. EPA identified some non-CCR or "low-volume" wastestreams generated in a typical coal-fired power plant in its 1988 Report to Congress on "Wastes from the Combustion of Coal by Electric Utility Power Plants"[530] and included the following general types of materials and representative volumes in the following table.

Table: EPA 1988 Identification of Non-CCR (Low Volume) Wastes[531]

Low-Volume Waste	Representative Annual Volume
Boiler Blowdown	11 million gallons/year
Coal Pile Runoff	20 inches/year
Cooling Tower Blowdown	2.6 billion gallons/year
Demineralizer Regenerants and Rinses	5 million gallons/year
Gas-Side Boiler Cleaning Wastes	700,000 gallons/year
Water-Side Boiler Cleaning Wastes	180,000 gallons/year
Pyrites	65,000 tons/year
Sump Effluents	Not Estimated

Despite the identification of these potentially hazardous wastestreams, EPA's actions with regard to non-CCR wastestreams have been plagued by a lack of specific knowledge and information about the types, volumes, and characteristics of low volume wastes associated with

[529] *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).
[530] EPA, Report to Congress - Wastes from the Combustion of Coal by Electric Utility Power Plants, EPA/530-SW-88-002, at 3-43, 3-44 (1988), https://www.epa.gov/sites/production/files/2015-08/documents/coal-rtc.pdf (attached).
[531] *Id.*

coal combustion facilities. EPA admitted in the 1988 Report to Congress, "[b]ecause the amount and type of low-volume wastes produced can vary substantially from one power plant to the next, *not much is known about low-volume wastes compared to high-volume wastes.*"[532]

It is clear, nevertheless, that EPA had early indications that some of these non-CCR wastestreams could pose risks to human health and the environment. Concerns about this potential were articulated in the 1988 Report to Congress in the discussion of potential hazardous characteristics. EPA noted the presence of "some aqueous coal combustion waste streams that are very near corrosive levels, particularly low volume wastes such as boiler blowdown or coal pile runoff. In some instances, boiler cleaning wastes may be corrosive, particularly those that are hydrochloric acid-based."[533] The 1988 report recommended further study of these non-CCR wastestreams:

> EPA is concerned that several other wastes from coal-fired utilities may exhibit the hazardous characteristics of corrosivity or EP toxicity and merit regulation under Subtitle C. EPA intends to consider whether these waste streams should be regulated under Subtitle C of RCRA based on further study and information obtained during the public comment period. The waste streams of most concern appear to be those produced during equipment maintenance and water purification, such as metal and boiler cleaning wastes. The information available to the Agency at this time does not allow EPA to determine the exact quantity of coal combustion wastes that may exhibit RCRA Subtitle C characteristics. However, sufficient information does exist to indicate that some equipment maintenance and water purification wastes do occasionally exhibit RCRA hazardous characteristics, and therefore, may pose a danger to human health and the environment."[534]

In 1999, EPA published a Report to Congress that again discussed non-CCR wastestreams associated with coal-fired power plants.[535] The 1999 report identified coal pile runoff, coal mill rejects (pyrite), water treatment wastes, and boiler chemical cleaning waste as showing potentially hazardous characteristics in the table below.[536]

[532] *Id.* at 7-4 (emphasis added).
[533] *Id.* at 7-6.
[534] *Id.* at 7-11.
[535] EPA, Report to Congress, Wastes from the Combustion of Fossil Fuels, Volume 2, EPA/530-S-99-010 (Mar. 1999) (attached).
[536] *Id.* at 3-16, Tbl. 3-7 (citing EPA and EPRI sources ranging from 1988 to 1997).

Table: EPA 1999 Summary of Known Low-Volume Waste Characteristics[537]

Low-Volume Waste	Exceedances of RCRA Characteristics
Coal pile runoff	Exceedances for cadmium, chromium, lead, selenium, and silver in one or more samples
Coal mill rejects	No exceedances; potentially reactive when significant levels of pyrites are present
Boiler blowdown	No exceedances
Cooling tower blowdown and sludge	No exceedances
Regeneration waste streams and other water treatment wastes	Exceedances for pH, chromium, and lead in one or more samples
Air heater and precipitator washwater	No exceedances
Boiler chemical cleaning waste	Exceedances for pH, chromium, and lead in one or more samples
Floor and yard drains and runoff	No exceedances

By the time of the 1999 report, increased availability of information about low-volume, non-CCR wastestreams at coal-fired electric generation plants had confirmed that some of the low-volume wastestreams displayed hazardous characteristics, but that "most comanaged waste units predominantly contain large-volume wastes and/or dilute low-volume waste waters, reducing the likelihood that the combined wastes will exhibit hazardous characteristics."[538] On industry's insistence,[539] EPA sanctioned the practice of depending on dilution of low-volume non-CCR wastes with high-volume CCR as a method of waste treatment and to justify treating the commingled waste as non-hazardous. This was ultimately the route taken by the 2015 CCR Rule, codified at section 261.4(b)(4)(ii).

Subsequent to the 1999 Report to Congress, the utility industry submitted additional information concerning non-CCR wastestreams to EPA in response to a survey entitled, "Questionnaire for the Steam Electric Power Generating Effluent Guidelines,"[540] distributed by EPA's Office of Water in 2010 under the authority of section 308 of the Clean Water Act.[541] Industry responses to the questionnaire indicated that a significant number of impoundments received non-CCR wastestreams that could, in fact, be considered hazardous wastes. For example, boiler blowdown and chemical cleaning wastes may include listed hazardous wastes such as chemical cleaning wastes (D002, D007) and cleaning liquids (D006, D007). According

[537] *Id.*
[538] *Id.* at 3-2.
[539] 80 Fed. Reg. at 21,460-61.
[540] EPA, Questionnaire for the Steam Electric Power Generating Effluent Guidelines, OMB Control No. 2040-0281 (May 20, 2010) (attached) ("Steam Electric Questionnaire"); *see generally* EPA, Steam Electric Power Generating Effluent Guidelines Questionnaire, https://www.epa.gov/eg/steam-electric-power-generating-effluent-guidelines-questionnaire (includes response database).
[541] 33 U.S.C. § 1318.

to industry responses to Part E of the above questionnaire, cleaning waste residues can be hazardous wastes as a result of low pH and high chromium, lead, and other heavy metals.[542] The data submitted by industry indicated that these two wastestreams were often disposed in surface impoundments (approximate count was 191 impoundments) at numerous power plants, as well as mixed with fly ash, bottom ash and acidic mill rejects.[543] For example, nearly 500 surface impoundments received chemical cleaning wastes as the final destination of these potentially hazardous wastes.[544]

The liquid component of non-CCR wastes is cause for concern not only because of the potentially hazardous nature of that liquid, but also due to its mere volume. If liquid or largely liquid non-CCR wastes are disposed of in significant volumes in CCR impoundments where they are commingled with CCR, those liquids will add to the hydraulic head of the impoundment, increasing leaching of CCR contaminants into groundwater.[545] But the liquid component of the non-CCR wastestreams is not the only cause for concern. Solids, particulates, and sediments carried into surface impoundments accumulate on the bottom of impoundments and other structures used to contain the non-CCR wastestreams. In addition, chemical reactions often occur in the receiving impoundment or structure that cause various compounds to precipitate from solution. These precipitates accumulate and commingle with other solids in the containment structure. These accumulated solid wastes remain within the containment structure and may exhibit hazardous characteristics or, at a minimum, represent a potential source of contaminants that may be leached from the waste and released to the environment if not properly handled and disposed.

Pyrites (mill rejects) are one example of solid non-CCR wastes. EPA's 2014 risk assessment assigned the highest risk of leaching for hazardous contaminants to disposal units that co-disposed CCR and coal refuse (like pyrite).[546] This is in part because the chemical characteristics of the pyrite (low pH) affects the behavior of hazardous chemical constituents in the CCR and causes greater levels of chemical leaching. According to the risk assessment, co-disposal of CCR with coal refuse in surface impoundments results in significantly higher risks from leaching of arsenic, cadmium, cobalt, and mercury.[547] EPA failed in the Part A Proposal to

[542] *See* Steam Electric Questionnaire, Part E, Wastes from Cleaning Metal Process Equipment, Questions E3-4, E3-5 (and associated responses).
[543] *Id.* at Questions E3-7, E3-8 (and associated responses).
[544] *Id.* at Question E3-3 (and associated responses).
[545] S*ee* 2018 Sahu Expert Report at 15.
[546] *See, e.g.*, EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals, Final, Docket ID No. EPA-HQ-RCRA-2009-0640-11993, at ES-7, 5-8 to 5-9, 6-9 to 6-10 (Dec. 2014) ("2014 Risk Assessment") (attached); EPA, Human and Ecological Risk Assessment of Coal Combustion Wastes, Draft, Docket ID No. EPA-HQ-RCRA-2009-0640-0002 (Apr. 2010) ("2010 Draft Risk Assessment") (attached). Coal refuse is defined as the waste coal produced from coal handling, crushing, and sizing operations, and tends to have a high sulfur content and low pH from high amounts of sulfide minerals (like pyrite). 2014 Risk Assessment at ES-1, 3-2, A-7; 2010 Draft Risk Assessment at 1-5 n.3.
[547] 2014 Risk Assessment at ES-7, 5-8 to 5-9 ("Codisposal of ash and coal refuse resulted in risks for select constituents higher than for combined ash and above human health and ecological criteria. Cancer risks above 1×10^{-5} were identified for arsenic III (1×10^{-3}) and arsenic V (4×10^{-4}) from ingestion of ground water. Noncancer risks above an HQ of 1 were identified for arsenic III (26), arsenic V (14), and cobalt

discuss risks from pyrite disposal and to examine the impact of the disposal of pyrites with other non-CCR wastestreams, despite the substantial risks identified in the risk assessment. EPA stated explicitly in the preamble to the Part A Proposal that it did not have time to conduct a risk assessment for this proposal.[548]

D. The Part A Proposal Introduces Significant New Risks to Health and the Environment that Are not Addressed in the Proposal.

When large flows of ash-transport waters are eliminated, as is currently happening at many power plant sites across the country, dilution of non-CCR wastestreams is reduced or lost, and hazardous contaminants and/or characteristics of the waste are again problematic. The Part A Proposal would allow utilities to continue disposing of non-CCR wastestreams in existing surface impoundments until October 2028 at some facilities. Final closure of the surface impoundments could then take up to 15 years to complete. Non-CCR wastestreams could be stored in unlined impoundments that are not capable of safely containing the non-CCR wastestreams until final closure in 2043. To address these changes, EPA must require that all remaining non-CCR wastestreams be fully characterized and potential risks from treatment and/or disposal be evaluated and addressed.

A recent example of environmental harm caused by lack of containment of contamination from non-CCR wastestreams in surface impoundments is provided by an expert's review of groundwater monitoring data from the North Evaporation Pond at the San Juan Generating Station (SJGS) located near Farmington, New Mexico.[549] The SJGS is described by the owners as a "zero discharge" facility. Fly ash and bottom ash from electric generation are dry handled and transported to the adjacent San Juan Mine for disposal during mine reclamation. Wastewater from SJGS sanitary facilities is one of several non-CCR wastestreams that have for many years been discharged into the soil-lined North Evaporation Pond where water was evaporated and solids accumulate on the pond bottom.

Routine groundwater monitoring conducted since 2002 detected nitrates in groundwater downgradient of the pond at concentrations above the state regulatory limit of 10 milligrams per liter.[550] Elevated concentrations of boron and selenium have also been detected in the monitoring wells and a variety of pharmaceutical compounds indicative of groundwater contamination by sanitary wastewaters from plant operations were detected. When considered in conjunction with elevated boron and selenium (common CCR-related contaminants), the suite of contaminants detected in the monitoring wells indicated impacts from a combination of both CCR and non-CCR sources. The pond has since been backfilled in place and covered with a soil cap. It remains to be seen whether the cap will prevent infiltration of water into, and leaching of contaminants from, the buried non-CCR waste solids. EPA must require that all non-CCR wastestreams be

(13) from ingestion of ground water; for mercury (5) from fish ingestion; and for cadmium (3) from ecological exposure to surface water."); *see also* 2010 Draft Risk Assessment at ES-5 to ES-10.
[548] 84 Fed. Reg. at 65,495.
[549] *See* Expert Report of Mark Hutson; *see also* PNM Resources, PNM San Juan Generating Station, Final Report on the Investigation of Elevated Nitrate Concentrations at Monitoring Well QNT (Nov. 30, 2017) (attached to the Expert Report of Mark Hutson).
[550] Expert Report of Mark Hutson (incl. attachments)).

fully characterized and potential risks from treatment and/or disposal be evaluated in order to prevent future releases from non-CCR waste disposal facilities.

Identification of appropriate methods for handling potentially hazardous non-CCR wastestreams is a critical issue as CCR surface impoundments are being closed and high volume CCR wastestreams are being eliminated at many locations across the country. EPA must assess the risk of disposing of these potentially hazardous non-CCR wastestreams in impoundments. In addition, EPA must apply RCRA hazardous waste regulations and mandate that disposal of non-CCR wastestreams, which are no longer covered by the exemption at 40 C.F.R. § 261.4(b)(4)(ii), comply with the hazardous waste storage, treatment and disposal requirements, as applicable. It is contrary to law and violates the protective standard of RCRA § 4004(a) to ignore this critical change in both the regulatory status and disposal method of non-CCR wastestreams. EPA's failure to address this issue is arbitrary and capricious and without rational basis. Furthermore, EPA's failure to require characterization and safe disposal of these wastestreams is a violation of RCRA and causes the proposal to fail to meet the protectiveness standard of RCRA § 4004(a).

XV. EPA'S FAILURE TO CONSIDER THE NONCOMPLIANCE OF CCR UNITS SUBJECT TO THE PROPOSED ALTERNATIVE CLOSURE EXTENSIONS AND TO PROHIBIT SUCH UNITS FROM OBTAINING EXTENSIONS IS ARBITRARY AND CAPRICIOUS, WITHOUT A RATIONAL BASIS, AND IN VIOLATION OF THE RCRA PROTECTIVENESS STANDARD.

In the Part A Proposal, EPA provides three mechanisms for extending the operating lives and closure dates of hundreds of unlined and leaking CCR surface impoundments. EPA improperly provides the alternative closure extensions without considering the risk to health and the environment posed by the facilities' ongoing failure to comply with critical safeguards of the 2015 CCR Rule. In the Part A Proposal, EPA freely admits that it did not perform a nationwide risk assessment of the continued operation of these units.[551] Further, EPA failed to evaluate the units' current compliance status and the degree to which existing noncompliance with the CCR Rule increases risks to health and the environment. To make matters worse, the Part A Proposal does not effectively require owners and operators receiving extensions to comply fully with the CCR Rule. Because EPA failed to assess the degree of noncompliance of existing units and to evaluate how the alternative closure extensions would increase adverse effects from operating impoundments and because this proposal allows noncomplying facilities to continue to operate and delay closure, the proposed rule is arbitrary and capricious, without a rational basis, and in violation of the RCRA protectiveness standard.

[551] 84 Fed. Reg. at 65,945.

A. EPA Is Aware of Significant Noncompliance with the CCR Rule's Groundwater Monitoring Requirements.

1. *Owners and operators are violating the groundwater monitoring requirements of the CCR Rule by the use of intra-well statistical analysis.*

The 2015 CCR Rule requires groundwater monitoring near CCR units and prescribes methods for collecting and analyzing groundwater quality data.[552] Among other things, the rule requires each owner or operator to sample groundwater from "background" wells that "represent the quality of background groundwater that has not been affected by leakage from a CCR unit"[553] and to compare groundwater from downgradient wells to these background wells.[554]

These analytical requirements are designed to detect spatial differences in contamination. Dozens of owners and operators, however, are violating these requirements by conducting "intra-well" analyses of groundwater data. An intra-well analysis compares each well to itself over time. This kind of analysis can only detect temporal trends – increasing or decreasing contamination – but cannot detect spatial patterns between and among wells. Intra-well analyses violate the CCR Rule for the simple reason that they do not compare downgradient groundwater to "background."[555] The only circumstance in which a downgradient well might possibly provide evidence of background groundwater quality is in the rare case of a new CCR unit, with downgradient wells installed prior to construction. At all existing CCR units, however, downgradient wells are not and cannot be background wells.

