

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Proposed Denial of the CCR Part B)	
Alternate Liner Demonstration Application,)	Docket ID No:
Martin Lake Steam Electric Station,)	EPA-HQ-OLEM-2021-
Tatum, Texas)	0284
)	<i>Submitted via</i>
)	<i>regulations.gov</i>
)	

COMMENTS OF EARTHJUSTICE AND SIERRA CLUB

April 10, 2023

I. INTRODUCTION

Sierra Club and Earthjustice submit these comments in support of EPA’s Proposed Denial¹ of the CCR Part B Alternate Liner Demonstration Application for the Martin Lake Steam Electric Station in Tatum, Texas, which is owned and operated by Luminant Generating Company LLC. Earthjustice and Sierra Club also submit, adopt, and incorporate by reference, the following documents: (1) Ranajit (Ron) Sahu, Ph.D, QEP, CEM, Comments on EPA’s Proposed Denial of Martin Lake Steam Electric Station’s (“Martin Lake”) Permanent Disposal Pond - 5 (“PDP-5”) Alternate Liner Demonstration, EPA Docket No. EPA-HQ-OLEM-2021-0284 (“Sahu Report”); (2) Mark A. Hutson, P.G., Geo-Hydro, Inc., Observations on Proposed Denials of Alternate Liner Determination Applications (Apr. 3, 2023) (“Hutson Report”); and (3) Comments of Sierra Club members in support of EPA’s Proposed Denial.

Earthjustice’s and Sierra Club’s support for EPA’s Proposed Denial is contingent upon EPA taking enforcement action, such as the issuance of an Administrative Order, prior to or contemporaneous with its final decision in this matter, to ensure that Martin Lake remedies the violations of the Coal Combustion Residuals (“CCR”) Rule (“CCR Rule”)² at Permanent Disposal Pond 5 (“PDP-5”), consistent with the agency’s duties under the CCR Rule and the Resource Conservation and Recovery Act’s (“RCRA”) protectiveness standard.³

The 2015 CCR Rule created a “self-implementing” program whereby utilities certified their own compliance, with no enforcement other than through RCRA citizen suits.⁴ In the 2015 CCR Rule, EPA did not require or provide for regulatory review or approval of utilities’ self-compliance documentation. In 2016, Congress enacted statutory amendments authorizing EPA to enforce the CCR regulations, directing EPA to establish a permit program to ensure CCR Rule compliance, and authorizing EPA to approve state permit programs to operate in lieu of the federal

¹ EPA, Memorandum re Posting EPA-HQ-OLEM-2021-0284 to Regulations.gov for Public Access (Jan. 30, 2023) and Proposed Determination, Proposed Denial of CCR Part B Alternate Liner Demonstration Application for the Martin Lake Steam Electric Station, Tatum, Texas, Docket ID No. EPA-HQ-OLEM-2021-0284-0001(collectively, “Proposed Denial”).

² Subpart D: Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, 40 C.F.R. Part 257, Subpart D.

³ 42 U.S.C. § 6944(a).

⁴ 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”).

permit.⁵ EPA has just recently begun some limited enforcement efforts under the CCR Rule,⁶ and has proposed but not yet adopted a federal CCR permit program.⁷

In its 2020 Part A amendments to the CCR Rule, EPA required all unlined ponds to cease receiving waste and begin the closure process by April 11, 2021.⁸ EPA also amended the Rule to regulate compacted soil or clay-lined ponds as unlined, as required by the D.C. Circuit Court of Appeals' 2018 decision vacating several provisions in the 2015 CCR Rule.⁹ The Part A Amendments also enabled utilities to apply for extensions of the April 2021 deadline upon demonstrating, among other things, that all CCR units at the facility are in compliance with the CCR Rule.¹⁰ In its 2020 amendments to Part B of the CCR Rule, EPA established a two-part process for plants to establish that their pond(s) should be regulated as lined, rather than unlined, based on the nature and construction of the materials

⁵ Water Infrastructure Improvements for the Nation Act (“WIIN Act”), Pub. L. No. 114-322 (Dec. 16, 2016), Section 2301, enacting 42 U.S.C. § 6945(d).

⁶ See, e.g., Notice of Potential Violations and Opportunity to Confer, Alabama Power Company, Plant Barry – Bucks, Alabama, from Kimberly L Bingham, Chief, Chemical Safety and Land Enforcement Branch, EPA Region 4, to Susan B. Comensky, Vice President, Environmental Affairs, Alabama Power Company (Jan. 31, 2023); Press Release, EPA, EPA reaches settlement with Public Service Company of Colorado over allegations of noncompliance with Coal Combustion Residual Regulations (May 23, 2022), <https://www.epa.gov/newsreleases/epa-reaches-settlement-public-service-company-colorado-over-allegations-noncompliance>; Press Release, EPA, EPA Takes Key Steps to Protect Groundwater from Coal Ash Contamination (Jan. 11, 2022), <https://www.epa.gov/newsreleases/epa-takes-key-steps-protect-groundwater-coal-ash-contamination>.

⁷ EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Federal CCR Permit Program, Proposed Rule, 85 Fed. Reg. 9,940 (Feb. 20, 2020).

⁸ 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, 85 Fed. Reg. 53,516 (Aug. 28, 2020) (“Part A Amendments”).

⁹ Part A Amendments, 85 Fed. Reg. at 53,516-17, 53,519, 53,521, 53,561; *Util. Solid Waste Activities Grp. v. EPA*, 901 F.3d 414, 430-32 (D.C. Cir. 2018) (“USWAG”).

¹⁰ 85 Fed. Reg. at 53,562 and 53,564 (promulgating 40 C.F.R. §§ 257.103(f)(1)(iii) and (f)(2)(iii)).

claimed to constitute a liner, contingent also upon demonstrating CCR Rule compliance.¹¹

EPA's review of Part A and Part B applications has revealed widespread violations of critical CCR Rule requirements, including groundwater monitoring and, in the Part A context, pond closure and corrective action requirements.¹² Thus far, each of EPA's proposed Part A or Part B determinations has identified significant CCR Rule violations; those decisions address seven Part A plants¹³ and six Part B plants.¹⁴

On November 25, 2020, Martin Lake submitted a Part B Alternate Liner Demonstration Application for the plant's Permanent Disposal Pond 5 ("PDP-5") under 40 C.F.R. § 257.71(d)(1)(i).¹⁵ On January 30, 2023, EPA proposed to deny the Application because it fails to demonstrate that the Martin Lake CCR pond complies with all requirements of the CCR Rule, as required by 40 C.F.R. § 257.71(d)(1)(i)(A); appropriately remains in detection monitoring, as required by 40 C.F.R. § 257.71(d)(1)(i)(B); and has a liner that is of good quality and in line with proven and accepted engineering practices, as required by 40 C.F.R. § 257.71(d)(1)(i)(C).¹⁶ Specifically, EPA proposes to deny the application due to: (1) an inadequate groundwater monitoring network, (2) evidence of a potential release

¹¹ EPA, Hazardous and Solid Waste Management System; Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments, 85 Fed. Reg. 72,506 (Nov. 12, 2020) ("Part B Amendments").

¹² See EPA, Coal Combustion Residuals (CCR) Part A Implementation and proposed decisions linked therein, <https://www.epa.gov/coalash/coal-combustion-residuals-ccr-part-implementation#ti> (current as of Sept. 26, 2022); Press Release, EPA Takes Key Steps to Protect Groundwater from Coal Ash Contamination," (attached *supra* n.8).

¹³ See, e.g., EPA Docket ID Nos. EPA-HQ-OLEM-2021-0590-0100; EPA-HQ-OLEM-2022-0335-0001; EPA-HQ-OLEM-2022-0333-0001; EPA-HQ-OLEM-2021-0842-0001; EPA-HQ-OLEM-2021-0587-0023; EPA-HQ-OLEM-2021-0593-0002; EPA-HQ-OLEM-2021-0595-0002.

¹⁴ See, e.g., EPA Docket Nos. EPA-HQ-OLEM-2021-0282-0001; EPA-HQ-OLEM-2021-0280-0001; EPA-HQ-OLEM-2021-0281-0001; EPA-HQ-OLEM-2021-0285-0001; EPA-HQ-OLEM-2021-0284-0001; EPA-HQ-OLEM-2021-0283-0001.

¹⁵ Golder Associates, Inc., Alternate Liner Demonstration Application, Martin Lake Steam Electric Station—PDP-5, Rusk County, Texas (Nov. 25, 2020) [hereinafter, "Martin Lake Application"], *available at* <https://www.luminant.com/documents/ccr/Texas/Martin-Lake/2020/2020-Martin%20Lake-SWR%2031277-Alternative%20Liner%20Demonstration%20Application-PDP%205.pdf>

¹⁶ Proposed Denial at 2 of 54.

from the impoundment and insufficient information to support the alternative source demonstration, (3) inadequate demonstration of meeting location restrictions, and (4) inadequate documentation for the design and performance of the impoundment liner.¹⁷

As discussed below and in the attached Sahu and Hutson Reports, EPA has appropriately deemed Martin Lake's Application inadequate on numerous, independently-sufficient, grounds. EPA should finalize its proposed decision and require Martin Lake to stop using and begin closing the unlined Permanent Disposal Pond 5 ("PDP-5").

In addition, the serious consequences and troubling implications of Martin Lake's CCR Rule noncompliance should compel EPA, consistent with its obligations under the RCRA protectiveness standard and the Part B Amendments, to take additional action, such as issuing an administrative enforcement order, prior to, or contemporaneous with the issuance of its final decision, to ensure Martin Lake remedies its CCR Rule violations at PDP-5 and at all other CCR units on-site.

Time is critical because Martin Lake has not demonstrated compliance with numerous essential requirements of the CCR Rule regarding groundwater monitoring and contamination, including the failure to install and operate a groundwater monitoring system able to detect CCR releases from the Pond; the failure to document the basis for installing only the presumptively-insufficient minimum number of downgradient wells; inappropriate reliance on intrawell data comparisons and the use of inappropriate statistical methods to analyze monitoring data; and reliance on inadequate alternate source demonstrations to remain, inappropriately, in detection monitoring rather than undertake assessment monitoring to address contamination associated with PDP-5. Martin Lake also failed to substantiate its claimed compliance with the CCR Rule's location restriction for unstable areas. In addition to these CCR Rule violations, Martin Lake failed to provide threshold information regarding the composition and construction of its purported liner to justify further review of the argument that PDP-5 should be regulated as if lined, rather than unlined, and avoid the mandate that all unlined CCR ponds must close.