Intra-well analyses violate the plain language of the CCR Rule and undermine the purpose of the Rule.[556] By failing to perform interwell comparisons between downgradient wells and background wells, owners and operators may improperly avoid the requirement to perform assessment monitoring, despite the evidence of leakage from the CCR units into groundwater. As a result, many facilities employing intra-well analysis are not yet conducting assessment monitoring, which means, in turn, they have not produced results that require corrective action to begin. In the end, these violations lead to more environmental contamination and potential injury of human health and prevent the timely initiation of needed groundwater cleanup.

2. *EPA is aware of the widespread noncompliance involving intra-well statistical analysis.*

On multiple occasions over the past two years, the Environmental Integrity Project (EIP) and Earthjustice brought this issue to the attention of senior officials and staff at EPA's Office of Land and Emergency Management (OLEM). The groups raised the issue as early as June 15,

[552] 40 C.F.R. §§ 257.90-257.98.
[553] *Id.* § 257.91(a)(1).
[554] *Id.* §§ 257.94-257.95.
[555] *See id.* § 257.91(a).
[556] *See, e.g.*, 80 Fed. Reg. at 21,339 ("The objective of a groundwater monitoring system is to intercept groundwater to determine whether the groundwater has been contaminated by the CCR unit. Early contaminant detection is important to allow sufficient time for corrective measures to be developed and implemented before sensitive receptors are significantly affected.").

2018, at a meeting with Steven Cook, Deputy Assistant Administrator, and numerous public interest group representatives. As a follow up to that meeting, EIP and Earthjustice sent a letter on March 13, 2019, which provided detailed information regarding specific intra-well violations at numerous facilities, to Mr. Cook, as well as Barry Breen, Acting Assistant Administrator; Barnes Johnson, Director of the Office of Resource Conservation and Recovery; and Betsy Devlin, Director, Material Recovery and Waste Management Division.[557] The March 13, 2019 letter explained the issue in detail and listed, as examples, fifty-five CCR units where violations of the groundwater monitoring requirements were occurring. At a subsequent meeting with OLEM on June 5, 2019, EIP and Earthjustice raised the topic again of intra-well analyses and asked EPA to take enforcement action.[558] Lastly, on November 8, 2019, EIP and Earthjustice raised the identical issue at a meeting with the Office of Management and Budget. OLEM representatives were present at this meeting by phone.

3. *Additional evidence of noncompliance with the groundwater monitoring requirements involving intra-well analyses.*

EIP and Earthjustice made it clear to EPA that the fifty-five CCR units at thirty-six facilities listed in the March 13, 2019 letter did not represent the entire universe of facilities currently failing to comply with the groundwater monitoring requirements. The true number is in fact growing, as some owners and operators have chosen to switch from interwell statistics to intra-well statistics. For example, our comments on EPA's "Phase 2" proposal described another facility – the Lower Colorado River Association's Fayette Power Project – where the owner initially found multiple Statistically Significant Increases (SSIs) using interwell statistics, but then switched to intra-well statistics, causing the SSIs to vanish.[559] This example, although it is a landfill and not a surface impoundment, clearly demonstrates how intra-well statistics are being used to hide evidence of contamination and avoid assessment monitoring. An appendix to this section of these comments describes five additional facilities that are failing to comply with the CCR Rule by employing intra-well analyses at surface impoundments (and provides additional detail on four facilities that we have already identified).[560] To date, it appears that EPA has not taken action to bring any facilities into compliance with the groundwater monitoring requirements of the Rule.

4. *Effect of significant noncompliance with the groundwater monitoring requirements.*

The appendix to this section describes nine facilities, each with at least one surface impoundment, using intra-well statistics to avoid assessment monitoring. The surface impoundments at six of these facilities are either unlined or clay-lined, and two of the facilities

[557] Letter from EIP and Earthjustice to EPA, "Inappropriate use of intra-well statistical analysis in groundwater monitoring pursuant to the CCR rule" (Mar. 13, 2019) (attached).
[558] Present at this meeting were EPA officials, Steven Cook, Barry Breen, Betsy Devlin, Barnes Johnson, Peter Wright, Nick Hilosky as well as representatives from Earthjustice, EIP, Sierra Club, Southern Environmental Law Center, and Natural Resources Defense Council.
[559] Earthjustice *et al.*, Comments on Docket ID No. EPA-HQ-OLEM-2018-0524, at 138-40 (Oct. 15, 2019) (attached).
[560] Appendix to Section XV of Comments of Earthjustice et al., "Noncompliance with the CCR Rule Related to the Use of Intra-well Statistical Analyses" (Jan. 2020) (attached).

fail the aquifer restriction. Monitoring data from surface impoundments at all nine sites clearly show that the impoundments would be in assessment monitoring if the owners were using proper interwell statistics. The fact that the impoundments remain in detection monitoring represents two separate violations of the CCR Rule for each site – the failure to properly analyze monitoring data and the failure to initiate assessment monitoring where the monitoring data clearly indicate that an impoundment is leaking.

The failure of owners and operators to characterize and quantify the extent of contamination leaking from these often unlined and dangerously-sited impoundments creates a high potential for adverse effects to groundwater quality and to downgradient users. EPA, however, has not only ignored the problem, but by this proposal, would extend the operating lives of these impoundments through alternative closure extensions. EPA thus would allow significant volumes of toxic waste to be added to these units, even though they are not in compliance with the groundwater monitoring requirements and leaking. Furthermore, as long as the impoundments continue to operate and continue to violate the CCR Rule by conducting intra-well analysis, there is little likelihood that the damage to groundwater will be either quantified or remediated.

This is impermissible, among other reasons, because EPA has previously concluded that groundwater monitoring and corrective action are among the most important requirements of the CCR Rule. EPA stated in its preamble to the 2015 Rule:

> [Groundwater monitoring and corrective action] requirements reflect Congressional intent that protection of groundwater be a prime objective of any new solid waste regulations. As stated in the proposal, EPA's damage cases and risk assessments indicate there is significant potential for CCR landfills and CCR surface impoundments to leach hazardous constituents into groundwater, impair drinking water supplies and cause adverse impacts on human health and the environment. Indeed, groundwater contamination is one of the key environmental and human health risks EPA has identified with CCR landfills and CCR surface impoundments.[561]

EPA was very explicit about the essential role that the groundwater monitoring requirements in the CCR Rule play in the protection of groundwater, the environment and human health. EPA stated:

> Groundwater monitoring is a key mechanism for facilities to verify that the existing containment structures, such as liners and leachate collection and removal systems, are functioning as intended. Thus, in order for a CCR landfill or CCR surface impoundment to show no reasonable probability of adverse effects on health or the environment, a system of routine groundwater monitoring to detect

[561] 80 Fed. Reg. at 21,396.

> any contamination from a CCR unit, and corrective action requirements to address identified contamination, are essential.[562]

Despite the blatant failure of owners and operators to implement the "system of routine groundwater monitoring" required by the CCR Rule and EPA's notice of such noncompliance, the Part A Proposal fails to address the problem and instead greatly exacerbates it. The Part A Proposal does not explicitly require all facilities to come into compliance with the groundwater monitoring requirements prior to receiving alternative closure extensions. When groundwater contamination is undetected by a monitoring system, the contamination will continue unabated, and no corrective action will be triggered. EPA made no attempt whatsoever to assess the compliance status of currently operating surface impoundments, despite the risk posed by failure to comply with the requirements of the CCR Rule and despite being given evidence that dozens of facilities were violating the rule. Consequently, EPA's proposal is arbitrary and capricious and without rational basis. Furthermore, since the continued, inadequately-monitored leaking of coal ash contaminants into underlying groundwater is a certain consequence of EPA's proposal, the proposal fails to meet the protectiveness standard of section 4004(a) of RCRA, because there is a reasonable probability of adverse effects on health or the environment from these impoundments.

5. *Noncompliance and potential noncompliance with additional groundwater monitoring and other requirements increases risk of adverse impacts under the Part A Proposal.*

EPA's failure to properly consider the compliance status of surface impoundments – despite the risks posed by noncompliance with the requirements of the CCR Rule – raises significant concerns for this rulemaking beyond improper intra-well analyses and associated effects. Numerous examples of noncompliance and potential noncompliance with other CCR Rule requirements highlight the need for EPA to assess the degree of noncompliance of existing units and consider the extent to which the Part A Proposal's alternative closure extensions increases adverse effects from surface impoundments. Because EPA has failed to do so, and the noncompliance described below creates a reasonable probability of adverse effects on health and the environment, the proposed rule is arbitrary and capricious and fails to meet the protectiveness standard of RCRA § 4004(a).

In addition to showing widespread leakage of harmful levels of pollution from virtually all coal ash impoundments in the United States, commenters noted widespread non-compliance in the EIP 2019 Report:

> Many of the regulated coal plants in the U.S. have failed to follow the core requirements of the Coal Ash Rule, a fact that has been exhaustively tracked by Earthjustice. . . . For example, ten coal plants are claiming that they are eligible for the deadline extensions applicable to "early closure" ponds . . . , even though they failed to properly post the prerequisite notice of intent to close by the regulatory deadline. Four plants have not posted the

[562] *Id.*

> requisite closure plans. Eight[y]-five units have failed to demonstrate whether they comply with the "aquifer restriction" in 40 C.F.R. § 257.60.[563]

The report was shared with EPA soon after its March 2019 release, discussed in detail with EPA at a meeting on June 5, 2019, and submitted to EPA's Phase 2 Proposal rulemaking docket on October 15, 2019.[564] Thus EPA should have been aware of noncompliance with groundwater monitoring and other requirements generally.

The tracking efforts described in the report involved reviewing industry disclosures posted on individual owner/operator websites. These publicly-available owner/operator websites, entitled "CCR Rule Compliance Data and Information," were mandated by the 2015 CCR Rule so that the public, as well as state and federal regulators, could determine an owner/operator's compliance with the requirements of the 2015 CCR Rule. EPA appears to have undertaken a similar review of industry websites and units that may be subject to the Part A Proposal.[565] In fact, EPA addressed industry compliance generally in May 2019.[566] EPA, however, failed to take the necessary and important step of noting and analyzing industry noncompliance and taking it into consideration in the proposed rulemaking.

a. Owners and operators are violating the groundwater monitoring requirements of the CCR Rule beyond the use of intra-well statistical analysis.

A review of groundwater monitoring reports reveals clear noncompliance and potential noncompliance beyond the use of intra-well statistical analysis and raises additional concerns about compliance and risks at numerous units. As described above, EPA was very explicit about the essential role groundwater monitoring requirements in the 2015 CCR Rule play in the protection of groundwater, the environment, and human health.[567] EPA should have considered

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[563] EIP 2019 Report at 42.

[564] Comments of Earthjustice *et al.*, Attachment No. 66 (EIP 2019 Report), Docket ID No. EPA-HQ-OLEM-2018-0524-0329 (submitted Oct. 15, 2019).

[565] *See* Proposed RIA, Exhibits 2-1-A, B, and C ("This data is the result of a collection effort gathering information from publicly available documents posted on the relevant plants' CCR compliance websites, completed July 12th, 2019"); EPA, Memo re: Request for Underlying Data for Exhibits 2-1-A, B, and C of the Regulatory Impact Analysis of the *A Holistic Approach to Closure Part A: Deadline to Initiate Closure*, Docket ID No. EPA-HQ-OLEM-2019-0172-0044 (Jan. 22, 2020);

[566] EPA, Compliance Assistance Letter to Owners and Operators of Regulated Disposal Units Containing Coal Combustion Residuals (CCR), https://www.epa.gov/coalash/compliance-assistance-letter-owners-and-operators-regulated-disposal-units-containing-coal ("In May 2019, EPA initiated a compliance assistance effort to improve facilities' understanding of the regulations and ensure that the substantive requirements are being implemented. EPA examined the public websites of coal ash disposal facilities."); Letter from Barnes Johnson, Director, Office of Resource Conservation and Recovery, EPA, re: Publicly Accessible Internet Site Requirements for Coal Combustion Residual Facilities (May 7, 2019) (attached) ("Specifically, by this letter, we are notifying the owners and operators of units covered by the CCR rule that the Agency is examining the facilities' CCR websites to confirm that the CCR Rule's required elements are being implemented.").

[567] *See, e.g.*, 80 Fed. Reg. at 21,396.

and addressed the groundwater monitoring compliance status[568] at many facilities, such as the following:

- Duck Creek Power Station (Canton, IL) – *Ash Ponds No. 1 & 2*: In violation of 40 C.F.R. § 257.90, no groundwater monitoring reports or other recent documents indicate that groundwater monitoring is occurring.[569]

- White Bluff (Redfield, AR) – *Recycle Ponds A & B*: Entergy has only collected two of the eight initial independent samples of groundwater necessary to initiate a detection monitoring program and anticipates that it will complete the initial sampling in the second quarter of 2020. This represents substantial noncompliance, because 40 C.F.R. § 257.94(b) required that eight samples from each well be collected and analyzed no later than October 17, 2017.[570]

- Independence Plant (Newark, AR) – *Recycle Ponds A & B*: Entergy has only collected two of the eight initial independent samples of groundwater necessary to initiate a detection monitoring program and anticipates that it will complete the initial sampling in the second quarter of 2020. Again, 40 C.F.R. § 257.94(b) required that eight samples from each well be collected and analyzed no later than October 17, 2017.[571]

- Big Bend Power Station (Apollo Beach, FL) – *West Slag Disposal Pond*: In violation of 40 C.F.R. § 257.90, the owner/operator has failed to post any groundwater monitoring reports or other recent documents to provide clear information about the unit's compliance status.[572]

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[568] *See* 40 C.F.R. §§ 257.90-257.98.
[569] *See* Luminant, CCR Rule Compliance Data and Information, Illinois, Duck Creek, https://www.luminant.com/ccr/.
[570] Entergy White Bluff Plant, Recycle Pond A and Recycle Pond B, EPA CCR Rule Groundwater Monitoring Program (Jan. 31, 2019), https://www.entergy-arkansas.com/userfiles/content/ccr/wb/docs/WB_RP_Groundwater_Monitoring_Program_White_Bluff.pdf.
[571] Entergy Independence Plant, Recycle Pond A and Recycle Pond B, EPA CCR Rule Groundwater Monitoring Program (Jan. 31, 2019), https://cdn.entergy-arkansas.com/userfiles/content/ccr/indy/docs/2019_ISES_RP_Groundwater_Monitoring_Program_Independence.pdf?_ga=2.64132591.1399822479.1579638896-421809795.1579638896.
[572] Tampa Electric Company (TEC), Closure Plan, Economizer Ash and Pyrite Ponds and West Slag Disposal Pond (Oct. 2016), https://www.tampaelectric.com/files/environment/bbs-preliminary-closure-plan-101916.pdf ("Upon the enactment of the CCR rule, TEC has determined that it will close this inactive impoundment as a complete removal of the CCRs had not been done when the pond was closed to additional CCR storage."). "Post closure care will commence immediately upon construction completion and groundwater monitoring will commence on April 1, 2019." Tampa Electric Company, Coalfield Stormwater Runoff (Slag Settling) Pond, Closure Plan (Oct. 2018), https://www.tampaelectric.com/files/environment/teco-big-bend-slag-pond-closure-plan.pdf. No recent documents or notices indicate "construction completion" or that groundwater monitoring is occurring.

- Comanche Generating System (Pueblo, CO) – *Bottom Ash Pond*: The owner/operator has not posted groundwater monitoring data. A memorandum posted by the facility alleges that the site does not qualify as a site that requires groundwater monitoring, but the unit's status is unclear.[573]

- Oklaunion Power Station (Oklaunion, TX) – *Ponds 6, 21, 22, and 23, and Wastewater and Sludge Pond CCR Management Units*: Twenty-two groundwater monitoring wells were installed in 2016, but the Public Service Company of Oklahoma certified that they are not usable.[574] The owner/operator has posted no groundwater monitoring data.

By failing to consider noncompliance and potential noncompliance at surface impoundments that do not appear to have completed detection monitoring like the ones listed above, EPA has not only ignored the problem, but by this proposal, may be extending the operating lives of these impoundments through alternative closure extensions. EPA would thus potentially allow significant volumes of toxic waste to be added to active units, even though they may not be in compliance with the groundwater monitoring requirements and could be leaking.

b. Owners and operators may be violating the annual inspection requirements.

Section 257.83 outlines the inspection requirements for CCR surface impoundments that (1) have a height of five feet or more and a storage volume of twenty acre-feet or more, or (2) have a height of twenty feet or more:[575] On an annual basis, a "qualified professional engineer must prepare a report following each inspection that addresses" "the approximate volume of the impounded water and CCR at the time of the inspection," among many other requirements.[576] An early 2019 review of annual inspection reports for approximate volumes revealed that the information was unavailable for over fifty units at over thirty facilities.[577]

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[573] The facility owner, Xcel Energy, claims, "[t]he perched groundwater in the colluvium at Comanche does not qualify as an aquifer because its yield is too low, TDS concentrations are too high, perched groundwater is not laterally continuous, and it is not a current water supply source. Therefore the site does not appear to qualify as a site that requires groundwater monitoring under the CCR Rule." Comanche Station No Aquifer Determination Memorandum, at 13 (Jan. 13, 2018), https://www.xcelenergy.com/staticfiles/xe-responsive/Environment/Coal%20Ash%20Management/Comanche%20Station%20No%20Aquifer%20Determination.pdf.

[574] "While Oklaunion Plant has five coal ash storage sites covered by this rule, there are no 2018 or 2019 reports as the groundwater at the plant does not qualify as an aquifer." American Electric Power, Environment, CCR Rule Compliance, Oklaunion Plant, Groundwater Monitoring Report & Statistical Analysis (Sept. 2019), https://www.aep.com/environment/ccr/Oklaunion.

[575] 40 C.F.R. §§ 257.73(b)(1)-(2), (d), 257.83(b)(1).

[576] *Id.* § 257.83(b)(2), (b)(2)(v).

[577] *See* "CCR Rule Compliance Data and Information" websites for Belle River Power Plant, Clover Power Station, Coleto Creek Power Station, Colstrip Steam Electric Station, Conemaugh Generating Station, Elmer Smith Station, Gavin Power Plant, Ghent Generating Station, Healy Power Plant, JB Sims

For a few sites, owners/operators posted notice that some surface impoundments were not subject to the annual inspection requirements. For example, for Sutherland Generating Station (SGS) – a facility with four inactive surface impoundments – a compliance document states that "[t]he Main Pond is the only ash pond at SGS that is subject to the annual inspection requirements."[578] At most sites, however, owners/operators did not post an inspection report or any statement or notice explaining why. For example, it appears there is no inspection report or note about inspections on the Elmer Smith Station website.[579]

Annual inspection reports are a critical mechanism for ensuring the safe operation and maintenance of coal ash impoundments. They are particularly critical to prevent maintenance problems that can lead to dam failure and spills. The posting of inspection reports is a critical step that allows the public and state and federal regulators to ascertain compliance. EPA should be addressing the high number of annual inspection reports that were absent or missing critical information to ensure sure that surface impoundments over the size threshold are not escaping critical inspections and increasing risks. Since the volume of CCR at any particular surface impoundment is relevant to the risk posed by the impoundment as well as the time and difficulty of closure, the failure of owner/operators to report the current volume of CCR contained in surface impoundment is a serious violation.

c. Owners and operators may be violating the location restriction requirements.

In addition to widespread failures to post the required location restriction demonstrations discussed in Section VII – Location Restrictions,[580] a review of demonstrations of compliance also raise uncertainty about the status and risk of numerous units. To take a few examples among many, EPA should have considered and addressed potential noncompliance at the following units:

- Trimble County Generating Station (Bedford, KY) – *Gypsum Storage Pond*: Although the unit "is not located a minimum of 5 feet above the upper limit of the uppermost aquifer," a short demonstration asserts the unit is a "CCR compliant lined structure" because there is allegedly no intermittent, recurring or sustained

Power Generation Plant, Jim Bridger Power Plant, JR Whiting Power Plant, Keystone Generating Station, Killen Station, Lewis & Clark Station, Marion Power Plant, Mill Creek Generating Station, Monroe Power Plant, Montrose Generating Station, Naughton Power Plant, New Castle Generating Station, New Madrid Power Plant, Rawhide Energy Station, River Rouge Power Plant, San Miguel Plant, Sibley Generating Station, St. Clair Power Plant, Sutherland Generating Station, W.A. Parish Electric Generating Station, Wateree Generating Station, Weston Power Plant Disposal Site, and Williams Generating Station.

[578] Sutherland Generating Station, Annual CCR Surface Impoundment Inspection, Main Pond (June 21, 2019), https://ccr.alliantenergy.com/Sutherland/SurfaceImpoundment/OperatingCriteria.

[579] Owensboro Municipal Utilities, Coal Combustion Residuals (CCR) Rule Compliance Data and Information (last visited Jan. 2020), https://omu.org/coal-combustion-residuals-ccr-rule-compliance-data-and-information/.

[580] *See also* Appendix to Section VII of Comments of Earthjustice et al., "Surface Impoundments in Non-Compliance with Location Standards" (Jan. 2020) (attached).

hydraulic connection between the unit and aquifer per 40 C.F.R. § 257.60(a).[581] The demonstration makes no mention of the seasonal high water table.

- Oak Grove Steam Electric Station (Franklin, TX) – *FGD-B Pond*: Similarly, the unit is not located at a minimum of 5 feet above the "uppermost ground-water bearing unit," but the owner/operator asserts compliance because there is allegedly no intermittent, recurring or sustained hydraulic connection between the unit and aquifer per 40 C.F.R. § 257.60(a).[582]

- Dolet Hills Power Station (Mansfield, LA) – *Ash Ponds 1 & 2*: The demonstrations for the units allege compliance with 40 C.F.R. § 257.60(a) because "the uppermost water bearing zone is not an uppermost aquifer as it does not yield usable water," in part.[583]

- Oklaunion Power Station (Oklaunion, TX) – *Ponds 6, 21, 22, and 23, and Wastewater and Sludge Pond CCR Management Units*: It was determined the uppermost water-bearing unit does not meet the definition of an aquifer.[584]

- DE Karn Power Plant (Essexville, MI) – *Bottom Ash Pond*: Wetland determination warrants review. The unit may be located in a wetland based on maps, but a visual inspection allegedly confirmed that it was not.[585] The visual

[581] Trimble County Generating Station, Location Restrictions Demonstration for Surface Impoundment (rev. Oct. 17, 2018), https://lge-ku.com/sites/default/files/ccr/W_TC_GSP_LOC_ALL_111218_0.pdf.
[582] Luminant Generation Co. LLC, CCR Rule Location Restriction Demonstration, Oak Grove Steam Electric Station, FGD Ponds (Oct. 10, 2018), https://www.luminant.com/ccr/?wpdf_download_file=L25hcy9jb250ZW50L2xpdmUvbHVtaW5hbnQzL2RvY3VtZW50cy9jY3IvVGV4YXMvT2FrLUdyb3ZlLzIwMTgvMjAxOC1PYWsgR3JvdmUtU1dSIDMyMDQzLUxvY2F0aW9uIFJlc3RyaWN0aW9ucyBEZW1vbnN0cmF0aW9uLUZHRCBQb25kcy5wZGY%3D.
[583] Cleco Power LLC Dolet Hills Power Station, Ash Basin No. 1, Placement Above Uppermost Aquifer (Oct. 2018), https://www.cleco.com/documents/10180/29447752/CCR+DHPS+Ash+Basin+1+Uppermost+Aquifer/bdfc03c0-4ca5-40b1-b124-3e69f33d9289; Cleco Power LLC Dolet Hills Power Station, Ash Basin No. 2, Placement Above Uppermost Aquifer (Oct. 2018), https://www.cleco.com/documents/10180/29447752/CCR+DHPS+Ash+Basin+2+Uppermost+Aquifer/ad68c8e4-adbf-4a71-8cc4-057c1143e8be.
[584] *See, e.g.*, Report 2 – Evaluation of Location Restrictions American Electric Power Oklaunion Power Station Pond 6 (Nov. 2016), https://www.aep.com/Assets/docs/requiredpostings/ccr/2018/11-14-2018/OK-P6-LocationRestrictionsRpt-101618.pdf.
[585] D.E. Karn Generating Facility Bottom Ash Pond - Location Restriction Certification Report (Oct. 2018), https://www.consumersenergy.com/-/media/CE/Documents/sustainability/coal-combustion-residuals/dek/bottom-ash-pond/DE-Karn-BA-Pond-Location-Restrictions_10_17_2018.ashx?la=en&hash=E76AE1E1A65C510C845C246B1E6EFEBE ("According to the NWI and MDEQ maps, a portion of the Bottom Ash Pond is either mapped as a wetland and/or mapped with areas that include wetland soils.")

evaluation was documented in a Technical Memorandum[586] that is not available on the owner/operator's compliance website.

- Plant Hammond (Rome, GA) – *Ash Ponds 1, 2, & 3*: The stability determination finds that the unit is in compliance with 40 C.F.R. § 257.64, but also mentions that the unit is underlain by limestone that is "potentially affected by dissolution of the carbonate rock units" and that "[h]istorical boring logs indicate the presence of discontinuous solution features."[587]

Some of the significant effects associated with location restriction noncompliance are described in Section VII – Location Restrictions. To reiterate, allowing CCR surface impoundments to continue to operate within five feet of the uppermost aquifer, within wetlands and atop unstable areas substantially increases the risk of adverse effects to health and the environment.

d. Owners and operators may have certified surface impoundments as lined that could potentially qualify as unlined.

Section 257.71 of the 2015 CCR Rule required owners/operators to provide liner design criteria for existing CCR surface impoundments. The D.C. Circuit vacated and remanded the section's provision that classified "clay-lined" impoundments as lined,[588] finding that the "Rule's treatment of clay-lined impoundments does not capture the full range of health and environmental harms they pose, as RCRA requires."[589] The Part A Proposal states that "[b]ased on the data on the CCR publicly accessible websites there are 28 active surface impoundments that certified as 'clay-lined.'"[590] EPA failed to provide information about the 28 units in the proposed rulemaking record, and it is unclear whether or not EPA carefully assessed any certifications for compliance.[591] Given the clear risks associated with unlined and clay-lined surface impoundments, EPA should have carefully reviewed liner certifications to confirm compliance with the 2015 CCR Rule requirements. For example, the liner designations at the following units are among dozens that would benefit from EPA review in this rulemaking:

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[586] *Id.* at 3 (citing RCRA Location Restriction Assessment, D.E. Karn CCR Surface Impoundment, Wetland Assessment Technical Memorandum (Golder 2018)).
[587] Location Restriction Demonstration, Unstable Areas, Plant Hammond Ash Pond (Oct. 17, 2018), https://www.georgiapower.com/content/dam/georgia-power/pdfs/company-pdfs/plant-hammond/20181017_unstable-areas_ham_ap1_final.pdf.
[588] 40 C.F.R. § 257.71(a)(1)(i).
[589] *USWAG*, 901 F.3d at 430-32, 449.
[590] 84 Fed. Reg. at 65,944.
[591] Commenters reviewed liner certifications and were not able to identify all 28 clay-lined surface impoundments referenced by EPA. *See, e.g.*, Liner Certifications submitted by Earthjustice *et al.*, Docket ID No. EPA-HQ-OLEM-2017-0286-1820 (Apr. 30, 2018). For example, the January 2020 Memorandum appears to list one "Clay Lined" impoundment in Michigan and one in West Virginia, but Commenters were unable to identify the units, potential noncompliance, and risks associated with the units. January 2020 Memorandum at pdf pp. 6 & 11.

- Naughton Power Plant (Kemmerer, WY) – *FGD Ponds 1 & 2*: A letter for each unit stated that "[g]iven the current status of the Pond (i.e. inactive and partially closed), it has a very low probability of impacting groundwater in the future," and alleges that the requirements of § 257.71(a), (b) are no longer applicable.[592]

- Big Cajun II Power Plant (New Roads, LA) – *Bottom Ash & Fly Ash Ponds*: Although the liner certification noted the "units are considered to be lined in accordance with 40 C.F.R. § 257.71(a)(1)(i),"[593] or clay-lined, it also ambiguously stated the units met "the protectiveness *intent* of the CCR Rule Liner Certification requirements."[594]

- Colstrip Steam Electric Station (Colstrip, MT) – *3&4 EHP, J-1 Cell*: The J-1 Cell sits above the original unlined J cell. An undated, two-sentence certification per 40 C.F.R. § 257.72(c) alleges that an alternative composite liner fulfills the Rule's requirements.[595]

- Trimble County Generating Station (Bedford, KY) – *Gypsum Storage Pond*: The liner certification is a two-page document based on a "desk-top evaluation of existing and available design and construction documentation" and outlines substantial limitations. The owner/operator attempts to demonstrate that the "geosynthetic clay liner" clearly complies with the requirements of the Rule.[596]

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[592] Letter re: Naughton Power Plant, Flue Gas Desulfurization #1 Pond, Documentation of Liner Type Compliance (Apr. 6, 2018), https://www.brkenergy.com/ccr/assets/pdf/ppw/Nau/Nau_FGD_Pond_1/Design_criteria/Document_liner_type/P1LinerType.pdf; Letter re: Naughton Power Plant, Flue Gas Desulfurization #2 Pond, Documentation of Liner Type Compliance (Apr. 6, 2018), https://www.brkenergy.com/ccr/assets/pdf/ppw/Nau/Nau_FGD_Pond_2/Design_Criteria/Document_liner_type/LinerTypeP2.pdf.

[593] NRG, Big Cajun II, Liner Certification – Fly Ash and Bottom Ash Basins (Oct. 2016), https://www.cleco.com/documents/10180/31459299/CCR+BCII+Bottom-Fly+Ash+Liner/4386d746-6e5e-415a-aab6-aec4e52c6194.

[594] *Id.* (emphasis added).

[595] Liner Design Certification Statement, Colstrip Steam Electric Station, J-1 Cells (undated), https://2b8c7m21kpn72va5h73tnwgz-wpengine.netdna-ssl.com/wp-content/uploads/j-1-cell-liner-design-certification-statement.pdf; Liner Construction Documentation Report, Colstrip Steam Electric Station (Oct. 2016), https://s3.amazonaws.com/tln-environmental/Colstrip+3%264+EHP+J/Colstrip+CCR+Liner+Construction+Documentation+Report+October+2016+3+4+EHP+J.pdf.

[596] Existing Liner Design Criteria, Louisville Gas & Electric Co., Trimble County, Gypsum Storage Pond (Oct. 12, 2016), https://lge-ku.com/sites/default/files/ccr/W_TC_GSP_CDS_LINER_101216.pdf; CCR Rule History of Construction, Louisville Gas and Electric Company Trimble County Gypsum Storage Pond (Oct. 2016), https://lge-ku.com/sites/default/files/ccr/W_TC_GSP_CDS_HISTDC_101716.pdf ("Results indicated that the required 2-foot thickness of 10-7 cm/sec permeability clay could not be demonstrated at all sample locations. A geosynthetic clay liner (GCL) was installed between October and November 2010 under the originally planned flexible membrane liner.").

Overall, EPA failed to provide any analysis of certifications to confirm that units certified as clay-lined were in fact clay-lined as defined by the 2015 CCR Rule requirements before *USWAG*, and that units that are still certified as lined are also in compliance with the Rule. The significant effects associated with unlined units are described in Section IV – Inconsistent with USWAG and should have led EPA to better assess and consider potential noncompliance.