EPA's proposed actions under the Part A and B Amendments, including the proposed Martin Lake Part B Application denial, are long overdue steps to begin implementing the CCR Rule pursuant to RCRA's protectiveness standard. Under that statutory mandate, EPA must adopt and implement regulations that ensure "no reasonable probability of adverse effects on health or the environment."¹⁸ Unfortunately, the delay in issuing even proposed Part A and B decisions has

¹⁷ *Id.*

¹⁸ 42 U.S.C. § 6944(a).

enabled utilities to continue operating their leaking, unlined ponds well past the default cease receipt/begin closure deadline of April 11, 2021. EPA must accordingly promptly finalize its proposed Part B (and A) decisions and take all necessary and timely enforcement actions to hold Martin Lake and other owners and operators of CCR sites responsible for CCR compliance, including but not limited to sufficient groundwater monitoring, timely and effective cleanup actions, and safe closure of ash ponds.

II. BACKGROUND

The Martin Lake facility consists of three coal- and lignite-burning electric generating units with a combined operating capacity of approximately 2,250 megawatts. The facility is one of the largest EGUs in Texas, and generates fly ash, bottom ash, boiler slag, and scrubber gypsum, which are dumped into four CCR units: three CCR surface impoundments (West Ash Pond, East Ash Pond, and PDP-5) and one CCR landfill (A1 Area Landfill).¹⁹ Only PDP-5 is the subject of Martin Lake's Part B application.

PDP-5 is constructed with a compacted clay liner measuring 3 feet thick on the sides and 2 feet thick on the bottom that exhibits a hydraulic conductivity of no more than 1×10^{-7} cm/sec. This is neither a composite liner that meets the requirements of 40 C.F.R. § 257.70(b), as specified in 40 C.F.R. § 257.71(a)(1)(ii), nor an alternative composite liner that meets the requirements of 40 C.F.R. § 257.70(c), as specified in 40 C.F.R. § 257.71(a)(1)(iii).²⁰

The history of the PDP-5 site reflects a series of unsuccessful attempts to build coal ash disposal ponds on top of one another, and suggests repeated misjudgments about the efficacy of successive ash pond closures and groundwater contamination beneath the unit. Specifically, PDP-5 was built in “2010 on top of three former ash surface impoundments”— PDP 1, PDP 2, and PDP 3—and previously closed in place.”²¹ Another coal ash impoundment, PDP-4, is adjacent to PDP 5 to the south, and also a closed in place.²² Together, the ash ponds at PDP-5 have been in operation since 1979.²³

¹⁹ Proposed Denial at 6 of 54.

²⁰ *Id.*

²¹ 2020-Martin Lake Electric Steam Station Alternate Liner Demonstration Application-PDP-5 at pdf 186 (“Application”).

²² *Id.* at pdf 177.

²³ *Id.* at pdf 8.

Martin Lake has conducted groundwater monitoring in the vicinity since before the construction of PDP-5. Although twenty-seven wells were historically monitored in the PDP-5 area, none of those wells are able to identify the background concentrations of contaminants found in CCR waste because all of the impoundments were built on top of each other, essentially creating a mound of coal ash material, from which groundwater flows radially from the unit.²⁴ In other words, none of the wells are located upgradient of PDP-5, and are therefore unable to compare monitored wells to an upgradient, background well that is not contaminated.²⁵

Despite the lack of background monitoring wells, the existing wells have detected significant concentrations of a number of contaminants, including boron, calcium, sulfate, and abnormal levels of pH, beginning in 2018.²⁶ Elevated levels of Beryllium, Cobalt, and Lithium have been detected since 2018, and in each subsequent year.²⁷ There is no indication, however, that the plant undertook any groundwater remediation. To avoid assessment monitoring under the CCR Rule, Martin Lake has relied on Alternate Source Demonstrations (“ASDs”). Although Luminant acknowledges that statistically significant increases in contaminants is likely attributed to potential historical effects to groundwater caused by the closed landfills in the vicinity of PDP 5,²⁸ the Company nevertheless insists that the contamination at an ash impoundment built on top of earlier ash ponds and with a with a history of contamination is somehow not related to PDP-5.²⁹

In addition to its persistent coal ash contamination, Luminant’s Martin Lake power plant is routinely ranked among the largest annual sulfur dioxide (“SO₂”) polluters in the country, and in many years, it is the single largest source of harmful SO₂ in the country.³⁰ Based on 2014-2021 data from EPA’s Air Markets Program Database, Martin Lake alone emitted, on average, approximately 45,000 tons of SO₂ annually. In many years, Martin Lake, by itself, emits more harmful

²⁴ Proposed Denial at 17 of 54.

²⁵ *Id.*

²⁶ Proposed Denial at 20 of 54; Application at 177.

²⁷ Proposed Denial at 20 of 54; Application at 177; *see also* Sahu Report at 3.

²⁸ Golder Associates, 2019 Annual Groundwater Monitoring and Corrective Action Report, Martin Lake Steam Electric Station PDP 5, at *18 (Jan. 31, 2020) (emphasis added).

²⁹ Application at 1063-88, 1089-1114 (ASDs from 2020); 2021 Groundwater Monitoring Report at 2, 15, 17-18, 99-124, 198-223; 2022 Groundwater Monitoring Report at 2, 13, 99-124.

³⁰ EPA, Clean Air Markets Program Data (CAMPD) Custom Data Download, *available at* <https://campd.epa.gov/data/custom-data-download>.

SO₂ pollution than all of the sources in Louisiana or Arkansas, combined.³¹ As a result, in January 12, 2017, EPA determined that the area surrounding Martin Lake failed to meet the health-based SO₂ NAAQS, and therefore designated the area as being in nonattainment. 81 Fed. Reg. 89,870 (Dec. 13, 2016).

The communities surrounding Martin Lake are adversely impacted by harmful SO₂ pollution from the power plant. Exposure to SO₂, for even very short periods of time, can have significant health impacts including the aggravation of asthma attacks, and cardiovascular and respiratory failure. These impacts lead to increased hospitalizations and premature death.³² Children, the elderly, and adults with asthma are particularly at risk.

In addition to being a significant source of water and local air pollution, Martin Lake is a significant contributor to the climate crisis. In 2021, it emitted 14,785,111 metric tons of carbon dioxide,³³ which is equivalent to the emissions of 3,290,135 gasoline-powered passenger vehicles driven for one year.³⁴

Climate change, driven substantially by carbon dioxide emissions, imposes disproportionately heavy burdens on already overburdened communities. Many disadvantaged communities currently bear the brunt of climate-induced health risks from extreme heat, poor air quality, flooding, extreme weather events, and vector borne diseases.³⁵ A recent EPA study quantified some of these disproportionate impacts. For example: Black and African American individuals are forty percent more likely to live in areas with the highest projected increased

³¹ *Id.*

³² See Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520, 35,525 (June 22, 2010).

³³ EPA, Clean Air Markets Database, <https://campd.epa.gov/data/custom-data-download>.

³⁴ EPA, Greenhouse Gas Equivalencies Calculator (updated March 2022), <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

³⁵ U.S. Dep't of Health and Human Servs., Climate Change and Health Equity (last reviewed May 6, 2022), <https://www.hhs.gov/ocche/climate-change-health-equity/index.html>; see also Global Change Research Program, Climate Change Impacts in the United States, at 22, 231, 238, and 240 (2014), <https://www.globalchange.gov/browse/reports/climate-change-impacts-united-states-third-national-climate-assessment-0>; Sharon L. Harlan & Darren M. Ruddell, Climate Change and Health in Cities: Impacts of Heat and Air Pollution and Potential Co-Benefits from Mitigation and Adaptation, Current Opinion in Environmental Sustainability, 3:126-134 at 128 (2011) (“Harlan & Ruddell, Health in Cities”).

mortality due to climate change and thirty-four percent more likely to live in areas with the highest projected climate change-induced increases in childhood asthma; Hispanic and Latino individuals are forty-three percent more likely to live in areas with highest projected labor hour losses due to climate change; American Indian and Alaska Native individuals are forty-eight percent more likely to live in areas with highest percentage of land inundated by sea level rise; and Asian individuals are twenty-three percent more likely to live in coastal areas with traffic delays due to climate-induced high tide flooding.³⁶ Increases in extreme heat events in cities in conjunction with the increase in toxic air pollution to which low-income and minority populations are disproportionately exposed are expected to become drivers of increased morbidity and mortality.³⁷

The international community has, yet again, heightened the urgency of addressing climate change and the critical need for immediate, substantial, emissions cuts:

Continued greenhouse gas emissions will lead to increasing global warming. ... Every increment of global warming will intensify multiple and concurrent hazards.

For any given future warming level, many climate-related risks are higher than assessed in AR5 [previous IPCC report, 2014] and projected long-term impacts are up to multiple times higher than currently observed.

Some future changes are unavoidable and/or irreversible but can be limited by deep, rapid and sustained global greenhouse gas emissions reduction.³⁸

EPA's proposal to require Martin Lake to cease burning coal as result of its CCR Rule violations would not only reduce harmful groundwater and surface water pollution at Martin Lake, but it would eliminate harmful SO₂ pollution burdening the community and reduce U.S. greenhouse gas emissions.

³⁶ EPA, Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts, EPA 430-R-21-003, at 6 (Sept. 2021), <https://www.epa.gov/cira/social-vulnerability-report>.

³⁷ Harlan & Ruddell, Health in Cities, 3:126-134 at 131.

³⁸ Intergovernmental Panel on Climate Change, Synthesis Report of the IPCC Sixth Assessment Report (AR6), Summary for Policymakers (Mar. 2023), at 12, 15, 19, available at https://report.ipcc.ch/ar6syrr/pdf/IPCC_AR6_SYR_SPM.pdf.

III. MARTIN LAKE’S PARK B APPLICATION FAILS TO SATISFY THE REGULATIONS’ DEMANDING BURDEN OF PROOF.

A. The D.C. Circuit Held In *USWAG* That RCRA Requires Dangerous Unlined Coal Ash Ponds To Begin Closing As Soon As Possible, And That The CCR Rule Must Require Liners That Are At Least As Protective As Composite Liners For All Operating Units.