B. The Short-Term Alternative to Initiation of Closure Does Not Require EPA to Confirm Compliance with Groundwater Monitoring and Other Requirements.

In the proposed rule, section 257.101(e)(1) provides a short-term alternative to the initiation of closure and permits a CCR surface impoundment to continue to receive CCR and/or non-CCR wastestreams until November 30, 2020, if the owner or operator certifies that the wastes must continue to be managed in the impoundment to allow the facility to complete the measures necessary to provide alternative disposal capacity.[597] To be eligible for this extension, the proposed rule requires, among other mandates, that the owner or operator "remain in compliance" with all other requirements of this subpart.[598]

This extension is described by EPA as "self-implementing," and EPA will not review or approve these extensions.[599] Consequently, EPA will not evaluate groundwater monitoring analyses to ensure that facilities are in compliance. As a result, the existing violations of the groundwater monitoring requirements will likely continue, with the accompanied high risk of adverse effects to health and the environment, in violation of the RCRA protectiveness standard.

Furthermore, the proposed rule requires owners and operators to "remain in compliance with all other requirements of this subpart."[600] EPA, however, must require that all owners and operators actually be in compliance prior to obtaining any closure extension. It is impossible for unit owners performing intra-well analysis in violation of the rule to "remain in compliance" when they are currently out of compliance. EPA must specifically and explicitly require owners and operators to certify that all units are in compliance with groundwater monitoring requirements, including 40 C.F.R. §§ 257.91-95, and including the requirement to monitor and analyze wells on an interwell basis. Failure to do so, in light of the above-described noncompliance and known adverse effects that result from such noncompliance is arbitrary and capricious and without rational basis. Failure to require such a specific certification would also violate the RCRA protectiveness standard.

[597] 84 Fed. Reg. at 65,962 (proposed 40 C.F.R. § 257.101(e)(1)).
[598] *Id.*
[599] 84 Fed. Reg. at 65,953-54.
[600] Proposed 40 C.F.R. § 257.101(e)(1)(iii).

C. EPA's Proposed Long-Term Alternative Closure Extensions Fail to Address the Known Noncompliance with Groundwater Monitoring and Other Requirements and Therefore Are Arbitrary and Capricious, Without a Rational Basis, and Fail to Meet the RCRA Protectiveness Standard.

1. *EPA's proposed alternative closure extensions for units that demonstrate infeasibility are unlawful.*

In EPA's "Site Specific Alternate to Initiation of Closure Deadline" for infeasibility in proposed section 257.101(f)(1), EPA would allow a CCR surface impoundment to continue to receive CCR and/or non-CCR wastestreams until October 15, 2023, if the owner or operator submits certain demonstrations. EPA is proposing to require that the demonstration for each unit include a general certification from the owner or operator that the facility is in compliance with all of the requirements of this Subpart.[601]

EPA, however, does not require owners or operators to specifically demonstrate compliance with the groundwater monitoring requirements of the CCR Rule, despite the fact that EPA is aware of significant noncompliance. To make matters worse, while the EPA proposal requires semi-annual progress reports, such reports are also not required to contain any certifications regarding compliance with the groundwater monitoring requirements.[602]

Furthermore, the risk of harm to health and the environment is substantially greater under this proposed alternative closure extension due to the much longer period that surface impoundments will be permitted to operate. The proposed five-year extension of impoundments' operating lives to October 15, 2023, could result in the disposal of millions of tons of additional CCR and non-CCR waste in individual impoundments and a corresponding increase in the discharge of CCR contaminants to groundwater. This extension should not be provided to owners and operators who are violating the groundwater monitoring requirements.

Lastly, EPA's failure to address facility noncompliance with the groundwater monitoring requirements and perform its own due diligence to ensure violators are identified is not cured by the proposed opportunity for public comment on EPA's draft approval of extensions. According to the proposal, EPA will publish a proposed decision on its website for a 15-day comment period.[603] If the demonstration is particularly complex, EPA will provide a comment period of 20 to 30 days.[604] Even if it was appropriate to rely on the public to identify the noncompliance at every CCR surface impoundment that submitted a demonstration, which it is not, the length of the comment period is too brief by an order of magnitude to provide meaningful public comment.

Consequently, the proposal for site-specific alternative closure extensions is arbitrary and capricious, without a rational basis and violates the protectiveness standard of RCRA § 4004(a).

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[601] *Id.* § 257.101(f)(1)(i)(A)-(C).
[602] 40 C.F.R. § 257.101(f)(1)(ix).
[603] 40 C.F.R. § 257.101(f)(3)(iii).
[604] *Id.*

2. *EPA's proposed alternative closure extensions for CCR surface impoundments at facilities where there is permanent cessation of a coal-fired boiler by a date certain is unlawful.*

EPA is also proposing an alternative closure extension that would allow a CCR surface impoundment to continue to receive CCR and non-CCR wastestreams if the owner or operator certifies that the facility will cease operation of the coal-fired boilers and complete closure of the impoundment within specified timeframes and, in the interim period (prior to closure), the facility must continue to use the CCR unit due to the absence of alternative disposal capacity both on-site and off-site.[605] In the case of large CCR surface impoundments (over forty acres), the impoundments could remain open until October 17, 2028.

Similar to the proposed alternative closure extension for infeasibility, EPA is requiring the owner or operator to submit certain demonstrations, which include (A) Documentation that no alternative disposal capacity is available on-site or off-site; (B) A plan to mitigate potential risks to human health and the environment from the CCR surface impoundment; (C) Certification that the owner or operator "remains in compliance with all other requirements of this subpart," including the requirement to conduct any necessary corrective action; and (D) Documentation that the coal-fired boilers and closure of the impoundment will be completed within the established timeframes.[606]

This section suffers from the same deficiencies as the proposal for alternative closure extension for infeasibility. EPA fails to require a specific demonstration of compliance with the groundwater monitoring requirements, despite knowledge that many facilities are currently violating those requirements. EPA also failed to complete due diligence prior to the rule's proposal to determine the extent of noncompliance and how that noncompliance has increased the probability of adverse effects to health and the environment.

In addition, this extension suffers from a third critical deficiency. The Part A Proposal requires the owner operator to certify that it "remains in compliance." The proposal rule further states that "[f]ailure to remain in compliance with any of the requirements of this subpart will result in the automatic loss of authorization under this section."[607] It is unclear how this requirement will be applied to owners and operators who were never in compliance with the groundwater monitoring requirements in the first place. For owners and operators who were not "in compliance" prior to opting into this section, such as the many owners and operators who only use intra-well statistics, a failure to "remain in compliance" may not strictly apply. If that is the case, the 2019 Proposal fails to address the significant noncompliance.

EPA's proposal includes the requirement to submit annual progress reports, but these progress reports do not have to demonstrate compliance with the CCR Rule's requirements.[608] The report simply has to document the continued lack of alternative capacity and the progress

[605] Proposed 40 C.F.R. § 257.101(f)(2)(i).
[606] *Id.* § 257.101(f)(2)(i)(A)-(C).
[607] *Id.* § 257.101(f)(2)(iii).
[608] *Id.* § 257.101(f)(2)(vii).

towards the closure of the CCR surface impoundment.[609] Lastly, the same inadequacies described above in the previous section apply to the extremely short public comment period for EPA's draft approvals for extensions.[610] Again, even if it was properly the public's responsibility to identify substantial noncompliance, a comment period of 15 days, or even 30 days, is grossly inadequate.

In sum, the proposed alternative closure extension for CCR surface impoundments at plants that are permanently closing suffers from fatal flaws. The proposal is arbitrary and capricious and without rational basis. Furthermore, the long extensions (to October 15, 2023 and 2028) impermissibly increase the probability of harm by allowing units to operate for years in violation of the groundwater monitoring requirements and thus fail to meet the RCRA protectiveness standard.

XVI. EPA'S REGULATORY IMPACT ANALYSIS FAILS TO CONSIDER RISKS TO PUBLIC HEALTH AND THE ENVIRONMENT FROM ITS PART A PROPOSAL.

The Part A Proposal's Regulatory Impact Analysis ("Proposed RIA" or "RIA")[611] failed to identify and consider the increased costs that will be borne from increased health risks, costs of environmental contamination, and costs of clean up as a result of the Proposal. As explained throughout these comments, EPA's Part A Proposal would significantly weaken the 2015 CCR Rule, and the significant increased costs to health and the environment that would result need to be accounted for in a proper analysis.

EPA's analysis and Executive Order ("E.O.") 12866 review[612] consist of little more than a cursory and incomplete update to the 2015 CCR Rule RIA.[613] According to EPA's unsupported conclusion, the proposed rulemaking results in cost savings and is therefore "not considered an economically significant action."[614]

As EPA freely admits, the Proposed RIA "does not provide *a comprehensive assessment of changes in baseline costs*, and also does not address *total baseline risks or the incremental changes in risk* that may be associated with changes to closure requirements under the proposed Part A Rule."[615] This is wholly inadequate, especially given the data available on the risks associated with surface impoundments and the Part A Proposal's expected impact on the lifespan of surface impoundments. Because the Proposed RIA fails to rationally consider the numerous lost benefits to health and the environment that would result from the Proposal, EPA's RIA is

[609] *Id.*
[610] *Id.* § 257.101(f)(3)(iii).
[611] EPA, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure, Docket ID No. EPA-HQ-OLEM-2019-0172-0016 (Oct. 2019) ("Proposed RIA").
[612] 58 Fed. Reg. 51,735 (Oct. 4, 1993).
[613] EPA, Regulatory Impact Analysis (RIA) for EPA's 2015 Coal Combustion Residuals (CCR) Final Rule, Docket ID No. EPA-HQ-RCRA-2009-0640-12034 (Dec. 2014) ("2014 RIA").
[614] 84 Fed. Reg. at 65,959.
[615] Proposed RIA at 3-14 (emphasis added).

fatally flawed and yet another reason why finalizing the proposed rule would be arbitrary, capricious, and contrary to law.

A. The Part A Proposal Violates Executive Orders and Guidance on Regulatory Planning and Review.

Under E.O. 12866, EPA is required to determine whether regulatory actions are significant and, therefore, subject to OMB review, economic analysis, and the requirements of the Executive Order.[616] E.O. 12866 defines "significant regulatory actions" to mean, among other things, regulatory actions that have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy; jobs; the environment; public health or safety; or State, local, or tribal governments or communities or that raise novel legal or policy issues.[617] According to EPA, the Part A Proposal is a significant regulatory action because it raises novel legal or policy issues.[618] EPA attempted to present the need for revising the 2015 CCR Rule and to prepare an analysis of the potential costs and benefits associated with the action. However, the Proposed RIA falls short of many of the key requirements of E.O. 12866 and Circular A-4.

For example, Circular A-4 instructs agencies to quantify all potential incremental benefits and costs to the extent feasible.[619] EPA's Proposed RIA should have reported benefit and cost estimates within the following three categories: monetized, quantified but not monetized, and qualitative but not quantified or monetized.[620] In other words, even if some benefits may be difficult to monetize, it is a long-standing principle that agencies should identify all benefits and costs. EPA failed to address many monetized, quantified, and qualitative benefits or costs and

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[616] *See* 58 Fed. Reg. at 51,735, Sections 3, 6. Existing requirements and guidance also include OMB's Circular A-4. OMB, Circular A-4: Regulatory Analysis (2003) ("Circular A-4") ("guidance to Federal agencies on the development of regulatory analysis as required under Section 6(a)(3)(c) of Executive Order 12866, 'Regulatory Planning and Review,' the Regulatory Right-to-Know Act, and a variety of related authorities"); 68 Fed. Reg. 58,366 (Oct. 9, 2003). The Part A Proposal is expected to be an E.O. 13771 deregulatory action. Proposed RIA at 4-5 to 4-6. When undertaking a Regulatory Impact Analysis, agencies must identify both the benefits and costs of the regulatory action, and this holds true for deregulatory actions. As described in this section and throughout these comments, EPA has failed to adequately confirm that it will continue to achieve its regulatory objectives after the deregulatory action is undertaken.

[617] 58 Fed. Reg. at 51,735, Sections 3, 6; *see also* EPA, Summary of Executive Order 12866, https://www.epa.gov/laws-regulations/summary-executive-order-12866-regulatory-planning-and-review. E.O. 13563 also requires agencies to "quantify anticipated benefits and costs of proposed rulemakings as accurately as possible using the best available techniques, and to ensure that any scientific and technological information or processes used to support their regulatory actions are objective." 58 Fed. Reg. at 51,735; *see also* 76 Fed. Reg. 3821 (Jan. 21, 2011). The Part A Proposal violates E.O. 13563 for similar reasons as E.O. 12866.

[618] 84 Fed. Reg. at 69,959.

[619] *See, e.g.*, Circular A-4 at 10, 18, 45. The 2014 RIA identified 34 quantifiable and qualitative expected future impacts for the 2015 CCR Rule, as well as 11 sources of uncertainty. 2014 RIA at ES-3 & chapters 4 to 7.

[620] *Id.* at 45.

"how important the non-quantified benefits or costs may be in the context of the overall analysis."[621]

It would be irrational and arbitrary for EPA to finalize the Part A Proposal without identifying all of the costs and benefits to the public that will flow from the Proposal, including public health and environmental costs and benefits. As described in further detail below, the Proposed RIA recognized that "an updated examination of the baseline human health and ecological impacts of current CCR management, and the subsequent benefits of the rule, would require a substantial revision to the formal risk assessment that formed the basis for both benefits and costs related to impoundment operation in 2015."[622] However, EPA made no effort to reconsider the formal risk assessment, baseline, or subsequent benefits. Circular A-4 makes clear that the baseline "should be the *best* assessment of the way the world would look absent the proposed action."[623] EPA must treat costs and benefits alike and may not ignore the public health, environmental, and other costs of its action or inaction (here, in particular, in the form of lost benefits) simply because they are not easily updated or quantified.[624] In failing to identify the drawbacks of EPA's preferred outcome and alternatives to its outcome, among other key oversights, the Part A Proposal is arbitrary and capricious.

B. The Part A Proposal Would Increase Risks and Reduce Benefits.

The Part A Proposal would update the 2015 CCR Rule in ways that would increase the risks to health and the environment and reduce the benefits of the CCR Rule by providing three mechanisms for extending the operating lives and closure dates of hundreds of unlined and leaking surface impoundments. In the Proposal, EPA admits that it did not prioritize or perform a nationwide risk assessment of the continued operation of these units.[625] Extending the lifespans of surface impoundments increases the risks of the site contaminating groundwater or waterways or suffering structural failure and increases remedy costs.

To assess the social costs and cost savings of the Proposal, EPA estimated the "incremental costs and cost savings attributable to the provisions of this action, against the baseline costs and practices in place as a result of the 2015 CCR final rule and, the 2018 CCR

[621] *Id.* at 2; *see also id.* at 26-31.
[622] Proposed RIA at 3-14.
[623] Circular A-4 at 15. An appropriate baseline may require consideration of a wide range of potential factors, such as "the degree of compliance by regulated entities with other regulations." *Id.* As described in Section XV – Noncompliance, EPA is aware of significant noncompliance with the 2015 CCR Rule's groundwater monitoring and other requirements and, yet, failed to consider the degree of compliance as a factor in the Proposed RIA.
[624] *See, e.g.*, 58 Fed. Reg. at 51,735 (it is "essential to consider" the "qualitative measures of costs and benefits that are difficult to quantify").
[625] 84 Fed. Reg. at 65,945 ("[N]ew information is not presented in a form that can be readily incorporated into a nationwide risk assessment. Additionally, given the expedited timeframe needed to complete the reconsideration of the deadline for a unit to cease receiving waste and initiate closure, EPA was unable to develop a nationwide risk assessment of continued operation of these units.").

Phase 1 final rule."[626] EPA updated the 2015 CCR Rule baseline to account for two developments: the availability of new publicly accessible data and the effect of recent court decisions in *USWAG v. EPA* and *Waterkeeper Alliance, Inc. v. EPA*.[627] The RIA's cost analysis included four types of costs and cost savings, including the changes in the number of units required to close, the time value of money cost impacts to the cost of closure, the avoided new unit construction costs, and the additional documentation requirements.[628] Ultimately, EPA's cursory analysis estimated that the net annualized impact of the proposed regulation will be annual cost savings of $39.5 million.[629] A 2018 Synapse Expert Report outlined how the 2018 RIA estimated annual cost savings that were trivially small in the context of a multi-billion dollar industry.[630] The annual costs savings of the Part A Proposal here are similarly trivial.[631] The small and incorrectly estimated savings do not justify a complex, detailed change in many aspects of existing CCR disposal regulations.

Although EPA detailed cost increases in the Proposal's RIA "[f]or the sake of accuracy and transparency,"[632] the RIA is mostly silent on increased risks and reduced benefits. For the 2014 RIA,[633] "unit closures and associated costs and benefits were estimated over 40 years," and the resulting timing and cost of closure for these impoundments formed the baseline for closure-related costs.[634] However, the Proposed RIA makes clear that EPA did not conduct the "comprehensive reexamination" it should have. In other words, EPA essentially assumed there would be no changes in risks or benefits resulting from the Proposal, even though the Proposal undeniably weakens the 2015 CCR Rule. The Proposed RIA explains:

> This regulatory analysis considers the impact of these changes on a subset of the costs associated with the 2015 CCR Rule: costs associated with closure and post-closure requirements for surface

[626] *Id.* at 65,958-59. As discussed in detail in an expert report by Synapse Energy Economics, EPA's Regulatory Impact Analysis for the 2018 CCR Phase One Proposal ("2018 RIA") was similarly predicated on the patently false premise that proposed changes to the 2015 CCR Rule would not result in any lost benefits to health or the environment – despite the fact that the 2018 proposed rule also substantially increased the risk to health and the environment with potentially dangerous and catastrophic consequences. Synapse Energy Economics et al., Synapse report on 2018 CCR proposed rule, Docket ID No. EPA-HQ-OLEM-2017-0286-1708 (Apr. 30, 2018) ("Synapse Expert Report") (attached); *see generally* Earthjustice et al., Comments on Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One); Proposed Rule, at 54-57, Docket ID No. EPA-HQ-OLEM-2017-0286-2136 (Apr. 30, 2018) (attached).
[627] Proposed RIA at 1-1 to 1-3, 3-3 to 3-7.
[628] *Id.* at 3-2.
[629] 84 Fed. Reg. at 65,943; *see also* Proposed RIA at 3-12.
[630] Synapse Expert Report at 12-14; *see generally* 83 Fed. Reg. 11,584 (Mar. 15, 2018).
[631] *Compare* 84 Fed. Reg. at 65,943 (net cost savings estimated at $39.5 million, seven percent discount rate, 2016 dollars), *with* 83 Fed. Reg. at 11,586 (net cost savings estimated between $32 million and $100 million at seven percent discount rate, 2017 dollars).
[632] 84 Fed. Reg. at 65,942.
[633] 2014 RIA at 8-10.
[634] Proposed RIA at 3-1 (emphasis added).

> impoundments. *It does not, however, include a comprehensive re-examination of the total costs or benefits* associated with the rule. To estimate impacts on all costs (including other compliance-related reporting costs and corrective action, the timing of operational decisions such as corrective action, and pricing for alternative disposal) would require a substantial redesign of the linear programming-driven model developed in 2015. Similarly, *an updated examination of the baseline human health and ecological impacts of current CCR management, and the subsequent benefits of the rule, would require a substantial revision to the formal risk assessment that formed the basis for both benefits and costs related to impoundment operation in 2015*. The resources and time needed to perform these updates are substantial and development of a fully revised cost and benefit estimate is not feasible within the current regulatory schedule.[635]

EPA's emphasis on the time needed to redesign the necessary linear programming-driven model developed in 2015 is particularly glaring in light of the ample evidence available to EPA of the irreversible damage the Part A Proposal will cause. For example, as described in Section IV – Inconsistent with USWAG, the Part A Proposal would weaken the regulations for CCR surface impoundments by allowing hundreds of leaking and unlined impoundments to remain open for far longer than they would have under the 2015 CCR Rule. As the D.C. Circuit found in *USWAG*, the majority of unlined impoundments will leak at a harmful level during their operating life.[636] Leakages pose substantial risks to humans and the environment, and it is not always possible to restore groundwater or surface water to background conditions after a contamination event.[637] Every year of delay will exacerbate the already serious problems associated with unlined and leaking coal ash surface impoundments by increasing the total amount of toxic pollution in the ambient environment. In addition, every year of delay will make the problems more difficult to remedy.

C. EPA's RIA Fails to Account for Increased Health and Environmental Costs and Reduced Benefits from the Part A Proposal.

EPA's Proposed RIA fails to identify the increased costs and reduced benefits of the rule resulting from the increased risks to health and the environment that would result from the proposed changes.[638]

In fact, the RIA does not have any line items for increased or decreased costs due to increased or decreased risks of cancer or other health ailments commonly associated with CCR

[635] *Id.* at 3-13 to 3-14 (emphases added).
[636] *USWAG*, 901 F.3d at 426-30.
[637] *Id.* at 422, 428.
[638] As discussed in Section IV – Inconsistent with USWAG, the Part A Proposal is arbitrary and capricious for failing to identify and consider substantial risks to human health and the environment. The Proposal fails the RCRA protectiveness standard by allowing a "reasonable probability of adverse effects on health or the environment." 42 U.S.C. § 6944(a).

constituents nor for increased or decreased costs due to decreased or increased risks of environmental contamination and resulting cleanups.[639]

In stark contrast, the 2014 RIA considered – and monetized – a number of health and environmental impacts from changes in regulatory requirements, with monetized benefits including three primary areas of health and environmental protection and several smaller areas.[640] For example, EPA considered and monetized the benefits of:

- Reduced releases from disposal units, including reduced future cleanup costs, reduced future legal fees, and reduced natural resource damages;
- Reduced groundwater contamination, including avoided future groundwater remediation costs, reduced legal fees, and reduced groundwater natural resource damages;
- Reduced incidence of cancer from eating fish contaminated by CCR;
- Reduced IQ losses from children's consumption of lead and mercury in contaminated fish and reduced need for compensatory education for affected children;
- Improved recreation and aesthetic and ecological health benefits from water quality improvements;
- Protection of threatened and endangered species, which are at risk from water pollution caused by CCR disposal unit releases; and
- Improved air quality from reduced power plant coal combustion, among other benefits.

The 2014 RIA also considered and acknowledged important benefits that could not be monetized, including:

- Human health benefits from reduced hazards of recreational water use and fish consumption (beyond the small categories that could be monetized);
- Reduced fear, stress, and anxiety for people living near CCR impoundments;
- Reduced dust nuisance from fugitive CCR dust;
- Avoided sediment contamination from reduced deposition of toxic pollutants;
- Reduced water treatment costs;

[639] *See* Proposed RIA.
[640] 2014 RIA at ES-5 to ES-11.

- Improved commercial fisheries yields and reduced fish mortality;
- Increased water-based recreation due to water quality improvements; and
- Increased property values near CCR facilities.[641]

These are important benefits, all resulting from regulations that reduce human and ecological exposure to the toxins in coal ash. The RIA for the Part A Proposal fails to demonstrate that these benefits would be retained as a result of the proposed changes and appears to have failed to even consider that any of these benefits would be lost as a result of EPA's proposed changes. Consequently, the RIA does not demonstrate that the cost savings from the proposed changes in the Part A Proposal would outweigh the lost benefits of maintaining the CCR Rule requirements in their current form.

EPA's failure to develop information on and consider these impacts, among many others, renders the RIA incomplete and inaccurate.

XVII. EPA HAS UNLAWFULLY FAILED AND REFUSED TO HOLD A VALID PUBLIC HEARING AND HAS OTHERWISE VIOLATED ITS DUTY TO PROMOTE PUBLIC PARTICIPATION.

Setting an unwelcome and unlawful RCRA precedent, EPA failed and refused to hold an in-person public hearing regarding the Part A Proposal. When it published the Part A Proposal, EPA stated vaguely that it would hold a public hearing on January 7, 2020, "either virtually or in in [sic] person in the Washington, DC metro area."[642] The only way one could learn more about the public hearing was by checking EPA's website, which stated that the hearing would be "virtual"[643] and set a January 3 registration deadline for anyone wishing to speak. Registration required filling out and submitting a form online.[644] On December 4, 2019, eighty-seven public interest organizations sent a letter to EPA requesting an in-person hearing (in addition to the virtual hearing) and for an extension of the deadline for submitting written comments.[645] By

[641] *Id.* at 6-1 to 6-12.
[642] 84 Fed. Reg. 65,941 (Dec. 2, 2019).
[643] EPA, Proposed Changes – A Holistic Approach to Closure Part A: Deadline to Initiate Closure, https://www.epa.gov/coalash/coal-ash-rule#PartA (attached).
[644] Virtual Public Hearing on the Proposal: A Holistic Approach to Closure Part A, https://www.epa.gov/coalash/forms/virtual-public-hearing-proposal-holistic-approach-closure-part. EPA Public Hearing Registration Form is at https://register.gotowebinar.com/register/7807910648118710796 (attached).
[645] Letter from L. Evans & T. Cmar, Earthjustice *et al*., to P. Wright & D. Ross, EPA, Re: Request for Public Hearings and 120-Day Comment Periods for Proposed Rules regarding Coal Combustion Residuals Closure Deadlines (Part A) and Revision of Steam Electric Power Generating Effluent Limitations Guidelines, Docket ID No. EPA-HQ-OLEM-2019-0172-0025 (Dec. 4, 2019).

letter dated December 16, 2019, EPA denied both requests.[646] Nearly everyone who testified at the January 7 virtual hearing objected to EPA's failure to hold an in-person hearing.

By failing and refusing to hold an in-person public hearing regarding the Part A Proposal, EPA is violating its legal duties to hold public hearings before promulgating CCR regulations, 42 U.S.C. §§ 6907(a) and 6944(a), and to ensure and encourage public participation in the development of CCR regulations, 42 U.S.C.§ 6974(b). EPA's reliance on solely an online "virtual hearing" is unlawful and an affront to the many concerned citizens threatened by leaking ash ponds which the proposed rule would allow to remain open, and leaking, for longer than currently allowed. While Commenters support EPA's use of virtual hearings to supplement in-person hearings, online or virtual hearings cannot substitute for in-person hearings that are both required by law and far superior in fulfilling the important goals of public hearings for both the Agency and the public.

In addition, EPA's refusal to extend the public comment period, particularly when it overlapped with what EPA itself described as a "related" rulemaking proposal affecting many of the same facilities and stakeholders,[647] and when it occurred during the winter holiday season, further discouraged public participation. Moreover, EPA has not made available the full set of information it apparently relied upon in developing the Part A Proposal, thereby inhibiting effective public participation.

A. RCRA Requires EPA to Hold Public Hearings for Proposed CCR Regulations.

Congress expressly mandated that EPA hold public hearings in promulgating RCRA regulations governing solid waste disposal under sections 1008(a) and 4004(a), 42 U.S.C. §§ 6907(a) and 6944(a). EPA has consistently cited both of these statutory provisions as its legal authority in proposing and/or promulgating its coal ash regulations, including pending proposed amendments to those regulations: i.e., the Proposed 2015 CCR Rule,[648] the 2015 CCR Rule,[649] the 2018 Phase I Proposal,[650] the 2018 Phase I Rule,[651] the 2019 Phase II Proposal,[652] and the Part A Proposal.[653]

Reinforcing EPA's duty to hold public hearings when promulgating CCR regulations is its broader statutory duty to ensure and encourage "[p]ublic participation in the development, revision, implementation, and enforcement" of RCRA regulations. 42 U.S.C. § 6974(b). The Supreme Court has described nearly identical language on public participation in the Clean

[646] Letter from P. Wright, EPA to L. Evans, Earthjustice, Docket ID No. EPA-HQ-OLEM-2019-0172-0028 (Dec. 16, 2019).
[647] 84 Fed. Reg. 64,620 (Nov. 22, 2019).
[648] 75 Fed. Reg. 35,128, 35,134 (June 21, 2010).
[649] 80 Fed. Reg. 21,302, 21,310 (Apr. 17, 2015).
[650] 83 Fed. Reg. 11,584, 11,588 (Mar. 15, 2018).
[651] 83 Fed. Reg. 36,435, 36,438 (July 30, 2018).
[652] 84 Fed. Reg. 40,353, 40,355 (Aug. 14, 2019).
[653] 84 Fed. Reg. 65,941, 65,943 (Dec. 2, 2019).

Water Act as demonstrating "strong congressional desire that the public have input in decisions."[654]

B. EPA's Regulations and Guidance Require In-Person Public Hearings.

EPA's longstanding interpretation is that a public hearing is an in-person event. EPA's public participation regulations commit the Agency to "provide for, encourage, and assist the participation of the public,"[655] and "to foster a spirit of openness and mutual trust among EPA . . . and the public" and "use all feasible means to create opportunities for public participation, and to stimulate and support participation."[656]

Furthermore, EPA defines "public participation" as "providing ample opportunity for interested and affected parties to communicate their views" and "providing access to the decision-making process, seeking input from and conducting dialogue with the public."[657] As noted by the former EPA official responsible for promulgating the Agency's public participation regulations: "Part 25 Public Participation regulation expected hearings to be in-person hearings and that was the common understanding at EPA."[658]

EPA guidance documents reinforce the point that additional means of encouraging public input should only supplement, but not replace, in-person hearings, which are the bedrock of public participation. EPA's 2016 RCRA Public Participation Manual notes that "technologies such as webinars, virtual meetings and hearings" might be employed by permitting agencies – "when face-to-face meetings are not feasible."[659] EPA has not stated, nor could it credibly state, that it would be infeasible to hold an in-person hearing for these significant regulatory changes.

When EPA updated its program-wide Public Involvement Policy in 2003 to "reflect[] . . . new options for public involvement through the internet," it stated that the new Policy "is meant to encourage development of new tools for public involvement and should not limit the degree or types of public involvement already in use at EPA."[660] The Public Involvement Policy repeatedly underscores this understanding, for example: "Whenever feasible, Agency officials should strive to provide increased opportunities for public involvement above and beyond the minimum regulatory requirements."[661]

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[654] *Costle v. Pac. Legal Found.*, 445 U.S. 198, 215 (1980) (citing 33 U.S.C. § 1251(e)).
[655] 40 C.F.R. § 25.3(a).
[656] *Id.* § 25.3(c).
[657] *Id.* § 25.3(b).
[658] Comment of Lee Daneker, Docket ID No. EPA-HQ-OLEM-2019-0172-0027 (Jan. 7, 2020). EPA has not amended its Public Participation Regulations, 40 C.F.R. Part 25, since promulgating them under Mr. Daneker's stewardship in 1979.
[659] EPA, Resource Conservation and Recovery Act Public Participation Manual, EPA 530-R-16-013, at 25 (2016) https://www.epa.gov/hwpermitting/resource-conservation-and-recovery-act-rcra-public-participation-manual (attached).
[660] 68 Fed. Reg. 33,946, 33,946-47 (June 6, 2003). *See also* EPA, Public Involvement Policy and Related Documents, https://archive.epa.gov/publicinvolvement/web/html/index-6.html.
[661] 68 Fed. Reg. at 33,947.

Underscoring the fact that online engagement should supplement, but not replace, in-person hearings is a report prepared for EPA regarding a two-week, interactive, online dialogue it conducted "to complement the formal notice-and-comment process" for input on the draft 2003 Public Involvement Policy.[662] While highlighting the potential benefits of using online tools to reach "a much larger and diverse population," the report found that such tools should not replace traditional in-person events.