Across the nation, hundreds of leaking, unlined, toxic coal ash ponds are polluting groundwater as well as bays, lakes, rivers and streams, releasing toxic pollutants, heavy metals, and even 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 across the country have grown into massive impoundments, spanning dozens of acres, and 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 have revealed that the vast majority of them are leaking coal ash toxins at levels that render the groundwater unsafe for human consumption.³⁹

Utilities have known for decades that unlined coal ash ponds pose significant dangers to human health and the environment and must be closed.⁴⁰ To address those public health, safety, and environmental risks, EPA issued the 2015 CCR Rule.⁴¹ In August 2018, in *Utility Solid Waste Activities Group (“USWAG”) v. EPA*, the D.C. Circuit Court of Appeals indicated in strong language, based on information in EPA’s rulemaking record, that even the 2015 CCR Rule’s requirements for closing unlined ponds fell short of RCRA’s protectiveness standard, because it allowed unlined impoundments to continue operating until contamination was formally confirmed, instead of closing or retrofitting with

³⁹ In fact, 91% of regulated coal ash ponds contaminated groundwater to levels that exceed federal health standards. *See* Environmental Integrity Project and Earthjustice, *Poisonous Coverup: The Widespread Failure of the Power Industry to Clean Up Coal Ash Dumps* (rev. Nov. 3, 2022), <https://earthjustice.org/documents/report/poisonous-coverup>; *see also* Environmental Integrity Project & Earthjustice, *Coal’s Poisonous Legacy: Groundwater Contaminated by Coal Ash Across the U.S.* (rev. July 11, 2019), EPA-HQ-OLEM-2019-0173-0205.

⁴⁰ *See* Comments of Earthjustice et al., Section V, Docket ID No. EPA-HQ-OLEM-2019-0172-0165 (Jan. 31, 2020).

⁴¹ 2015 CCR Rule, 80 Fed. Reg. at 21,302.

composite liners.⁴² The court further held that impoundments with only a natural clay liner, rather than a composite liner, were similarly “dangerous” and must be treated as unlined under the CCR Rule and thus also required to close or retrofit.⁴³

Central to the *USWAG* court’s review was EPA’s 2015 finding that composite liners must be required for new impoundments because “[b]oth the CCR damage case history and the risk assessment clearly show the need for and the effectiveness of appropriate liners in reducing the potential for groundwater contamination at CCR landfills and CCR surface impoundments.”⁴⁴ In its 2014 Risk Assessment for the 2015 CCR Rule, EPA concluded that composite liners are the “only liner type modeled that effectively reduced risks from all pathways and constituents far below human health and ecological criteria in every sensitivity analysis conducted.”⁴⁵ Only a composite liner reduces the risk from coal ash in impoundments to a level that EPA found acceptable.⁴⁶ By contrast, unlined impoundments (including the kinds of clay-lined impoundments at issue at the Martin Lake power plant) pose risks to human health that exceed the levels EPA deemed acceptable.⁴⁷

The *USWAG* court relied on these EPA findings, holding that EPA had acted arbitrarily and capriciously, and contrary to the RCRA protectiveness standard, in allowing existing unlined (including clay-lined) impoundments to continue to operate.⁴⁸ Specifically, the court found that:

⁴² *USWAG*, 901 F.3d at 429. *See also* 42 U.S.C. § 6944(a).

⁴³ *USWAG*, 901 F.3d at 430-32.

⁴⁴ 2015 CCR Rule, 80 Fed. Reg. at 21,371; *see also* Alexander Livnat, PhD, Comments on a Proposed Rule: 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 (Apr. 16, 2020), Docket ID. No. EPA-HQ-OLEM-2019-0173-0194 (discussing the damage case assessments).

⁴⁵ EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals, at ES-7, EPA-HQ-OLEM-2019-0173-0008 (Dec. 2014) (“2014 Risk Assessment”); *see also* EPA, Response to Comments, Vol. 5, at 12 (2014), Docket ID No. EPA-HQ-RCRA-2009-0640-12128 (“[T]he CCR damage cases and EPA’s quantitative groundwater risk assessment clearly show the need for effective liners – namely composite liners – to very significantly reduce the probability of adverse effects.”) (attached).

⁴⁶ 2014 Risk Assessment at 5-5 tbl. 5-3.

⁴⁷ *Id.*

⁴⁸ *USWAG*, 901 F.3d at 427-32.

- EPA had conclusively determined that, for new impoundments, composite liners are needed to “effectively secure[] against leakage”;
- leaking unlined (including clay-lined) impoundments cannot be fixed, making closure or retrofit necessary;
- even delays of a few months in addressing leakage from unlined impoundments created unacceptable additional risk;
- the risks of harm continue during the long process of closing a surface impoundment under the 2015 CCR Rule;
- groundwater monitoring does not fully protect against all of the risks that unlined impoundments pose to health and the environment; and therefore that
- EPA’s decision to create less stringent standards for existing impoundments than it had for new impoundments was arbitrary and capricious, and contrary to the RCRA protectiveness standard.⁴⁹

Responding to *USWAG*, EPA’s Part B Amendments established a process for plant owners to attempt to make an “alternate liner demonstration” to qualify their unlined impoundments as lined impoundments under the CCR Rule, which would allow them to continue operating indefinitely, instead of closing.⁵⁰ To make a successful alternate liner demonstration, a plant owner must (among other things) “demonstrate that based on the construction of the unit and surrounding site conditions, that there is no reasonable probability that continued operation of the surface impoundment will result in adverse effects to human health or the environment.”⁵¹ The language in this provision mirrors the RCRA protectiveness standard that was at issue in *USWAG*.⁵²

⁴⁹ *Id.*

⁵⁰ Part B Amendments, 85 Fed. Reg. at 72,506.

⁵¹ 40 C.F.R. § 257.71(d).

⁵² *See* 42 U.S.C. § 6944(a) (EPA solid waste regulations must ensure that “there is no reasonable probability of adverse effects on health or the environment from disposal of solid waste”).

B. Part B Requires Applicants To Establish That Their Unlined Pond(s) Will Operate Safely During The Lengthy Demonstration Process, And That They Are Likely To Satisfy The Rigorous Technical Requirements For So-Called Alternate Liners.

In light of the dangers posed by CCR ponds lacking composite liners, as recognized by EPA and highlighted by the D.C. Circuit,⁵³ utilities seeking to rely on an alternate, noncomposite impoundment liner bear the burden of demonstrating that the unlined pond meets all of Part B's requirements and satisfies RCRA's protectiveness standard. Because EPA's risk assessment did not identify any liner—other than composite liners—that meet the protectiveness standard, EPA made clear that utilities would have to provide site-specific documentation of the properties and construction of the materials underlying their ponds in order to overcome the evidence that ponds lacking composite liners pose unacceptable risks.⁵⁴

In response to industry assertions that the performance of some unlined ponds “is equivalent or even superior to the liners required by the 2015 CCR Rule,”⁵⁵ EPA stated that it was “theoretically possible” for some unlined ponds to meet that standard⁵⁶ and anticipated that at best “only a small fraction of non-composite lined surface impoundments” might be able to meet the Part B requirements.⁵⁷

The Part B Amendments established a two-step process for utilities seeking alternate liner demonstrations (“ALDs”):

In the first step, a facility would be required to submit an initial application to demonstrate that they meet certain minimum requirements before embarking on a comprehensive alternate liner demonstration. These minimum requirements are designed to ensure that it is likely a facility will ultimately be able to make the more extensive demonstration to support continued operation, and that the CCR surface impoundment can operate safely over the near term while the facility collects the data and conducts the analyses necessary to support the demonstration.⁵⁸

⁵³ *USWAG*, 901 F.3d at 430-32.

⁵⁴ Part B Amendments, 85 Fed. Reg. at 72,510.

⁵⁵ *Id.* at 72,508.

⁵⁶ *Id.* at 72,509.

⁵⁷ *Id.* at 72,508.

⁵⁸ *Id.* at 72,510.

EPA acknowledged that utilities' reports claiming that some ponds lacking composite liners could nonetheless satisfy RCRA's protectiveness standard "are inadequate and similarly do not support the continued operation of the units," that "the information provided in the ... reports is not sufficient to demonstrate whether on-site groundwater monitoring wells are adequate in number of construction to accurately reflect upgradient and downgradient conditions at the site," and that "some facilities have inappropriately handled monitoring data to erroneously show that the CCR surface impoundment has not contaminated groundwater."⁵⁹ EPA agreed that "neither the 2014 Risk Assessment nor the industry reports support conclusions about any individual CCR surface impoundment, and emphasized the need for site-specific information on the performance of the engineered liner and/or the naturally occurring soil."⁶⁰ Moreover, EPA warned potential applicants that the documentation required under the Part B Amendments would have to significantly surpass that included in the industry reports, as they "did not include the type or specificity of data necessary to support conclusions about these individual surface impoundments"⁶¹:

[P]art of the purpose of the initial application step is to determine whether the types of deficiencies raised by commenters [regarding industry's liner claims] are present at a particular site, and if so, to ensure that these facilities do not progress to the longer ALD process. . . .

EPA purposefully divided the ALD process into two steps to weed out the facilities that fail to meet the RCRA § 4004(a) standard. . . .

CCR surface impoundments that are able to progress to the demonstration step will have shown that the design of the groundwater monitoring network is sufficient to identify releases from the unit and that there is currently no evidence that releases have occurred or are likely to occur while they are completing the demonstration.⁶²

In short, the Part B Amendments require applicants to demonstrate that the asserted "alternate liner" will likely satisfy RCRA's protectiveness standard and

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.* at 72,511.

⁶² *Id.* at 72,511-12.

that there is no indication – evidenced by a properly designed and implemented groundwater monitoring program – that the pond is already leaking. The former requires proof, with all supporting data and analyses, that the materials are suitable for use as a liner and that the construction is of good quality and meets proven and accepted engineering practices.⁶³ The latter requires proof that the pond in question has a groundwater monitoring network compliant with the CCR Rule, a groundwater monitoring sampling and analysis program compliant with the CCR Rule, appropriately remains in detection monitoring, and satisfies all location requirements.⁶⁴

A common thread across all six of EPA’s proposed Part B application denials—including for Martin Lake—is the utilities’ failure to provide documentation of their compliance with key CCR groundwater monitoring requirements, and of the characteristics and construction of their purported liners.

C. Martin Lake Failed To Document Compliance With Key Groundwater Monitoring Requirements For PDP-5.

1. Martin Lake Failed To Demonstrate Compliance With The Groundwater Monitoring Network Requirements.

The Part B Amendments require applications to include “[d]ocumentation that the groundwater monitoring network meets all the requirements of § 257.91.”⁶⁵ At the heart of the CCR Rule is the requirement that facilities install and operate groundwater monitoring systems sufficient to detect contamination emanating from their CCR disposal units. As EPA explained when promulgating the Rule:

EPA is finalizing groundwater monitoring and corrective action requirements to ensure that groundwater contamination at new and existing CCR units will be detected and cleaned up as necessary to protect human health and the environment. These requirements reflect Congressional intent that protection of groundwater be a prime objective of any new solid waste regulations. ... [T]here 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. ... Thus, in order for a CCR landfill or CCR surface impoundment to show no reasonable probability of adverse effects on

⁶³ 40 C.F.R. § 257.71(d)(1)(i)(C).