> Broad support for future use of on-line dialogues at EPA came with an important condition: that they be used only in conjunction with traditional approaches to participation. According to respondents, too many people lack computer access for EPA to replace traditional public participation with on-line dialogues. Some respondents also said that the dynamics of on-line interaction were simply not as rich and productive as face-to-face participation.[663]

Moreover, EPA's obligation to implement RCRA in a manner that promotes environmental justice pursuant to Executive Order 12,898 reinforces its obligation to hold an in-person hearing (in addition to the January 7 virtual hearing).[664] As explained by EPA's National Environmental Justice Advisory Council ("NEJAC"): "Social media and technology . . . should not take the place of face-to-face engagement with community members."[665] Indeed, limiting public participation opportunities to those with internet access has serious environmental justice impacts. Approximately 10% of American adults lack internet access, with a disproportionate share of that population being black, Hispanic, and/or low-income.[666]

C. EPA's Past Practice Reflects Its Understanding that the Law Requires In-Person Public Hearings, with New Technology Options Supplementing but Not Supplanting Them.

Consistent with EPA's own guidance and regulations, EPA has historically incorporated then-current technology for purposes of expanding – not contracting – public participation options. In the process of promulgating its public participation regulations, 40 C.F.R. Part 25, in 1979, EPA made available a toll-free telephone line for dozens of hours over numerous days to supplement the public meeting held in San Francisco and the in-person public hearing held in

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[662] *Id*. at 33,946. *See also* Thomas C. Beierle, RFF Report, Democracy On-Line: An Evaluation of the National Dialogue on Public Involvement in EPA Decisions (Jan. 2002) at 8, https://www.rff.org/publications/reports/democracy-on-line-an-evaluation-of-the-national-dialogue-on-public-involvement-in-epa-decisions/ and https://archive.epa.gov/publicinvolvement/web/html/index-6.html (attached).

[663] *Id*. at 32.

[664] E.O. 12,898, 59 Fed. Reg. 7,629 (Feb. 16, 1994).

[665] NEJAC, Model Guidelines for Public Participation (Jan. 25, 2013) at 5, https://www.epa.gov/environmentaljustice/model-guidelines-public-participation (attached).

[666] Monica Anderson et al., 10% of Americans don't use the internet. Who are they? Pew Research Center (Apr. 22, 2019), https://www.pewresearch.org/fact-tank/2019/04/22/some-americans-dont-use-the-internet-who-are-they/ (attached).

Washington, D.C.[667] As indicated above, EPA provided a two-week, round-the-clock, interactive, online dialogue involving 1,144 participants in all fifty states, to supplement the public comment process in preparing its 2003 updated Public Involvement Policy.[668]

Moreover, EPA has until now held in-person hearings for every proposed coal ash regulation and amendments thereto. The Agency held eight in-person hearings in the course of promulgating the 2015 CCR Rule.[669] It held one in-person hearing when it amended the regulations in July 2018.[670] Even the most recent proposed rollbacks involved both an in-person hearing in Arlington, VA, on October 2, 2019 and an on-line hearing on October 10, 2019.[671]

The Part A Proposal represents a stark departure, with EPA refusing to hold an in-person hearing. This is far from a fluke. To the contrary, EPA has signaled a de facto policy shift – at least regarding coal ash – in relying solely on online hearings and eschewing in-person hearings where it would have had to face the people whose health and wellbeing are being threatened by proposed regulatory rollbacks. While rushing to promulgate a flurry of at least three related proposals designed to relax federal regulation of coal ash treatment and disposal, EPA is offering only online hearings as the sole opportunity for public testimony.[672] This policy shift is unlawful and unjust.

D. EPA Offers Only Specious Reasons for Refusing to Hold an In-Person Hearing.

In brusquely rejecting eighty-seven public interest groups' request for in-person public hearings on December 16, 2019,[673] EPA failed to provide a bona fide justification.

1. *Online hearings do not fulfill all of the functions of in-person public hearings.*

While EPA declared that online public hearings "fulfill all of those functions" of in-person public hearings, it offered no support for that conclusory statement. In fact, online hearings lack many of the most significant features of in-person hearings. They do not

[667] 44 Fed. Reg. 10.286 (Feb. 16, 1979).
[668] 68 Fed. Reg. 33,946 (June 6, 2003).
[669] 80 Fed. Reg. at 21,312.
[670] 83 Fed. Reg. at 36,438.
[671] EPA, Public Hearings on the Proposal: Enhancing Public Access to Information and Reconsideration of Beneficial Use Criteria and Piles, https://www.epa.gov/coalash/forms/public-hearings-proposal-enhancing-public-access-information-and-reconsideration.
[672] In addition to the online-only public hearing for the proposed regulations that are the subject of this comment, *see also* 84 Fed. Reg. 64,620 (Nov. 22, 2019) (revising Effluent Limitation Guidelines for coal ash wastewater), and proposed Federal CCR Permit Program at 3 of 190 (pre-publication copy), https://www.epa.gov/sites/production/files/2019-12/documents/pre_pub_version_federal_ccr_permitting_program_nprm_rin_2050-ah07_121819_514pm_for_ao_signature.pdf (creating federal permit program for coal ash land disposal to facilitate authorizing states to implement coal ash regulations in lieu of federal regulations).
[673] Letter from P. Wright, EPA to L. Evans, Earthjustice, Docket ID No. EPA-HQ-OLEM-2019-0172-0028 (Dec. 16, 2019).

"encourage" public participation, as required by EPA's regulations;[674] rather, they are sterile and frustrating experiences. The speaker is alone at one end of a computer terminal or telephone line, with no means of knowing whether the EPA personnel are listening, checking their e-mail or otherwise doing something unrelated to the hearing, no opportunity to make eye contact or otherwise connect on a human-to-human basis with the regulators, and no opportunity to connect with other members of the public who may share their concerns. As several speakers noted at the January 7 virtual hearing, the format is dehumanizing for the public participants. In addition, technical difficulties or background noise can result in portions of speakers' testimony being difficult or impossible for others – including EPA panelists – to hear. And EPA's assertion, again without support, that online hearings are more accessible than in-person hearings ignores the ten percent of the adult population, which includes a disproportionate share of black, Hispanic, and/or low-income people, who lack the internet access necessary to participate in an online hearing and are disproportionately affected by coal ash pollution.

Nor do online hearings "provide ample opportunity for interested and affected parties to communicate their views," as also required by EPA regulations.[675] They offer no option for using visual aids that can be very informative in supporting one's testimony. They deny an affected community the opportunity to "show up" together, support one another, and demonstrate to the regulators that a speaker's concerns are shared by many. In addition, online hearings pose obstacles preventing, rather than enabling, EPA from "conducting dialogue with the public."[676] The format makes it awkward for, and discourages, EPA panelists from, asking questions of speakers to clarify their testimony, and there is no opportunity for informal conversation during breaks or at the end of the hearing.

In contravention of EPA's legal duty to "assure . . . that the government fully considers the public's concerns, to "foster a spirit of openness and mutual trust among EPA . . . and the public," and to "use all feasible means to create opportunities for public participation, and to stimulate and support participation,"[677] EPA's refusal to hold an in-person hearing sends the public the message that it is simply checking a box but is not genuinely interested in public input. EPA sent no such message to industry; to the contrary, it met in-person with representatives of some fifty utilities under the auspices of USWAG.[678] That meeting was held after EPA signed the Part A Proposal but before it was published in the Federal Register. Unsurprisingly, no utility testified at the online hearing; they had a far superior opportunity to engage in actual dialogue with EPA.

[674] 40 C.F.R. § 25.3(a).
[675] *Id.* § 25.3(b).
[676] *Id.*
[677] *Id.* § 25.3(c).
[678] Meeting Summary and Materials from EPA and USWAG Meeting 11/19/19, Docket ID No. EPA-HQ-OLEM-2019-0172-0022.

2. *EPA cites no valid legal authority for refusing to hold an in-person hearing.*

EPA cites only a guidance document pertaining to water quality standards issued under the Clean Water Act, not RCRA, as its legal authority for relying solely on an online hearing to fulfill its RCRA obligations. As EPA well knows, a guidance document cannot change an agency's legal obligations established by statute and regulation. RCRA sections 1008(a), 4004(a), and 7004(b),[679] and EPA's public participation regulations require in-person public hearings.[680] EPA cannot change its regulations by means of a guidance document, let alone one pertaining to a different program under a different statute.

3. *EPA cites no valid precedent for refusing to hold an in-person hearing.*

EPA attempts to refute the eighty-seven public interest organizations' statement that holding only an online hearing, without also an in-person hearing, was unprecedented by stating that it had previously held an online hearing regarding other pending amendments to the 2015 CCR Rule.[681] That assertion is misleading at best. EPA fails to note that it also held an in-person hearing regarding those pending amendments.[682] EPA's refusal in this case to hold even one in-person hearing is, indeed, unprecedented under RCRA.

E. Failure to Hold an In-Person Hearing Compromises EPA's Ability to Make Reasoned, Informed Decisions Regarding the Part A Proposal.

Agency decisions must, at a minimum, reflect "consideration of the relevant factors," based on an examination of the relevant data, and demonstrating a "rational connection between the facts found and the choice made."[683] More specifically, EPA's public participation duties require it to "assure . . . that the government fully considers the public's concerns."[684] EPA cannot meaningfully appreciate the public's concerns by holding virtual hearings alone. It borders on bad faith for an agency intentionally to exclude relevant voices and information from getting into the record, but EPA's refusal to hold an in-person hearing does just that.

Numerous long-time EPA personnel who were directly involved in the Agency's public participation efforts have made it clear that hearing directly, in-person, from affected citizens is a crucial part of the decision-making process.

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[679] 42 U.S.C. §§ 6907(a), 6944(a), and 6974(b).
[680] Comment of Lee Daneker, Docket ID No. EPA-HQ-OLEM-2019-0172-0027 (Jan. 7, 2020).
[681] 4 Fed. Reg. 40.353 (Aug. 14, 2019).
[682] EPA, Public Hearings on the Proposal: Enhancing Public Access to Information and Reconsideration of Beneficial Use Criteria and Piles, https://www.epa.gov/coalash/forms/public-hearings-proposal-enhancing-public-access-information-and-reconsideration.
[683] *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 42-43 (1983).
[684] 40 C.F.R. § 25.3(c)(1). *See also id.* § 25.3(b), which defines public participation to include "that part of the decision-making process through which responsible officials become aware of public attitudes by providing ample opportunity for interested and affected parties to communicate their views." EPA's 40 C.F.R. Part 25 regulations are designed to implement the Agency's statutory duty to provide for, encourage, and assist public participation under 42 U.S.C. § 6974(b).

According to a retired EPA attorney who worked on RCRA (and other) matters:

> I served as a hearing panelist and auditor for many EPA public hearings, and assure you that it makes a difference to actually see and interact with members of the public who give hearing testimony. It is not just the opportunity to see witnesses and assess body language. Having a live presence can promote dialogue, and encourage questioning that elicits useful information. This is much harder to do when contact is a disembodied voice. It is also moving for EPA panelists to see ordinary citizens coming to testify, many taking time off from jobs to do so. . . . There is also the important gain in perspective from getting out of headquarters to see people in the rest of the country. This perspective is lost in the virtual context, when EPA personnel participate from headquarters.[685]

As stated by a retired EPA employee who played a key role in the development and promulgation of the Agency's public participation regulations:

> The agency would receive better information as part of this rulemaking process if it were to include face-to-face communications as part of its process to receive feedback on the proposed regulations from the public.[686]

As further amplified by the Environmental Protection Network, an organization comprised of more than 450 retired EPA employees:

> Many EPN [Environmental Protection Network] members participated in public hearings while at EPA. They experienced first-hand the impact that an in-person public hearing can have on EPA personnel drafting regulations in Washington, D.C., remote from many of the people directly affected by the regulations. It can be extremely informative and helpful to the rulemaking process to hear directly from affected citizens, who can highlight concerns about the impacts or weaknesses in proposed regulations that might not have been apparent to Agency personnel. Listening to voices over a telephone line, without seeing the speakers and perhaps others who may have traveled with them to the hearing, inherently lessens the impact of their input. In addition, in-person hearings provide an opportunity to engage in dialogue with members of the public, as required by EPA's regulations, 40 C.F.R. § 25.3(b), which cannot be replicated in an online setting.

[685] Steven Silverman, Comment Letter submitted to Docket ID No. EPA-HQ-OLEM-2019-0172-0026 (Jan. 6, 2020).
[686] Lee Daneker, Comment Letter submitted to Docket ID No. EPA-HQ-OLEM-2019-0172-0027 (Jan. 7, 2020).

> The in-person setting facilitates EPA personnel asking questions and engaging in back-and-forth discussion with public presenters, as well as having informal conversations with attendees during breaks.[687]

EPA cannot assemble an adequate administrative record, will not have the relevant data necessary to make a rational, informed decision, and will violate its public participation duties without holding an in-person public hearing before finalizing the Part A Proposal.

F. Failure to Hold an In-Person Public Hearing Violates EPA's Statutory Duty to Encourage and Assist Public Participation in the Rulemaking Process.

In-person public hearings benefit the public, as well as EPA. For that reason, Congress imposed a statutory duty on EPA to encourage and assist public participation in the "development, revision, implementation, and enforcement" of RCRA regulations.[688] In partial fulfillment of that obligation, EPA's public participation regulations define public participation to include "providing ample opportunity for interested and affected parties to communicate their views."[689] Further, the regulations commit EPA to "foster a spirit of openness and mutual trust among EPA . . . and the public" and to "use all feasible means to create opportunities for public participation, and to stimulate and support participation."[690] Applicable EPA guidance further amplifies its legal obligation to include the public in a meaningful and effective way in the decision-making process.[691]

The Supreme Court has repeatedly recognized, in various contexts, the unique merits of person-to-person advocacy, describing it as "the most effective, fundamental, and perhaps economical avenue of political discourse."[692]

EPA's January 7, 2020 online hearing regarding the Part A Proposal fell far short of meeting EPA's public participation obligations. The overwhelming majority of commenters used their precious speaking time to highlight their dismay over the format of the virtual public hearing, citing it as a deterrent to public participation and expressing that they felt constrained by the format of the hearing. Many stressed that they did not feel heard or seen by EPA through the virtual format and some questioned whether anyone was listening to them at all while testifying. These commenters all requested that EPA also have an in-person hearing on the Part A Proposal.

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[687] Environmental Protection Network, Comment Letter submitted to Docket No. EPA-HQ-OLEM-2019-0172, https://www.environmentalprotectionnetwork.org/wp-content/uploads/2020/01/Jan-2020-EPN-Coal-Ash-Public-Participation-Comments.pdf.
[688] 42 U.S.C. § 6974(b). *See also Costle v. Pacific Legal Found.*, 445 U.S. 198, 215 (1980), referencing nearly identical language in the Clean Water Act, 33 U.S.C. § 1251(e).
[689] 40 C.F.R. § 25.3(b).
[690] *Id.* § 25.3(c)(6)-(7).
[691] EPA, Resource Conservation and Recovery Act Public Participation Manual, EPA 530-R-16-013, at 25, (attached); 68 Fed. Reg. 33,946 (June 6, 2003).
[692] *Meyer v. Grant*, 486 U.S. 414, 424 (1988). *See also McCullen v. Coakley*, 573 U.S. 464, 488 (2014); *Edenfield v. Fane*, 507 U.S. 761 (1993).

At times, the testimony itself was muffled and was disrupted by technological or phone problems. In some of those cases, EPA simply asked the commenter to submit their written testimony. EPA also abruptly muted several commenters who went over their speaking time, notwithstanding the fact that there were multiple open periods with no scheduled testimony. In doing so, EPA stripped away the public's ability to hear valuable testimony and the speaker's ability to connect with a larger public audience.

Participation was sparse. No one commented at all during at least two of the eight hearing hours. This can largely be attributed to the technological difficulties associated with virtual hearings. Several commenters from communities impacted by coal ash pollution in rural West Virginia, Virginia, Missouri, and the Ohio River Valley explained that many of their community members have limited access to the internet. This lack of accessibility is a barrier to registering for the virtual public hearing in the first place. Several people noted that the technology discouraged elderly community members from participating in the virtual hearing. Jason Flickner from Indiana used his speaking time to read the statement of a 70-year old member of his organization who was too intimidated by the hearing's technology to participate himself, but who would be willing to drive over 300 miles to attend a public meeting in person. And 92-year old Ruth Campbell from Labadie, Missouri spoke about how challenging participating in the virtual public hearing was for her, explaining that she is not as comfortable using technology as younger people.

G. EPA's Refusal to Extend the Written Comment Period Exacerbates the Harm to the Public Caused by Its Refusal to Hold an In-Person Hearing.

EPA has further discouraged adequate and effective public participation by refusing to extend the written comment period for the Part A Proposal. EPA has expressly acknowledged that this rulemaking is directly related to a concurrent proposal to relax coal ash wastewater treatment standards under the Clean Water Act.[693] The 60-day comment periods for both of these related rulemakings substantially overlap, making it difficult for the public interest groups and individual citizens directly affected by both proposals to comment meaningfully and effectively. This challenge is magnified by the fact that the overlapping comment periods coincide with the holiday season, encompassing Thanksgiving, Christmas, Hanukkah, Kwanzaa, New Year's Day, and Martin Luther King Jr. Day, when many people have family obligations, offices are closed, and most cannot make full use of the time for working on regulatory comments.

H. EPA Has Further Discouraged Public Participation by Failing to Make Its Full Record Available to the Public.

EPA posted a notably small group of supporting documents when it created the regulatory docket and posted the Part A Proposal. In addition to a documented labeled

[693] 84 Fed. Reg. 64,620 ((Nov. 22, 2019). For EPA's description of these two rulemakings as "related," *see* EPA, Disposal of Coal Combustion Residuals from Electric Utilities Rulemakings, https://www.epa.gov/coalash/coal-ash-rule#PartA (attached).

Regulatory Impact Analysis ("RIA") (including the red-lined version following OMB review),[694] a red-lined version of an Executive Order 12866 review,[695] and a supporting statement for requesting OMB review,[696] most of the documents were provided by utilities, including a brief filed by USWAG in the *Waterkeeper* case,[697] and an anonymous timeline with no author, date, or other identifying information.[698]

On December 23, 2020, Commenters asked EPA to identify the units and plants summarized in Exhibits 2-1-A, B, and C of the RIA. On January 16, 2020, two weeks before the end of the comment period, EPA provided some information in response to this request, and also filed it in the regulatory docket.[699] However, the document EPA provided did not contain sufficient information to identify the plants and units included; it included only the state in which the units are located. While EPA claimed in a memorandum transmitting the document that it did not rely on the information it was providing in order to develop the Part A Proposal, it included the summary data in the RIA and it offered no explanation for not providing the requested plant and unit information – which EPA must possess in order to prepare the table it did provide.

EPA may not finalize the Part A Proposal unless and until it has made available for public review and comment all technical studies, data, and other documents it is relying on in developing the Proposal. A fundamental tenet of the Administrative Procedure Act ("APA"), 5 U.S.C. § 553, is that agencies must make available to the public the underlying data and documents on which it is relying in issuing a rule.[700] EPA is also required to "provide[] for, encourage[], and assist[]" with "public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program under this Act . . . ."[701]

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[694] Regulatory Impact Analysis (RIA) from OMB Interagency Review, Docket ID No. EPA-HQ-OLEM-2019-0172-0017; Regulatory Impact Analysis on A Holistic Approach to Closure Part A, Docket ID No. EPA-HQ-OLEM-2019-0172-0016.
[695] EPA, EO 12866 CCR Package 2 Part A 2050-AH10 NPRM Proposal 20190730, Docket ID No. EPA-HQ-OLEM-2019-0172-0018.
[696] Supporting Statement for a Request for OMB Review under the Paperwork Reduction Act, Docket ID No. EPA-HQ-OLEM-2019-0172-0019.
[697] Response of Utility Solid Waste Activities Group and Luminant/Dynegy Companies in Support of Respondents' Motion for Voluntary Remand Without Vacatur and in Opposition to Petitioners' Motion for Partial Stay or, in the Alternative, for Partial Summary Vacatur at 8 (Jan. 22, 2019), Docket ID No. EPA-HQ-OLEM-2019-0172-0002.
[698] Sample Gantt Chart, Docket ID No. EPA-HQ-OLEM-2019-0172-0010.
[699] Data for RIA Exhibits 2-1-A, B, and C, Docket ID No. EPA-HQ-OLEM-2019-0172-0044.
[700] *See, e.g., Conn. Light & Power Co. v. Nuclear Reg. Comm'n*, 673 F.2d 525, 530-31 (D.C. Cir. 1982) (explaining that an agency must "identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules . . . . An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary."); *see also Am. Radio Relay League, Inc. v. F.C.C.*, 524 F.3d 227, 236-40 (D.C. Cir. 2008).
[701] 42 U.S.C. § 6974(b).

XVIII. BY FAILING TO CONSULT WITH TRIBAL GOVERNMENTS, EPA HAS VIOLATED EXECUTIVE ORDER 13175 AND EPA'S POLICY FOR IMPLEMENTING THE ORDER.

Pursuant to Executive Order (E.O.) 13175, it is federal policy "to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications."[702] A 2009 presidential memorandum reaffirmed the principles in E.O. 13175, namely, that "consultation is a critical ingredient of a sound and productive Federal-tribal relationship."[703] To implement E.O. 13175, EPA's policy is to "ensure[] the close involvement of tribal governments and give[] special consideration to their interests whenever EPA's actions may affect . . . tribal interests."[704]

EPA's failure to consult with tribal governments regarding the Part A Proposal is contrary to both the plain language of E.O. 13175 and EPA's own policy for implementing the Order. The Order directs federal agencies such as EPA to consult with tribal officials regarding "the development of Federal policies that have tribal implications." During the rulemaking for the 2015 CCR Rule, EPA concluded that "this action may have tribal implications."[705] That was the right conclusion, given that three large coal plants subject to the CCR Rule are located on tribal lands.[706] Given that the CCR Rule had tribal implications, "EPA consulted with tribal officials early in the process of developing this regulation to permit them to have meaningful and timely input into its development."[707]

In an abrupt about face, the Agency now claims that the Part A Proposal "does not have tribal implications" because, under the WIIN Act, EPA is the permitting authority for coal plants located on tribal lands.[708] EPA's interpretation of applicable law is inconsistent with the plain language of E.O. 13175 and EPA's policy for implementing it, is arbitrary and capricious, and reflects a blatant disregard of the tribal interests that are implicated by the Part A Proposal.

E.O. 13175 defines "[p]olicies that have tribal implications" to include "regulations . . . that have substantial direct effects on one or more Indian tribes."[709] The Part A Proposal would clearly have such effects. As discussed in detail throughout these comments, the Part A Proposal would change the requirements regarding disposal of coal ash on tribal lands in ways that are likely to adversely impact tribal interests in the health of tribal members and the quality of their environment, in particular their groundwater and surface water. Under such circumstances, EPA's own policy statement requires the agency to consult with tribal governments "early

[702] Exec. Order No. 13175, 65 Fed. Reg. 67,249, 67,249 (Nov. 6, 2000).
[703] Presidential Memorandum on Tribal Consultation, 74 Fed. Reg. 57,881, 57,881 (Nov. 5, 2009).
[704] EPA, Policy on Consultation and Cooperation with Indian Tribes, at 4 (2011) ("EPA Policy").
[705] 80 Fed. Reg. at 21,465.
[706] *See id.*; *see also* 84 Fed. Reg. at 65,960.
[707] 80 Fed. Reg. at 21,465.
[708] 84 Fed. Reg. at 65,960.
[709] E.O. 13175 § 1(a).

enough to allow tribes the opportunity to provide meaningful input that can be considered prior to EPA deciding whether, how, or when to act on the matter under consideration."[710]

There is no question that policies regulating the disposal of CCR have real-life implications for the tribes that reside in the vicinity of CCR units. For example, it has been well-documented for over a decade that leaking CCR units at the Four Corners Power Plant have caused significant groundwater contamination and degradation of water quality downstream from the plant.[711]

EPA's role as permitting authority under the WIIN Act does not excuse its failure to consult with tribes concerning the Part A Proposal. Under the WIIN Act, EPA must establish a CCR permit program for tribal lands that requires "compliance with the applicable criteria established by the Administrator under part 257 of title 40, Code of Federal Regulations" – i.e., the CCR Rule.[712] Through the Part A Proposal, EPA is proposing to change key elements of the CCR Rule criteria that it would then implement on tribal lands pursuant to a permit program. Accordingly, EPA may not skip over the requirements of E.O. 13175 when making changes to these substantive CCR Rule requirements; if such requirements are changing through this rulemaking, the mere fact that EPA will later take the step of applying them to facilities on tribal lands pursuant to a permit program does not give tribes an adequate opportunity for consultation. Once EPA moves to the permitting stage, the CCR Rule criteria have already been changed and thus the damage will have already been done. EPA's stated rationale for ignoring its E.O. 13175 consultation obligations is thus without a rational basis, and therefore arbitrary and capricious.

To remedy its noncompliance with the Executive Order, EPA must initiate consultation with tribes whose lands are the site of, or near, coal ash disposal units that are affected by the Part A Proposal – i.e., the Navajo Nation at a minimum – and then re-propose for public review and comment a rule based on the input of the tribes.

XIX. THE ENDANGERED SPECIES ACT REQUIRES EPA TO CONSULT WITH THE FISH AND WILDLIFE SERVICE AND THE NATIONAL MARINE FISHERIES SERVICE BEFORE FINALIZING ANY RULE.

Prior to issuing any final rule based on the Part A Proposal, EPA must first consult with the Fish and Wildlife Service ("FWS") and the National Marine Fisheries Service ("NMFS"),

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[710] EPA Policy at 7.
[711] *See* Wood Environmental & Infrastructure Solutions Inc., Assessment of Corrective Measures for Multiunit 1 and the URS: Coal Combustion Residuals Rule Groundwater Monitoring System Compliance, Four Corners Power Plant, Fruitland, New Mexico, https://www.aps.com/-/media/APS/APSCOM-PDFs/Utility/CCR-Documents/Four-Corners/Upper-Retention-Pond/FC_AssessCorMeas_011_20190614.ashx (June 14, 2019) (attached); Environmental Integrity Project & Earthjustice, Out of Control: Mounting Damages from Coal Ash Waste Sites, https://earthjustice.org/sites/default/files/library/reports/ej-eipreportout-of-control-final.pdf (Feb. 24, 2010) (attached); *see also* EIP 2019 Report at 61; Environmental Integrity Project, Ashtracker: Four Corners Power Plant, https://ashtracker.org/facility/448/four-corners-power-plant.
[712] 42 U.S.C. § 6945(d)(5).

under Section 7 of the Endangered Species Act ("ESA"), regarding the new rule's effects on threatened and endangered species.

Under the ESA, federal agencies must, in consultation with FWS and/or NMFS, insure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.[713] An agency proposing an action must first determine whether the action "may affect" species listed as threatened or endangered under the ESA.[714] "The 'may affect' threshold for triggering the consultation duty under section 7(a)(2) is low."[715]

If the action "may affect" listed species or designated critical habitat, the action agency must pursue either formal or informal consultation. Informal consultation is "an optional process that includes all discussions, correspondence, etc., between the Service and the Federal agency . . . designed to assist the [action agency] in determining whether formal consultation . . . is required."[716] "If during informal consultation it is determined by the [action agency], with the written concurrence of the Service, that the action is not likely to adversely affect listed species or critical habitat, the consultation process is terminated, and no further action is necessary."[717]

If an action agency chooses to forego informal consultation or the informal consultation concludes that the proposed action is likely to adversely affect listed species or critical habitat, the agency must participate in "formal consultation."[718] Formal consultation entails the formulation of a Biological Opinion ("BiOp") by either FWS or NMFS. In a BiOp, the FWS or NMFS determines whether the proposed action, taken together with all other relevant impacts on the species – including both those included in the environmental baseline as well as cumulative impacts – is likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat.[719]

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[713] 16 U.S.C. § 1536(a)(2).
[714] 50 C.F.R. § 402.14.
[715] *Nat'l Parks Conservation Ass'n v. Jewell*, 62 F. Supp. 3d 7, 12-13 (D.D.C. 2014); *see also Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1027 (9th Cir. 2012) (en banc) ("[A]ctions that have any chance of affecting listed species or critical habitat – even if it is later determined that the actions are 'not likely' to do so—require at least some consultation under the ESA.").
[716] 50 C.F.R. § 402.13(a).
[717] *Id.*; *Am. Bird Conservancy, Inc. v. FCC*, 516 F.3d 1027, 1034 (D.C. Cir. 2008) ("If an agency determines that an action 'may affect' endangered or threatened species or critical habitats, the agency must initiate formal consultation with the [FWS], at least unless preparation of a biological assessment or participation in informal consultation indicates that a proposed action is 'not likely' to have an adverse effect.").
[718] 50 C.F.R. § 402.14.
[719] *Id.* § 402.14(h)(3). If it is determined that a "take," 16 U.S.C. §§ 1538(a)(1)(B), 1532(19), 50 C.F.R. § 17.3, may occur incidental to the proposed action but that the action and associated incidental take will not violate the Section 7 jeopardy standard, then FWS or NMFS includes an incidental take statement with the BiOp. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i)(1)(i-v). The incidental take statement specifies the predicted impact to the species, the reasonable and prudent measures that FWS or NMFS determines necessary to minimize take, and the terms and conditions required to implement the reasonable and prudent measures. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i)(1)(i-v). If the action

If the BiOp determines that the proposed actions are likely to jeopardize the continued existence of listed species or critical habitats, the FWS or NMFS may not approve them.[720] Alternatively, if the BiOp concludes that an action will likely result in at most a limited take that is incidental to the project, FWS or NMFS prepares an Incidental Take Statement (ITS) identifying reasonable and prudent measures that are necessary or appropriate to minimize the impact on species likely to be incidentally affected.[721] Notably, if the action agency were then to authorize take of protected species by way of incorporating the ITS's terms and conditions into that authorization, such authorization constitutes "federal action" triggering National Environmental Policy Act ("NEPA") review.[722]

Here, issuing a final rule based on the Part A Proposal is likely to adversely affect, and at a bare minimum may affect, threatened and endangered species, and, therefore, EPA must initiate informal or formal consultation under ESA Section 7. The baseline for evaluating the effects of this proposal includes the improvements to human health and environmental protection that would be expected under the 2015 CCR Rule.[723] EPA's Part A Proposal would weaken the CCR Rule in several critical respects that would, among other things, increase the likelihood of groundwater contamination and risk of catastrophic coal ash impoundment failures, leaks, and spills. *See* Section IV – Inconsistent with USWAG. The increase in coal ash contamination that would likely result from finalizing the Part A Proposal may affect, and is likely to adversely affect, listed species.

Under the ESA's implementing regulations, the action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."[724] EPA has acknowledged that the agency did not consider impacts to managed lands and critical habitats nor did it explicitly evaluate direct risks to threatened and endangered species in its ecological risk assessment.[725]

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complies with the terms and conditions of the incidental take statement, ESA Section 7(o)(2) exempts the incidental taking from the prohibitions contained in ESA Section 9. 16 U.S.C. § 1536(o)(2).

[720] 16 U.S.C. § 1536(a)(2), (b)(4); *see also Sierra Club v. U.S. Army Corps of Eng'rs*, 803 F.3d 31, 41 (D.C. Cir. 2015).

[721] 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i), (iv). If FWS or NMFS issues an ITS, the choice falls to the action agency that consulted with FWS/NMFS under Section 7 to determine whether and how to proceed with the proposed action (including permitting private activity) in light of the ITS issued by the Service – but the action agency and private party (if any) must comply with the terms of the ITS if they wish to be insulated from ESA liability for any (otherwise unlawful) take of protected species incidental to the carrying out of the proposed action. *See* 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.15(a).