⁶⁴ *Id.* § 257.71(d)(1)(i)(B)(1)-(3).

⁶⁵ *Id.* § 257.71(d)(1)(i)(B)(1).

health or the environment, a system of routine groundwater monitoring to detect any contamination from a CCR unit, and corrective action requirements to address identified contamination, are essential.⁶⁶

The CCR Rule requires that groundwater monitoring networks be designed to represent accurately both the quality of background groundwater in the uppermost aquifer that has not been affected by CCR leakage, and the quality of groundwater in the uppermost aquifer passing the unit's waste boundary.⁶⁷ The monitoring network must include a minimum of one upgradient and three downgradient wells, plus a sufficient number of additional wells to ensure that both background and downgradient water quality are accurately represented.⁶⁸ But the rule also "establishes a presumption that the minimum of one upgradient and three downgradient wells is not sufficient, and requires the owner or operator to rebut that presumption in order to install only this minimum."⁶⁹ Although utilities may employ wells for background purposes that are not hydraulically upgradient where hydrogeologic conditions do not support a determination of upgradient status, the background wells must represent groundwater quality that is not affected by CCR leakage.⁷⁰ The design of the groundwater monitoring network must be based on site-specific hydrogeological information such as "groundwater flow direction including seasonal and temporal fluctuations in groundwater flow."⁷¹

While the Part B Amendments specify the minimum groundwater monitoring network documentation to be submitted—including "any other data and analyses ... relied upon when determining the design and location of the groundwater monitoring network,"⁷² EPA also advised utilities that they must provide *all* documentation necessary to demonstrate that their groundwater monitoring system complies with 40 C.F.R. § 257.91. As EPA explained in the final Part B Amendments, the intent of 40 C.F.R. § 257.91:

is to allow for a comprehensive review of the existing well network to determine whether it is sufficient to identify releases from the unit that have occurred or might occur in the future. ... Facilities have already designed and implemented their site groundwater monitoring

⁶⁶ 2015 CCR Rulemaking, 80 Fed. Reg. at 21,396.

⁶⁷ 40 C.F.R. § 257.91(a).

⁶⁸ *Id.* § 257.91(c).

⁶⁹ 2015 CCR Rulemaking, 80 Fed. Reg. at 21,399.

⁷⁰ *Id.* § 257.91(a)(1).

⁷¹ *Id.* § 257.91(b)(1).

⁷² 40 C.F.R. § 257.71(d)(1)(i)(B)(I)(iv).

programs, and EPA expects the facility would normally have generated the information specified in § 257.71(d)(1)(i)(B)(1) of this final rule, either as part of developing or implementing the groundwater monitoring program. However, *facilities are encouraged to provide additional detailed interpretation of the data and analyses for consideration during the review. . . .*

[D]ocumenting that the existing well network meets the standard in this rule will require a level of detail and discussion beyond what is required in a routine groundwater monitoring report.⁷³

As EPA appropriately proposes to find, and the attached Sahu Report confirms, the Martin Lake Alternate Demonstration Application for PDP-5 fails this test. The Application failed to demonstrate that the groundwater monitoring network at PDP-5 is adequate to ensure the detection of groundwater contamination associated with the Pond as required by 40 C.F.R. § 257.91.

a. Martin Lake Failed To Establish Upgradient Monitoring Wells That Are Unaffected By Releases From PDP-5.

The CCR Rule requires that groundwater monitoring networks include background (or upgradient) wells that “[a]ccurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit.”⁷⁴ EPA determined that Martin Lake failed to demonstrate that PDP-5’s upgradient wells have not been affected by leakage from a CCR unit.⁷⁵ The Groundwater Monitoring System Certification contains no effort to justify why the two wells labeled upgradient (MW-75 and MW-91-2) satisfy the Rule’s requirement that they represent background groundwater quality unaffected by CCR unit leakage.⁷⁶ As EPA further notes, the Application identifies the potential for groundwater mounding to have occurred around PDP-5 as a result of previous releases from the

⁷³ Part B Amendments, 85 Fed. Reg. at 72,515 (emphasis supplied).

⁷⁴ 40 C.F.R. § 257.91(a)(1). Under some circumstances not relevant to this discussion, a facility may rely on wells that are not upgradient provided they accurately represent groundwater quality that is unaffected by leakage from a CCR unit. *Id.*

⁷⁵ Proposed Denial at 11-12 of 54.

⁷⁶ *Id.*

impoundments on top of which it was built. The application provides no indication of the extent of historical groundwater impacts around the impoundment.⁷⁷

As EPA correctly notes, Luminant failed to establish an upgradient or background well as required by the CCR Rule.⁷⁸ The PDP-5 groundwater monitoring network consists of 9 wells surrounding the perimeter of PDP-5; with no designated background (or even upgradient) wells since the groundwater flow under PDP-5 is assumed to be radially outward, each of the wells is a downgradient well.



Luminant’s only support for this proposition appears to be that PDP-5 “extends significantly above natural grade and represents a localized topographic high relative to the surrounding area. Based on this configuration, there are no upgradient monitoring wells at PDP-5.”⁷⁹ That conclusory assertion does not meet

⁷⁷ *Id.*

⁷⁸ Proposed Denial at 11-14 of 54.

⁷⁹ 2021 Annual Groundwater Monitoring and Corrective Action Report - Revision 1, Martin Lake Steam Electric Station PDP 5 - Rusk County, Texas, December 2022.

the CCR Rule's mandate that operators provide a detailed factual justification for any determination that the minimum number of upgradient wells is not feasible.⁸⁰ Further, as EPA notes, the Application does not confirm if this purported groundwater mounding began after PDP-5 went into service. Nor does the Application explain why there is groundwater mounding under PDP-5 in the first place. If the PDP-5 liner is constructed properly, water from the unit should not be progressing vertically across the liner.⁸¹ As explained in the attached Sahu Report, if groundwater is mounding and expressing itself as radial flow outward, it is not clear that vertical flows to lower groundwater strata are not occurring. Luminant's failure to install a valid upgradient (or otherwise "background") monitoring well, or at least provide a rational explanation for why such a monitor is not feasible, violates the CCR Rule.

In any case, the record seems to suggest that one of the wells near PDP-5 may actually be a suitable upgradient well. Well MW-18A has a groundwater elevation of 376 feet MSL, six feet higher than the groundwater elevation in any other PDP 5 monitoring well.⁸² A comparison of data from that well with data from downgradient well PDP-24 shows that levels of multiple pollutants in PDP-24 are much higher than they are in MW-18A.⁸³ In fact, for all of the pollutants shown in the table below, the entire range of data in downgradient well PDP-24 is greater than the range of data in upgradient well MW-18A. Any valid statistical comparison of the two wells would conclude that the differences between the two wells are statistically significant. This means that Luminant should have found "Statistically Significant Increases" ("SSIs") during detection monitoring, and should have initiated assessment monitoring.

⁸⁰ See 40 C.F.R. § 257.91(f).

⁸¹ Sahu Report at 3.

⁸² Pastor, Behling & Wheeler, Coal Combustion Residual Rule 2017 Annual Groundwater Monitoring Report, Martin Lake Steam Electric Station PDP 5, at *27, Figure 3 (Jan. 31, 2018).

⁸³ Sahu Report at 3.

	MW-18A (range of data)	PDP-24 (range of data)
Detection monitoring constituents		
Boron (mg/L)	0.1 – 0.2	2.8 – 4.0
Calcium (mg/L)	1.0 – 2.3	23.5 – 36.4
Chloride (mg/L)	5.3 – 9.3	18.0 – 23.0
Fluoride (mg/L)	0.10 – 0.13	0.54 – 0.90
Sulfate (mg/L)	3 – 8	231 - 432
TDS (mg/L)	37 – 125	440 - 747
Assessment monitoring constituents		
Beryllium (ug/L)	0.30 – 0.34	2.71 – 4.86
Cobalt (ug/L)	3.0 – 3.5	59.2 – 90.1

b. Martin Lake Failed to Justify the Distance of Its Downgradient Wells from the Waste Boundary.

Martin Lake failed to demonstrate that the placement of its downgradient wells is sufficient to represent accurately the quality of groundwater passing the waste boundary and to monitor all potential contaminant pathways, in violation of 40 C.F.R. §§ 257.91(a)(2) and (c). The groundwater monitoring network at PDP-5 includes three downgradient wells, which are located up to 150 feet from the pond’s boundary.⁸⁴

The CCR Rule requires that “[t]he downgradient monitoring system must be installed *at the waste boundary* that ensures detection of groundwater contamination in the uppermost aquifer.”⁸⁵ As EPA notes, siting wells at some distance from the waste boundary allows for dilution and dispersion of contamination released from the Pond, impeding the timely and accurate detection of releases⁸⁶ and effective corrective action to address releases.

⁸⁴ Proposed Denial at 13 of 54.

⁸⁵ 40 C.F.R. § 257.91(a)(2) (emphasis added).

⁸⁶ Proposed Denial at 13-14 of 54.

Martin Lake offers unavailing explanations for the location of its downgradient wells. Indeed, as explained in the attached Sahu Report, the application does not include any supporting hydrogeological investigations about the groundwater conditions surrounding PDP-5, such as whether groundwater was present in confined (e.g., limited to hydraulically preferential channels) or unconfined conditions and whether and how groundwater behaved under various seasonal conditions. Martin Lake fails even to attempt to demonstrate that industry practice or prior state regulatory practice satisfy the CCR Rule's requirements for downgradient wells, or that it was not possible to site the wells at or closer to the waste boundary.⁸⁷

Setting aside the lack of any ability of the well network to represent the quality of the background groundwater, as EPA notes, the purpose of the monitoring well network, among other things, is to identify and monitor all potential contaminant pathways. Even if every one of the wells is in fact a downgradient well, they should collectively be able to monitor all potential contaminant pathways. Since the placement of the well network did not characterize the hydrogeology of the surrounding area prior to the installation of the wells, it is clear that this ability to monitor all potential pathways has not been met.

c. Martin Lake Failed to Support the Number, Spacing, and Construction Of Groundwater Monitoring Wells with Site-Specific Information.

Martin Lake failed to document that the groundwater monitoring network contains a sufficient number of wells, installed at appropriate locations and depths, to represent accurately the quality of groundwater passing the Pond's boundary, and that the number, spacing, and construction of groundwater monitoring wells is adequately supported by site-specific information, contrary to the requirements of 40 C.F.R. §§ 257.91(a)(2), (b), and (c).⁸⁸

The downgradient wells are spaced as far as 1,500 feet apart.⁸⁹ Martin Lake's Application fails to explain, with supporting, site-specific documentation, how that significant distance between wells is sufficient to detect groundwater contamination emanating from the Pond. As EPA notes, it may be difficult to confirm that subsurface soils have been adequately characterized based on samples spaced as much as 1,200 feet apart and absent further explanation. Inadequate characterization of site heterogeneity may result in a failure to identify and monitor all potential contaminant pathways.⁹⁰

⁸⁷ *Id.*

⁸⁸ Proposed Denial at 15 of 54.

⁸⁹ *Id.*

⁹⁰ *Id.*

2. *Martin Lake Failed to Demonstrate Proper Groundwater Monitoring Program Implementation, Including Legitimately Remaining in Detection Monitoring.*

In addition to demonstrating that the groundwater monitoring network was designed in compliance with 40 C.F.R. § 257.91, Part B applicants must establish that they are implementing a groundwater monitoring program in full compliance with 40 C.F.R. §§ 257.93-.94, and that the unit legitimately remains in detection monitoring.⁹¹ The Part B Amendments further require applicants to “provide all data and analyses relied upon to comply with each of the requirements of this part.”⁹²

EPA emphasized the utilities’ documentation responsibilities regarding this set of requirements:

The intent of this provision is to allow for a comprehensive review of the facility’s determination that a unit has not adversely affected groundwater. ... The documentation must demonstrate that the characterization of groundwater quality is sufficient; the management of collected monitoring data has been properly considered and addressed non-detect data, trends, and other relevant factors that may affect data quality; and that the statistical tests applied are appropriate. ... [T]he facility must document how it has complied with each requirement in §§ 257.93 through 257.94. ... [T]he facility must provide all data and analyses relied upon to comply with each requirement.”⁹³

As discussed below and in the attached Sahu Report, EPA’s Proposed Denial appropriately identifies numerous, significant areas of Martin Lake’s noncompliance with these requirements regarding PDP-5.⁹⁴

a. Martin Lake Improperly Used Intrawell Data Comparisons.

The CCR Rule requires comparisons of groundwater monitoring data from background wells with data from downgradient wells to determine whether

⁹¹ 40 C.F.R. § 257.71(d)(1)(i)(B)(2).

⁹² *Id.*

⁹³ Part B Amendments, 85 Fed. Reg. at 72,516.

⁹⁴ Proposed Denial at 22 of 54; Hutson Report at 4.

contamination is leaking from the CCR unit.⁹⁵ While background wells are typically upgradient, the Rule allows the use of non-upgradient wells provided that data from those wells “will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells.”⁹⁶

An intrawell data approach inherently involves using monitoring data from each well in question for both background and downgradient statistical purposes. Intrawell data comparisons can only be effective if the baseline monitoring data accurately characterize water quality that is not affected by the unit. As EPA noted in promulgating the Part A Amendments, “[i]ntrawell background measurements . . . should include only those observations thought to be uncontaminated.”⁹⁷ This is consistent with EPA Guidance: “Intrawell background measurements should be selected from the available historical samples at each compliance well and should include only those observations thought to be uncontaminated.”⁹⁸

Martin Lake’s reliance on intrawell data—i.e., data from the same well—for purposes of comparing “background” with downgradient concentrations of all constituents at PDP-5 does not comply with the CCR Rule. As discussed in EPA’s Proposed Decision and the Sahu Report, Martin Lake has not demonstrated that each of the downgradient wells—which Martin Lake essentially uses as both “background” and downgradient wells for intrawell data comparisons—represents groundwater quality that is equally accurate or more accurate than that provided by upgradient wells.⁹⁹

Nor has Martin Lake shown that the downgradient wells, which, again, are used as both background and downgradient wells for intrawell data comparisons, are not affected by leakage from PDP-5 including its prior iterations.¹⁰⁰ To the contrary, as discussed above and in the Sahu Report, Martin Lake’s Application and previous annual groundwater monitoring reports discuss extensive seepage and widespread groundwater contamination due to prior iterations of PDP-5.¹⁰¹ Indeed,

⁹⁵ 40 C.F.R. §§ 257.91(a), 257.93(h).

⁹⁶ 40 C.F.R. § 257.91(a)(1)(ii).

⁹⁷ Part A Amendments, 85 Fed. Reg. at 53,543.

⁹⁸ EPA, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, EPA 530/R-09-007, EPA Docket ID No. EPA-HQ-OLEM-2022-0335-0023, at 76 (Mar. 2009) (“Unified Guidance”).

⁹⁹ Proposed Denial at 25-26 of 54; Sahu Report at 2-3.

¹⁰⁰ *Id.*

¹⁰¹ *See* Application at 14, 667, 848, 911, 1072-73.

as the Sahu Report indicates, despite the lack of a background monitor, the Martin Lake monitors reflect increased levels of several pollutants, including boron, calcium, chloride, fluoride, beryllium, and cobalt.¹⁰²

To the extent that Martin Lake invokes EPA's groundwater monitoring Unified Guidance to justify its intrawell comparisons, such reliance is misplaced. First, the Guidance is relevant only to the extent that it is consistent with the governing regulations. Because the CCR Rule expressly requires that background/upgradient wells "represent the quality of background groundwater that has not been affected by leakage from a CCR unit,"¹⁰³ the provisions of the Guidance on which Martin Lake relies are inconsistent with the governing regulations. That Martin Lake attempts to justify its use of intrawell data comparisons by reference to the Guidance but not to the governing CCR Rule requirements is telling.

Second, the Unified Guidance includes an important qualifier that the Application fails to acknowledge:

Using intrawell background to set a baseline of comparison may ignore recent contamination subject to compliance testing and/or remedial action. Even more contamination in the future would then be required to trigger a statistically significant increase [SSI] using the intrawell test. The Unified Guidance recommends the use of intrawell testing only when it is clear that spatial variability is not the result of recent contamination attributable to the regulated unit.¹⁰⁴

Thus, Martin Lake's use of intrawell data comparisons fails the CCR Rule requirements that background groundwater quality must be based on wells not affected by leakage from a CCR unit, background groundwater quality must be established for wells that are hydraulically upgradient or provide background groundwater quality for each Appendix III or IV constituent, and non-upgradient wells may be used for background purposes only if shown to characterize

¹⁰² Sahu Report at 3.

¹⁰³ 40 C.F.R. § 257.91(a)(1).

¹⁰⁴ Unified Guidance at 118.

background quality that is at least as accurate as, or more accurate than, samples from an upgradient well.¹⁰⁵

b. Martin Lake Inappropriately Employed a Control Chart in Its Statistical Methods for Evaluating Sampling Data.

The CCR Rule allows facilities to select among a variety of statistical methods for evaluating groundwater monitoring data, provided that the selected methods satisfy the Rule’s specified performance standards.¹⁰⁶ The Rule further states that using a control chart approach is only appropriate if it is “at least as effective as any other approach in this section for evaluating groundwater data.”¹⁰⁷

Martin Lake improperly employed a control chart approach in its intrawell data comparisons, without satisfying the performance standard applying to control charts.¹⁰⁸ As discussed above, Martin Lake used downgradient wells known to be contaminated as both background and downgradient wells for purposes of its intrawell data comparisons. Martin Lake used a control chart for these statistical comparisons, without demonstrating that such use met the Rule’s “at least as effective” performance standard quoted above. To the contrary, EPA has long made clear that control charts are inappropriate in this circumstance:

Control charts may be used for intra-well comparisons but are only appropriate for uncontaminated wells. If a well is intercepting a release, then it is already in an “out-of-control” state, which violates the principal assumption underlying control chart procedures.¹⁰⁹

Martin Lake failed to address the fact that it was using a control chart with contaminated wells, and failed to satisfy the Rule’s performance standard.

c. Martin Lake Used Inappropriate Statistical Methods For Evaluating Sampling Data.

The CCR Rule requires utilities to analyze their groundwater monitoring data using one of five authorized statistical methods to determine whether there are SSIs in concentrations for each constituent between background/upgradient wells

¹⁰⁵ 40 C.F.R. §§ 257.91(a)(1) and 257.93(d).

¹⁰⁶ 40 C.F.R. §§ 257.93(f) and (g).

¹⁰⁷ 40 C.F.R. § 257.93(g)(3).

¹⁰⁸ Proposed Denial at 29-31.

¹⁰⁹ EPA, Solid Waste Disposal Facility Criteria, Technical Manual, EPA 530-R-93-017, Docket ID No. EPA-HQ-OLEM-2021-0280-0003 (1993, revised Apr. 13, 1998) at 284.

and downgradient wells.¹¹⁰ The Rule further requires utilities to certify that the selected method meets the Rule's performance standards for statistical evaluations, and to support that certification with a narrative description.¹¹¹

As described in EPA's Proposed Denial and the Sahu Report, there are several deficiencies in the statistical analyses Luminant conducted using the groundwater data from the flawed well network as noted above. As an initial matter, and as explained above, the basic flaws in Luminant's monitoring well network render any subsequent statistical analyses moot.

Even if Luminant's flawed monitoring network could provide a valid dataset for a subsequent statistical analysis, public review of statistical analyses presented by Luminant is hampered by Luminant not providing the underlying data available in an easy-to-use format, such as in Excel spreadsheets. Second, as EPA correctly noted, Luminant's misuse of non-parametric methods and issues relating to the trade-off between Type I and Type II errors. This error is especially exacerbated with small data sets and where there are flaws with the prediction interval determinations. As explained in the attached Sahu Report, Luminant's use of outliers in its background dataset, coupled with eliminating non-outliers in the downgradient well data, was inappropriate, especially where, as here, there is no well designated as background.¹¹²

d. Martin Lake Improperly Relied on an Unsubstantiated, Speculative Alternative Source Demonstration.

The CCR Rule requires utilities to bear the burden of proof when seeking to establish that a source other than their CCR unit caused the groundwater contamination detected by their monitoring.¹¹³ As EPA recently explained:

A successful ASD must be sufficient to rebut the presumption that the CCR unit is the source of the SSI in a downgradient well of a properly designed groundwater monitoring network by demonstrating that a source other than the CCR unit is responsible for the SSI. An ASD requires conclusions that are supported by site-specific facts and analytical data in order to rebut the site-specific monitoring data and

¹¹⁰ 40 C.F.R. §§ 257.93(f), (g), and (h).