[722] *Sierra Club*, 803 F.3d at 45; *see also* 40 C.F.R. § 1508.18(b)(4).

[723] Under the ESA's implementing regulations, the "environmental baseline" is defined to include "the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process." 50 C.F.R. § 402.02.

[724] 50 C.F.R. § 402.02.

[725] *See* 2014 Risk Assessment at 5-44.

EPA has previously noted that managed lands, critical habitats, or threatened and endangered species were located within a five kilometer radius of CCR sites at between twelve and thirty-two percent of facilities.[726] Coal ash contamination and damage has been documented at sites in close vicinity to threatened or endangered species.[727] Additionally, approximately forty-five percent of the Nation's threatened and endangered species directly depend on aquatic and wetland habitats.[728] Furthermore, EPA has acknowledged that many pollutants present in coal ash wastewaters can harm – and even kill – fish and other wildlife.[729]

EPA cannot avoid its ESA Section 7 obligations on the grounds that its decisions concerning the disposal of CCR are somehow "non-discretionary" and thus exempt from these requirements.[730] "When an agency, acting in furtherance of a broad Congressional mandate, chooses a course of action which is not specifically mandated by Congress and which is not specifically necessitated by the broad mandate, that action is, by definition, discretionary and is thus subject to Section 7 consultation."[731] Furthermore, "an agency cannot escape its obligation to comply with the ESA merely because it is bound to comply with another statute that has consistent, complementary objectives."[732] EPA's obligations under RCRA regarding solid waste management and, specifically, EPA's duty to issue minimum criteria for the safe disposal of CCR are discretionary. As a result, EPA possesses discretion to account for the Part A Proposal's effects on threatened or endangered species.

In sum, EPA's proposal would remove or weaken several safeguards in the CCR Rule that protect listed species, and thus the proposed action may affect listed species within the meaning of 50 C.F.R. § 402.14. As a result, EPA must initiate consultation with FWS and NMFS under ESA Section 7 prior to finalizing any rule.[733]

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[726] *See* EPA, *Report to Congress - Wastes from the Combustion of Coal by Electric Utility Power Plants* at Exhibit 5-27, p. 5-92 (1988), https://www.epa.gov/sites/production/files/2015-08/documents/coal-rtc.pdf (attached).
[727] *See, e.g.*, Environmental Integrity Project & Earthjustice, Out of Control: Mounting Damages from Coal Ash Waste Sites, https://earthjustice.org/sites/default/files/library/reports/ej-eipreportout-of-control-final.pdf (Feb. 24, 2010) (attached).
[728] 2014 Risk Assessment at 5-44.
[729] *See, e.g.*, EPA, *Benefit and Cost Analysis for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category* at 5-1 (Sept. 2015), Doc. No. EPA-821-R-15-005, Docket ID No. EPA-HQ-OW-2009-0819-5856 (attached).
[730] *See* 50 C.F.R. § 402.03 ("Section 7 and the requirements of this part apply to all actions in which there is discretionary Federal involvement or control.").
[731] *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 929 (9th Cir. 2008).
[732] *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1024 (9th Cir. 2012) (quoting *Wash. Toxics Coal. v. EPA*, 413 F.3d 1024, 1032 (9th Cir. 2005)).
[733] *See generally Nat'l Parks Conservation Ass'n v. Jewell*, 62 F. Supp. 3d 7, 17 (D.D.C. 2014) (finding that a 2008 rule revising standards for coal mining near streams may affect listed species where there was "clear evidence that habitats within stream buffer zones are home to threatened and endangered species and that mining operations affect the environment, water quality, and all living biota").

XX. THE PROPOSED RULE VIOLATES EXECUTIVE ORDER 12898 ON ENVIRONMENTAL JUSTICE.

Executive Order (E.O.) 12898 requires that:

> each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.[734]

This obligation was recently affirmed in *Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers*,[735] and has been applied by the U.S. Environmental Appeals Board. Specifically, "[t]he purpose of an environmental justice analysis is to determine whether a project will have a disproportionately adverse effect on minority and low income populations."[736] This proposed rule violates E.O. 12898 by failing to take all lawful and practicable steps to identify and address the disproportionate and adverse impacts of the continued use of coal ash surface impoundments on communities of color and low-income communities.

A. EPA's E.O. 12898 Analysis Fails to Recognize and Identify the Impacts of Material Changes Caused by the Proposed Rulemaking.

EPA's cursory E.O. 12898 review for the proposed rulemaking consists of little more than a reference to the 2014 Regulatory Impact Analysis (RIA) and an unsupported conclusion that the proposed rulemaking results in no meaningful changes. This is wholly inadequate, especially in light of the extensive data available on the impacts of surface impoundments and the Part A Proposal's expected impact on the lifespan of these units.

1. *EPA failed to identify the impact of the proposed extensions to closure deadlines of surface impoundments on communities of color and low-income populations.*

EPA appears to approach its E.O. 12898 review for the proposed rulemaking with the assumption that the proposed rulemaking will have no impact on the environmental and public health benefits of the 2015 CCR Rule. However, as explained in Sections VI through X of these comments, the proposed rulemaking includes numerous means by which companies can seek extensions that will allow coal ash surface impoundments to remain operational and postpone closure for longer. EPA's E.O. 12898 review is insufficient because it fails to identify the

[734] E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, 59 Fed. Reg. 7629 (Feb. 11, 1994).
[735] 255 F. Supp. 3d 101, 141 (D.D.C. 2017) (cursory environmental justice analysis insufficient to discharge environmental justice responsibilities under NEPA).
[736] *Id.* at 140 (citations and internal quotation marks omitted).

impacts of the continued use of surface impoundments on communities of color and low-income communities.

EPA recognized that "populations within the catchment areas of plants with surface impoundments appear to have proportionately high percentages of minority and low-income residents relative to the nationwide average."[737] However, the Agency summarily dismissed this finding, concluding "[s]ince the CCR rule is risk-reducing and this action does not add to risks, this action will not result in new disproportionate risks to minority or low-income populations."[738] EPA provided no explanation as to why the Agency concluded the proposed rulemaking will not result in new risks. This omission is particularly glaring in light of the ample evidence available to EPA demonstrating that low-income communities and communities of color are disproportionately impacted by coal ash surface impoundments.

In the 2014 RIA, EPA estimated that at least 1.5 million people of color live in the "catchment areas" of coal ash surface impoundments at 277 power plants throughout the United States.[739] In catchment areas downstream of coal ash impoundments, residents are threatened by leaks, discharges and spills of toxic chemicals, as well as potentially deadly catastrophic failures. EPA found that the minority population in catchment areas is higher than both national and state averages.[740]

EPA also estimates nearly 900,000 low-income residents live in catchment areas, which is also higher than state and national averages. In fact, more than 60 percent of the power plants operating coal ash impoundments are located in catchment areas where the percentage of residents who live below the Federal Poverty Level exceeds statewide percentages.[741] In other words, the population living below the poverty level near these coal ash impoundments is about 40 percent larger than would be expected based on statewide averages, and the minority population is approximately 20 percent greater. Almost 60 percent of ash ponds in the United States are in areas where household income is lower than the national median.[742]

Of the 181 ZIP codes nationally that contain coal ash ponds, 118 (65.19%) have above-average percentages of low-income families.[743] Given the serious health threats posed by coal

[737] 84 Fed. Reg. at 65,961.
[738] *Id.*
[739] 2014 RIA at 8-10. EPA defines "catchment area" as the downstream area that receives surface water runoff and releases from CCR impoundments, and incurs risks from CCR impoundment discharges (e.g., unintentional overflows, structural failures, and intentional periodic discharges). Catchment areas are measured in terms of runoff travel time. This analysis considers populations in all catchments within 24 hours of downstream travel time from the plant under mean surface water flow conditions, to estimate populations potentially affected by impoundment failures. *Id.* at 8-9.
[740] *Id.* at 8-12.
[741] *Id.* at 8-12.
[742] U.S. Census Bureau, Census 2000 Summary File 3 (SF 3) – Sample Data, All 5-Digit ZIP Code Tabulation Areas (860), Tbl. P53 "Median Household Income in 1999 (Dollars)," https://www.census.gov/prod/cen2000/doc/sf3.pdf.
[743] U.S. Census Bureau, Census 2000 Summary File 3 (SF 3) – Sample Data, All 5-Digit ZIP Code Tabulation Areas (860), Tbl. P76 "Family Income in 1999" (downloaded June 23, 2009). "Low-

ash, it is particularly troublesome that coal ash impoundments are disproportionately located in low-income communities, where residents are more likely to rely on groundwater supplies and less likely to have access to medical insurance and healthcare. As the United States Civil Rights Commission noted, "[r]acial minorities and low income communities are disproportionately affected by the siting of waste disposal facilities and often lack political and financial clout to properly bargain with polluters when fighting a decision or seeking redress."[744]

The disparate health impacts from coal ash impoundments are not evenly distributed across the United States. Certain states face worse disproportionate impacts than others. For example, more than half of residents living near coal plants in New Mexico – and more than 40% in Alabama, Arizona, Georgia, and Illinois – are non-white. Further, coal ash impoundments are more numerous in the southeastern United States, and the populations near the dumps tend to be poorer and less white.[745] In addition, in the absence of federal regulation of coal ash, state regulations created a patchwork of inadequate controls, with many states having no regulation of the disposal of coal ash, particularly of wet impoundments.[746]

The proposed rulemaking provides multiple avenues for companies to apply for surface impoundment closure extensions and will allow the continued use of some surface impoundments for an additional 4.5 years. Extending the lifespans of surface impoundments increases the risks of the sites contaminating groundwater or waterways, or suffering structural failure. Therefore, EPA's E.O. 12898 review of the proposed rulemaking must identify the impacts of these extensions on the risks posed to people living within catchment areas. Additionally, EPA must also identify how the impacts would be different if the Agency set closure initiation deadlines as early as is physically possible. Only by identifying the potential impacts on low-income communities and communities of color of this specific proposed rulemaking in its entirety and comparing these impacts with reasonable alternative options would

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income" defined as earning less than $20,000 annually. ZIP codes containing coal ash ponds compared to a national mean percent "low-income" of 12.61%, calculated based on the "Family Income in 1999" dataset; EPA, Database of coal combustion waste surface impoundments (2009), Information collected by EPA from industry responses to Information Collection Request letters issued to the companies on March 9, 2009; *see generally* EPA, Information Request Responses from Electric Utilities, https://archive.epa.gov/epawaste/nonhaz/industrial/special/fossil/web/html/index-3.html.

[744] U.S. Commission on Civil Rights, 2016 Environmental Justice: Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12,898, at 14 (Sept. 2016) (attached). The Commission further found that "EPA's Final Coal Ash Rule negatively impacts low-income and communities of color disproportionately." *See also* Title VI Civil Rights Complaint and Petition for Relief or Sanction – Alabama Department of Environmental Management Permitting of Arrowhead Landfill in Perry County, Alabama (EPA OCR File No. 01R-12-R4) (June 3, 2010) (attached).

[745] U.S. Census Bureau, Census 2000 Summary File 3 (SF 3) – Sample Data, All Census Tracts, "Individual Poverty in 1999," received via email from Professor Paul Mohai, University of Michigan, on June 4, 2010.

[746] *See, e.g.*, Comments of Earthjustice *et al.*, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One); Proposed Rule, at 95-110 (Apr. 30, 2018) (attached).

EPA fulfill the mandate of E.O. 12898. The Agency's failure to recognize the proposed deadline extensions as material changes that require closer analysis is a glaring omission.

B. EPA Failed to Conduct an E.O. 12898 Review Based on Current Information.

EPA's extremely cursory E.O. 12898 review is based entirely on information from the 2014 RIA, which is comprised of data compiled over half a decade ago. The results of EPA's E.O. 12898 review for this proposed rule are summarized by the Agency as: "[t]he EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples . . . . The documentation for this decision is contained in EPA's (RIA) for the CCR rule . . . ."[747] EPA failed to take any measures to update or supplement the analysis in the 2014 RIA, despite having access to material new information, many of it collected as a direct result of the CCR Rule.

In the Proposed RIA for the Part A Proposal, EPA recognizes that developments and new information made available since 2015 create material changes to the costs of the CCR Rule. Specifically, the Agency notes that: "More surface impoundments are unlined and leaking than was modeled in 2015. Unlined and leaking surface impoundments must close under the provisions of the 2015 CCR Rule, incurring costs to do so. Overall the new data show a universe with more unlined surface impoundments, leaking sooner, and subsequently incurring higher costs."[748] EPA used this new information to calculate new cost estimates for the CCR Rule, but did not incorporate any of it into the E.O. 12898 review.[749] In addition, the rulemaking record fails to provide much of the basic information needed for the public to assess and comment on the impacts of the Part A Proposal, such as the names and locations of the facilities and individual units affected according to EPA.[750]

EPA also failed to consider the results of groundwater monitoring mandated by the 2015 CCR Rule. According to an analysis of utility-reported data from March 2018, over ninety percent of unlined coal ash surface impoundment sites are contaminating groundwater with toxic substances at levels exceeding federal safe standards.[751] This and other new information about the potential impacts of surface impoundments on people living within catchment areas is readily

[747] 84 Fed. Reg. at 65,961.
[748] 2019 RIA at 1-1; *see also id.* at 2-1 ("[M]ore detailed information about the universe and operation of impoundments is now available through regulatory reporting requirements under the 2015 CCR Rule. To effectively isolate and measure the impacts of the proposed Part A rule, it is therefore necessary to align and adjust the different universe data to reflect an accurate 2019 regulatory and cost universe.").
[749] *Id.* at 3-3 to 3-14.
[750] *See, e.g.*, 2019 RIA, Exhibits 2-1-A, B, and C; EPA, Memo re: Request for Underlying Data for Exhibits 2-1-A, B, and C of the Regulatory Impact Analysis of the A Holistic Approach to Closure Part A: Deadline to Initiate Closure, Docket ID No. EPA-HQ-OLEM-2019-0172-0044 (Jan. 22, 2020).
[751] *See, e.g.*, Environmental Integrity Project & Earthjustice, Coal's Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S. (Mar. 2, 2019, rev. July 11, 2019) ("EIP 2019 Report") (attached).

available for EPA to update its outdated analysis of the disproportionate impacts of surface impoundments on low-income communities and communities of color.

The Agency admits in the E.O. 12898 review that, absent an analysis of newly available information, there was no way to know the environmental justice impacts of the Part A Proposal: "[i]n the absence of an updated risk assessment identifying the impact of the larger number of unlined and leaking units than were originally modeled (including the role and timing of corrective action), the impact of the Part A rule on risks to human health and the environment is unclear relative to the updated baseline, though the 2015 CCR Rule would still likely be risk reducing given the new data."[752] EPA recognized the glaring deficiencies in the data on which it was basing it E.O. 12898 review, but did nothing to correct them. The E.O. 12898 review for this proposed rulemaking is not grounded in the current reality and therefore effectively meaningless.

C. EPA Failed to Take All Lawful and Practicable Steps to Address the Disproportionate Impacts of the Proposed Rulemaking.

EPA took no meaningful steps to address any anticipated disproportionate impacts on low-income communities and communities of color. The Agency's E.O. 12898 review includes no attempt to fulfill the entire mandate of E.O. 12898 – that agencies not just identify, but also address disproportionately high and adverse human health or environmental effects of the proposed rule on minority populations and low-income populations. As elaborated above in this section, there is extensive evidence that this proposed rule will have a disproportionate impact on low-income communities and communities of color. To fulfill its duties under E.O. 12898, EPA must concretely identify the potential environmental justice impacts of the Part A Proposal, and then address these impacts, or explain why they cannot be addressed.

XXI. CONCLUSION

For all of the reasons set forth above, and in the attachments submitted with this letter, the undersigned Commenters strongly urge EPA to abandon the Part A Proposal. Thank you.

Sincerely,

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[752] Proposed RIA at 4-3.

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