¹¹¹ 40 C.F.R. §§ 257.93(f)(6) and (g).

¹¹² Sahu Report at 5.

¹¹³ 40 C.F.R. § 257.94(e)(2).

analysis that resulted in an SSI. Speculative or theoretical bases for the conclusions are insufficient.¹¹⁴

Here, Martin Lake prepared an ASD contending that the recorded SSIs for boron and chloride at PDP-5 were not due to the impoundment itself, but instead attributable to natural variability. Specifically, the alternate source proposed by the ASD is natural groundwater variability and historical releases from former CCR surface impoundments that were in operation as far back as 1979 and have since been closed with waste in place beneath the footprint of the current PDP-5.¹¹⁵ Martin Lake has continued to find SSIs for chloride at PDP-5 and continued to rely on its initial ASD to avoid moving to assessment monitoring.

For the reasons EPA identifies in the Proposed Denial, Luminant's purported ASD is flawed in several respects. First, the ASDs for PDP-5 from January 2020 address the SSIs identified at well PDP-23 (calcium) and well PDP-25 (boron) and were based on improper intrawell statistical comparisons. Second, and despite the flaws in intrawell evaluations, Luminant has continued to use similar, unsupported analyses to justify additional ASDs. In its December 2022 Report for 2021, Luminant noted that additional monitor readings, in excess of prediction limits for boron, calcium, and chloride have continued in numerous wells, including wells PDP-25, MW-17A, MW-18A, MW-19, MW-20A, PDP-22, and PDP-24 for boron; wells PDP-23, MW-19, and PDP-22 for calcium; and chloride in well MW-20A.¹¹⁶ In fact, four of the eight other CCR monitoring wells (MW-19, PDP-22, PDP-24, and PDP-25) had chloride sample concentrations in 2020 that were higher than those observed in the PDP-20A SSI sample.

As explained in the Sahu Report, recent additional data appears to confirm that potential releases from PDP-5 are ongoing and attributable to the continued operation of PDP-5. Indeed, as reflected in the tables below, recent concentrations of boron (the first column after the date) are the highest ever observed, furthering the increasing trend noted by EPA. Calcium data also show high levels at well PDP-25.

¹¹⁴ EPA, Final Decision, Denial of Alternative Closure Deadline for General James M. Gavin Plant (Nov. 18 2022), Docket ID No. EPA-HQ-OLEM-2021-0590-0100, at 48-49 ("Gavin Denial Decision").

¹¹⁵ Proposed Denial at 30 of 54.

¹¹⁶ Sahu report at 7-9.

TABLE 2
APPENDIX III ANALYTICAL RESULTS
MLSES PDP 5

Sample Location	Date Sampled	B	Ca	Cl	F	field pH	SO ₄	TDS
MW-17A	09/22/17	0.402	3.1	8.3	<0.1	6.78	31.2	111
	06/14/18	0.485	6.48	9.16	<0.1	6.87	45.9	129
	09/11/18	0.523	5.06	8.82	0.179 J	5.03	43.1	137
	05/13/19	0.497	4.88	9.18	<0.1	6.79	44.7	145
	11/07/19	0.52	5.05	8.81	<0.100	6.44	43.9	127
	05/19/20	0.521	5.09	8.74	<0.100	6.57	46.8	140
	09/25/20	0.477	5.76	10.1	<0.100	6.57	47.7	133
	06/03/21	0.534	6.21	7.83	<0.100	6.69	50.4	146
10/05/21	0.393	3.95	8.42	<0.100	6.57	34.3	115	

PDP-23	09/22/17	0.0463	2.34	4.48	0.147 J	6.77	1.47 J	111
	02/21/18 re-sample	--	2.37	--	--	--	--	--
	06/13/18	0.0357	2.29	6.21	<0.1	6.82	1.26 J	98
	09/11/18	0.0760	1.96	6.38	<0.1	5.32	1.52 J	98
	11/7/2018 re-sample	0.0683	--	--	--	--	--	--
	05/13/19	0.0628	1.89	6.98	<0.1	6.68	1.28 J	103
	11/12/19	0.0675	2.14	4.98	<0.100	6.72	1.41 J	93
	05/19/20	0.0709	2.03	6.86	<0.100	6.83	1.19 J	104
	09/25/20	0.0617	2.31	7.29	<0.100	6.74	<1.00	94
	06/03/21	0.0818	2.32	6.88	<0.100	6.57	1.42 J	101
10/05/21	0.0661	2.38	6.58	<0.100	6.59	1.02 J	97	
PDP-25	09/22/17	0.133	36.8	130	0.157 J	6.81	89.1	481
	06/14/18	0.119	40.4	111	<0.1	6.78	73.4	439
	09/11/18	0.167	36.2	135	0.115 J	5.87	90.3	469
	11/7/2018 re-sample	0.142	--	--	--	--	--	--
	05/13/19	0.144	44.4	108	0.121 J	6.84	69	469
	11/12/19	0.184	38.6	117	<0.100	6.82	71.4	454
	05/19/20	0.202	53.7	105	<0.100	6.61	62.2	442
	09/25/20	0.174	46.3	123	<0.100	6.77	67.5	445
	06/03/21	0.234	45.2	101	0.236 J	6.78	61.2	431
10/05/21	0.159	40.4	115	<0.100	6.73	62.7	427	

As well spelled out in EPA’s Proposed Denial and confirmed in the Sahu Report, the ASD fails to demonstrate that the chloride, calcium, and boron SSIs at PDP-5 are caused solely by an alternative source rather than the pond. Accordingly, Martin Lake unlawfully failed to move PDP-5 from detection to assessment monitoring,¹¹⁷ and is thereby ineligible to apply for an ALD under Part B.¹¹⁸

¹¹⁷ 40 C.F.R. § 257.94(e).

¹¹⁸ 40 C.F.R. § 257.71(d)(1)(i)(B)(2).

3. *Martin Lake Failed To Demonstrate Compliance With The CCR Rule's Location Restrictions.*

Under 40 C.F.R. § 257.71(d)(1)(i)(B), operators of any CCR unit are required to demonstrate that the unit meets all the location restrictions under 40 C.F.R. §§ 257.60 through 257.64. Relevant here, Luminant was required to demonstrate that PDP-5 is not located within five feet of the uppermost aquifer, 40 C.F.R. § 257.60, and that the unit is not located in a wetland 40 C.F.R. § 257.61, fault area (40 C.F.R. § 257.62), seismic impact zone, 40 C.F.R. § 257.63, or unstable area, 40 C.F.R. § 257.64. EPA established those location restrictions to ensure that CCR units are not constructed in geographic and geologic areas that could compromise the integrity of the CCR impoundment, or where, if contamination does occur, damages could be particularly severe, difficult to remediate, or harmful to human health and the environment.

Although Martin Lake certified compliance with the CCR Rule's location restrictions, the application is flawed in two key ways. First, EPA appropriately determined that the application does not provide sufficient documentation to support the certification that PDP-5 is not located in an unstable area.¹¹⁹ Moreover, PDP-5 was constructed on top of three historical landfills (PDP-1, PDP-2, and PDP-3) and is adjacent to another closed unit, PDP-4. As EPA noted in its proposal, the application does not detail how closure was executed for PDP-1 through PDP-3 or what steps were taken to ensure that long-term settling within these closed units would not disrupt the integrity of the clay liner for PDP-5. As noted in the attached Sahu Report, a recent report by Luminant's own consultants indicates that the previously-closed CCR impoundments are "moderately to highly permeable," indicating that ash in PDP-5 "will undergo gradual settling" and potential "deformation."¹²⁰ This confirms EPA's proposed finding that Luminant has not adequately demonstrated the stability of the soils on which PDP-5 is located.

Second, although EPA proposes to find that PDP-5 meets the CCR Rule's five-foot separation from groundwater requirement, that conclusion appears to be mistaken. In concluding that PDP-5 meets the five-foot separation rule, EPA relies on solely on Luminant's assertions that the "uppermost aquifer in the vicinity of PDP-5 is approximately Elev. 381 feet MSL and as-built engineering drawings indicate that the base of the clay liner in the pond is at approximately Elev. 389 feet MSL."¹²¹ But EPA admits that the as-built drawings were not included in the location restriction report, so EPA's assumption that the base elevation of the entire

¹¹⁹ Proposed Denial at 37 of 54.

¹²⁰ Sahu Report at 10.

¹²¹ Proposed Denial at 34-35 of 54.

clay liner is 389 feet MSL is simply unsupported. Moreover, as explained in detail in the attached Sahu Report, Luminant's own consultant report indicates that the base of the PDP-5 liner is actually several feet lower than 389 feet MSL.¹²² Indeed, Luminant's location certification report indicates that portions of the liner are actually between 382 to 385 MSL, far less than the five-foot separation from the assumed 381 MSL aquifer elevation.¹²³ It is also worth noting that Luminant's location certification report indicates that aquifer levels actually exceed 382 MSL.¹²⁴ In short, PDP-5 does not meet the CCR Rule's location restrictions of underlying aquifers.

4. *Martin Lake Failed to Document that the Materials Comprising Its Purported Liner, and the Construction Thereof, Satisfy Part B Application Requirements.*

The Part B Amendments require applications to document "the design specifications for any engineered liner components, as well as data and analyses ... relied on when determining that the materials are suitable for use and that the construction of the liner is of good quality and in line with proven and accepted engineering practices."¹²⁵ EPA explained that before facilities undertake full-blown ALDs, the application must establish that the characteristics and construction of the purported liner make it likely to satisfy the ALD requirements.

[T]he ability of any liner to achieve performance objectives is predicated on the quality of both the source materials and the construction of the surface impoundment. Therefore, EPA concludes that information on both must be incorporated in the application to provide evidence that the unit has the soil characteristics or engineering quality that would make it possible for the unit to meet the ultimate performance standard [and] is expected to remain protective in the near term while the comprehensive demonstration is completed. ... EPA previously concluded that it is difficult to determine whether a particular soil is suitable for use as a liner based solely on individual index properties and without relevant confirmatory testing. For engineered soils, this will involve establishing the relationship between water content, density, and hydraulic conductivity in a laboratory setting before construction begins to ensure the liner will be installed under optimum conditions. For naturally-occurring soils, this will involve testing that the pre-existing soil structure achieves a sufficiently and consistently low hydraulic conductivity. For

¹²² Sahu Report at 10-13.

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ 40 C.F.R. § 257.71(d)(1)(i)(C).

geomembrane liners, this involves confirming that the material can withstand the stresses it will be exposed to and that the seams of the liner can be reliably welded to meet performance requirements.

... [L]aboratory testing cannot account for operational problems during construction that result in substandard conditions. ... [W]ithout contemporaneous documentation that the surface impoundment liner was well constructed, it will be too difficult to confirm that any data subsequently collected for the demonstration reliably represents actual liner conditions. In particular, for soil liners that do not meet the thickness requirement of the rule, field testing is likely the only reliable way to ensure that construction has achieved a sufficiently low and consistent hydraulic conductivity.¹²⁶

Martin Lake's application states that the surface impoundment was constructed with a compacted clay liner, constructed to be 2 feet thick along the bottom and 3 feet thick along the embankments, with a hydraulic conductivity of no greater than 1×10^{-7} cm/s.¹²⁷ As explained in the attached Sahu and Hutson reports, this is plainly insufficient to meet the composite liner requirements of 40 CFR 257.70(b), as specified in 40 CFR 257.71(a)(1)(ii), or the alternative composite liner requirements of 40 CFR 257.70(c), as specified in 40 CFR 257.71(a)(1)(iii), and thus EPA cannot approve the Application.¹²⁸ Indeed, the Martin Lake liner is functionally identical in thickness and conductivity to the clay liners that EPA modeled, and concluded posed an unacceptable risk to human health from lithium transport.¹²⁹ Luminant failed to provide any coherent rationale for concluding that the Martin Lake liner is any different than clay liners that the Agency has already found inadequate.

There are three additional factors supporting EPA's determination that the PDP-5 liner is insufficient. First, as explained in EPA's Proposed Denial, significant monitored concentrations of lithium have been detected since 2018 at the impoundment. Thus, EPA's assessment of the risk of lithium leakage from similarly-constructed liners is particularly relevant. Second, as explained in the Sahu Report, Luminant's own engineering analyses indicate that PDP-5's construction, directly above three previously-closed ash ponds, raises the risk of increased "gradual settling" and "large deformation," increasing the risk of cracking and leakage.¹³⁰ Third, as the Sahu Report also makes clear, PDP-5 does *not* meet the CCR Rule's requirement that CCR impoundments be constructed with at least

¹²⁶ Part B Amendments, 85 Fed. Reg. at 72,517.

¹²⁷ Proposed Denial at 41 of 54.

¹²⁸ Sahu Report at 2; Hutson Report at 4.

¹²⁹ Proposed Denial at 42 of 54.

¹³⁰ Sahu Report at 10.

five feet of separation from the upper-most aquifer, raising additional risks that PDP-5's clay liner will be insufficient to protect against leakage.

5. *Martin Lake Failed to Demonstrate that There is No Reasonable Probability of Leachate Transport to Surface Water.*

Under Part B of the CCR Rule, 40 C.F.R. § 257.71(d)(1)(i)(D), “facilities with CCR surface impoundments located on properties adjacent to a water body,” like Martin Lake, must demonstrate that there is “no reasonable probability” that a transport pathway exists between the impoundment and “any nearby water body.” If a potential for such a pathway is identified, the CCR unit is not be eligible to submit a demonstration. 40 C.F.R. § 257.71(d)(1)(i)(D).

As EPA noted, the Martin Lake power plant is located adjacent to Martin Lake, and the boundary of PDP-5 is approximately 1,500 feet from the lake.¹³¹ And as EPA recognizes and is explained in the Sahu Report, the Martin Lake monitoring network is insufficient to establish that there are no contaminant pathways to the adjacent lake.¹³² Given the protective purposes of the CCR Rule itself, and Martin Lake's failure to demonstrate compliance with the location and spacing requirements of any upgradient and downgradient wells,¹³³ EPA must presume that the facility has likewise failed to demonstrate that there is “no reasonable probability” that a contaminant pathway does not exist. Setting aside Martin Lake's failure to establish an appropriate upgradient well and a downgradient well at the CCR waste boundary, there are significant increases in the levels of multiple contaminants between monitoring well MW-18A and PDP-24,¹³⁴ suggesting a transport pathway south-southeast from the impoundment to the Lake. In short, Martin Lake has failed to demonstrate there is no reasonable probability of contamination to the lake.

In its Application, Luminant suggests that PDP-5 itself is not located adjacent to a water body and therefore not subject to 40 C.F.R. § 257.71(d)(1)(i)(D)'s requirements. But the regulation does not require the CCR impoundment itself to be directly adjacent to a waterbody. The regulation applies to “*facilities* with CCR surface impoundments located on *properties* adjacent to a water body.”¹³⁵ The Martin Lake property is directly adjacent to the lake, and thus the regulation applies. Even if there were ambiguity in the regulation (and there is not), EPA

¹³¹ Proposed Denial at 43 of 54.

¹³² Proposed Denial at 11 to 14 of 54; Sahu Report at 4-5.

¹³³ Proposed Denial at 11 to 14 of 54; Sahu Report at 4-5.

¹³⁴ Sahu Report 2-4.

¹³⁵ 40 C.F.R. § 257.71(d)(1)(i)(D) (emphasis added).

listed proximity to a water body, construction above grade, lack of a geomembrane liner, and the presence of low-conductivity soil beneath the unit as factors to consider in determining whether there is a reasonable possibility of a transport pathway to water.¹³⁶ Each of those factors makes clear that the regulation applies to PDP-5: the impoundment is 1,500 feet from Martin Lake; the impoundment is built above grade on top of several older CCR impoundments; it has no geomembrane liner; and the soils beneath the impoundment are conducive to transport. Notably, neither Luminant nor any other party commented on EPA's CCR Rule requirement that facilities on properties adjacent to water bodies prove there is no possibility of contamination. Thus,, it is Luminant's burden to demonstrate that there is "no reasonable probability" that a transport pathway exists between the impoundment and "any nearby water body"—not EPA's burden to prove the existence of such a pathway.

IV. EPA MUST ACCOMPANY PART B DENIAL DECISIONS WITH ENFORCEMENT AND COMPLIANCE ASSURANCE ACTIONS.

A. Unlined Ponds Violating The CCR Rule Fail RCRA's Protectiveness Standard.

All of the ponds subject to EPA's proposed Part B decisions are unlined, and must therefore close under the CCR Rule, absent an approved ALD.¹³⁷ The fact that these ponds are unlined is more than sufficient to compel their immediate closure. The D.C. Circuit underscored the urgency of prompt closure of all unlined ponds.

The EPA found that unlined impoundments are dangerous

[U]nlined impoundments are at significant risk of harmful leakage. Impoundment leakages pose substantial risks to humans and the environment.¹³⁸

The Martin Lake CCR impoundment is not only unlined, it is violating numerous crucial requirements of the CCR Rule. EPA relied on the requirement that facilities must demonstrate ponds' compliance with the CCR Rule as justification for promulgating the Part B Amendments, which has allowed unlined ponds to remain open beyond the otherwise-applicable cease receipt deadline of April 11, 2021.¹³⁹ As EPA acknowledged, permitting unlined ponds violating the CCR Rule to remain in operation contravenes RCRA's protectiveness standard.¹⁴⁰

¹³⁶ 85 Fed. Reg. at 72,517.

¹³⁷ 40 C.F.R. § 257.71(a).

¹³⁸ USWAG, 901 F.3d at 427, 428.

¹³⁹ 40 C.F.R. § 257.101(a); 85 Fed. Reg. at 72,514.

¹⁴⁰ 85 Fed. Reg. at 72,507.

While EPA's Part B denial decisions will—when finalized—require these unlined ponds to stop operating and begin the closure process, those decisions alone will not redress the widespread CCR Rule violations the Agency has documented at each site. Enforcement is necessary to accomplish that. Failure to undertake enforcement to gain prompt compliance would fall short of EPA's duties under the RCRA protectiveness standard.

B. PDP-5 Is Violating Critical CCR Rule Requirements.

As noted above, compliant groundwater monitoring at CCR units is essential to the effectiveness of the CCR Rule. EPA has documented that CCR units—especially those that are unlined—pose significant threats of groundwater contamination.¹⁴¹ Yet none of the groundwater monitoring networks at any of the Part B ponds is properly designed to detect contamination, and none is being adequately implemented in a manner to detect contamination.

To the contrary, the nature and extent of the groundwater monitoring violations highlighted in every proposed Part B denial decision indicate that the utilities would prefer not to detect the contamination their ponds are causing. When contamination goes undetected, or utilities unconvincingly attempt to disregard contamination that is detected, utilities fail to conduct more extensive monitoring to identify the nature and extent of the contamination. Moreover, they fail to undertake corrective action to clean-up their contamination.

As discussed above, EPA highlighted the following groundwater monitoring violations at the Martin Lake plant's PDP-5:

- Failure to install upgradient wells demonstrated to be unaffected by CCR leakage;
- Downgradient wells located far from the pond boundary, without documented justification;
- Failure to support the number, location, and depth of wells with site-specific technical information;
- Improper use of intrawell data comparisons;
- Failure to justify statistical methods;
- Failure to support the alternate source determination for calcium, boron, and chloride SSIs with factual information rather than theoretical assumptions, and inappropriately remaining in detection monitoring rather than advancing to assessment monitoring; and
- Failure to establish compliance with the location restrictions for unstable areas and fault area restrictions.

¹⁴¹ See, e.g., *USWAG*, 901 F.3d at 421-22.

The nature and breadth of these violations make clear that Luminant is not appropriately monitoring PDP-5 to detect groundwater contamination. And when its inadequate monitoring nonetheless picked up some—although undoubtedly not all—of the contamination leaking from the pond, it employed more wishful thinking than factual evidence to argue that the contamination is not emanating from the pond whose monitoring revealed the exceedances.

While denying Luminant’s Part B Application will require it to stop operating PDP-5 and begin the closure process,¹⁴² it will not necessarily require Martin Lake to remedy its ongoing groundwater monitoring violations. Without reliable groundwater monitoring, additional contamination related to the pond—and the plant’s other CCR units, as suggested by the numerous SSIs and the site’s history of widespread contamination—may go undetected and unaddressed, Martin Lake may not move from detection to assessment monitoring, and may not pursue corrective action where needed. EPA enforcement and compliance assurance is essential to address these serious violations that undermine the CCR regulatory program.

In addition, EPA has made considerable investment of its all-too-scarce technical resources in reviewing the Part B ponds’ groundwater monitoring programs and identifying widespread, substantial violations. Enforcement and compliance assurance are critical to ensuring that this investment results in benefits to human health and the environment pursuant to EPA’s RCRA duties.

C. Martin Lake’s CCR Rule Violations Should Preclude It from Submitting a Part A Application for PDP-5.

Although the Part B Amendments state that applicants rejected from the Part B process may pursue Part A applications for delayed cease receipt deadlines if they lack alternative disposal capacity,¹⁴³ that option should not be available to Martin Lake’s PDP-5. While a Part A application might be appropriate for rejected Part B applicants who *demonstrate compliance with the CCR Rule* but fail to make the requisite showing for their purported liners, it is inappropriate for facilities, like Martin Lake, that are violating multiple provisions of the CCR Rule.

Like Part B of the CCR Rule, Part A requires utilities seeking to delay the closure of their ponds to prove, among other things, that all of the CCR units at the facility are in full compliance with the CCR Rule. In reviewing the Martin Lake plant’s Part B Application, EPA has already found numerous and significant CCR

¹⁴² Having determined the application to be complete and thereby tolled the otherwise-applicable April 11, 2021 cease receipt deadline, EPA must finalize its proposed denial decision to specify a cease receipt/commence closure deadline in order to ensure legally-enforceable obligations for the timely closure of PDP-5.

¹⁴³ 40 C.F.R. § 257.71(d)(1)(iii)(E).

Rule violations. Thus, if some or all of these violations remain as of EPA's final decision, Martin Lake would not meet the requirements for a delayed cease receipt deadline under Part A.

EPA acknowledges that the CCR Rule noncompliance highlighted in its proposed denials would render Part B applicants ineligible to obtain Part A extensions.¹⁴⁴ Nevertheless, the agency indicates that it will review Martin Lake's Part A application as part of another action.¹⁴⁵

That approach is inappropriate. In issuing the CCR Rule, EPA made clear that plants' obligations to demonstrate CCR Rule compliance was a prerequisite to delaying (Part A) or avoiding (Part B) the April 2021 cease receipt/commence closure deadline otherwise applicable to all unlined ponds, and essential under RCRA's protectiveness standard.

Compliance with the rule provides critical support for the determination that these units will not present the types of risks identified in the damage cases considered in the 2015 CCR Rule. ...

...[C]ompliance with part 257, subpart D generally provides some guarantee that the risks at the facility are properly managed and adequately mitigated. Consequently, this determination provides critical support for a decision to allow continued operation of the alternately lined surface impoundment. This means that EPA must be able to affirmatively conclude that the facility meets this criterion prior to authorizing any continued operation of the surface impoundment. It also means that *EPA cannot grant facilities additional time to cure any noncompliance.*¹⁴⁶

If EPA finalizes its proposed finding that Luminant is violating the CCR Rule, it would be unlawful (and pointless) to allow the facility to continue using the noncompliant PDP-5 while EPA reviews Luminant's necessarily unapprovable Part A application.

If EPA denies Martin Lake's Part B Application, the agency likewise cannot provide the company an opportunity to cure the CCR Rule violations and try again. Such an approach would be contrary to the regulations and contravene RCRA's protectiveness standard. Of course, Part B applicants should and must cure their

¹⁴⁴ Proposed Denial at 2 of 54.

¹⁴⁵ *Id.*

¹⁴⁶ 85 Fed. Reg. at 72,514 (emphasis added); *see also* 85 Fed. Reg. at 53,543 ("*EPA cannot grant facilities additional time to cure any noncompliance.*") (emphasis added).

violations. The issue here, however, is whether a facility that EPA concludes is currently violating the CCR Rule should be allowed to continue violating the rule while EPA reviews its Part A application, or whether any belated compliance effort (more than two years after the CCR Rule cease receipt date) would render them eligible to further delay the closure of their unlined ponds.

While Martin Lake must cure the noncompliance detailed in EPA's Proposed Denials, EPA should use its enforcement and compliance assurance authorities, discussed below, to ensure that such compliance occurs. It should not add more burden and delay to the Part A regulatory process for facilities where noncompliance has already been documented in the parallel Part B process. Indeed, EPA has yet to issue proposed decisions for 41 plants with complete and pending Part A applications.¹⁴⁷ And EPA has documented CCR violations at every plant for which it has issued a proposed or final Part A decision.

Further delay would be inconsistent with the *USWAG* court's call for unlined ash ponds to close promptly, compelled by RCRA's protectiveness standard. Martin Lake has known since August 2018 that, notwithstanding the claim that PDP-5 was clay-lined, it would be regulated as unlined and that all unlined ponds must close.¹⁴⁸ It has known since August 2020 that the default cease receipt/commence closure deadline for all unlined ponds—including those previously claiming to be clay-lined—was April 11, 2021.¹⁴⁹ Even when EPA published the Part B Amendments offering the remote possibility that some small number of ponds might meet the Part B criteria and avoid the immediate-closure requirement, EPA warned Luminant and other utilities that it would be difficult to obtain Part B approval and their applications might well be rejected.¹⁵⁰ EPA expressly advised facilities to develop alternate capacity: "facilities will need to be pursuing alternative capacity well before EPA would render a decision on their ALD."¹⁵¹

EPA's delay in responding to the Part B applications does not excuse Martin Lake from meeting the requirements of Part B. Indeed, Luminant has been on notice for nearly five years that PDP-5 would be regulated as an unlined pond and

¹⁴⁷ See EPA, Coal Combustion Residuals (CCR) Part A Implementation and proposed decisions linked therein, <https://www.epa.gov/coalash/coal-combustion-residuals-ccr-part-implementation#ti> (last visited Apr. 10, 2023). The count of 41 plants with complete Part A applications that are neither withdrawn nor the subject of a proposed EPA decision includes 19 applications under 40 C.F.R. § 257.103(f)(1) and 22 under (f)(2).

¹⁴⁸ *USWAG*, 901 F.3d at 426-432.

¹⁴⁹ Part A Amendments.

¹⁵⁰ 85 Fed. Reg. at 72,508.

¹⁵¹ 85 Fed. Reg. at 72,532.

that all unlined ponds would have to close. Luminant has known for three years that it would have to stop using and begin closing PDP-5 by April 11, 2021, and that the odds of obtaining an exemption under Part B were slim, at best. Any responsible business, particularly one that serves the public, should have been preparing for alternate means of handling its CCR and non-CCR wastewaters due to the likely requirement to close PDP-5. In light of *USWAG*'s urgency about the need to close unlined ponds as soon as possible, RCRA's protectiveness standard, and Luminant's noncompliance with the CCR Rule, there is no legitimate purpose in further delaying PDP-5's required closure while EPA reviews the company's Part A application.

D. EPA Must Undertake Enforcement And Compliance Assurance Efforts.

EPA must undertake enforcement and compliance assurance efforts to ensure that Martin Lake and other Part B applicants remedy their substantial CCR Rule noncompliance. EPA has already undertaken some limited CCR enforcement actions, including at the Apache plant, which withdrew its Part B application and was referred to the regional Enforcement and Compliance Division.¹⁵² EPA must act as soon as possible to ensure that the violations that it has already identified at Martin Lake are remedied. The enforcement and compliance assurance process is far more appropriately suited to ensuring that these violations are cured than the nebulous "cure before filing Part A" language in EPA's Proposed Denial. The enforcement and compliance assurance process allows for timelines to be set, and enforced if necessary, for each of the steps that the plant must take to remedy the numerous violations highlighted in the Proposed Denial. It provides for deadlines for utility submissions and would require EPA review and approval of such submissions, as well as EPA oversight of utilities' implementation of curative plans.

The nature and extent of the CCR violations that EPA has documented in some detail at virtually all of the Part A facilities for which it has issued proposed or final decisions, and at all of the Part B facilities, and the long-documented threats posed by CCR units to communities across the country, underscore the need to make CCR enforcement one of EPA's top enforcement priorities.¹⁵³

¹⁵² EPA (Carolyn Hoskinson, Director, Office of Resource Conservation and Recovery), Letter to Arizona Electric Power Cooperative, Inc. (Michelle Freemark) (Jan. 25, 2023), available at [https://www.epa.gov/system/files/documents/2023-01/AEPCO Apache ACL Certification Letter Signature 1 25 23.pdf](https://www.epa.gov/system/files/documents/2023-01/AEPCO%20Apache%20ACL%20Certification%20Letter%20Signature%201%2025%2023.pdf).

¹⁵³ Earthjustice et al., Public Comment on EPA's National Enforcement and Compliance Initiatives for Fiscal Years 2024-2027, Docket ID No. EPA-HQ-OECA-2022-0981-0050 (Mar. 13, 2023).

V. EPA SHOULD IMPOSE THE FASTEST CEASE RECEIPT DEADLINE POSSIBLE FOR PDP-5.

A. A Prompt Cease Receipt Deadline Is The Only Outcome Consistent With USWAG.

EPA's proposal to allow Martin Lake an additional 135 days after a final denial decision to cease receipt of waste in an unlined impoundment more than lives up to its statement in the Part B Amendments that "EPA intended that the deadline would be tolled during the entire time between an approved application and the final determination on the [alternative liner demonstration]." ¹⁵⁴ EPA explains that the proposed 135-day cease-receipt date reflects the amount of time that Martin Lake would have had to comply with the regulatory cease-receipt deadline if EPA had denied its application immediately upon receipt. ¹⁵⁵

No industry party sought judicial review of the Part A or Part B Amendments, including the deadlines for filing applications (November 30, 2020) and the default cease receipt deadline for facilities whose Part B Rule applications were deemed incomplete or denied (April 11, 2021). As discussed above, utilities have known for a long time that unlined ponds such as Martin Lake's PDP-5 must close.

When issuing its final denial decision for Martin Lake, and specifying the 135-day cease receipt deadline, EPA should make clear that the 135-day deadline runs from the date the final decision is signed, and make clear that the date of signing is the effective date.

B. EPA Should Not Grant a Further Extension (And In No Event Later Than October 15, 2023) Unless ERCOT Establishes that Grid Reliability will be Demonstrably Jeopardized.

EPA's Proposed Denial raises the possibility of an extension beyond the 135-day deadline discussed above, for reasons of electric grid reliability. ¹⁵⁶ EPA appears to be concerned about the possibility that Martin Lake might have to shut down (either temporarily or permanently), and potentially cause grid reliability problems, if the plant has not made alternative disposal arrangements before PDP-5's cease receipt deadline. Because RCRA's protectiveness standard does not allow for considerations of cost or convenience, ¹⁵⁷ and the utilities have had years of advance notice of the need to close unlined impoundments, EPA should not extend the cease receipt deadline beyond the 135-day date indicated in the Proposed Denial. EPA

¹⁵⁴ Part B Amendments, 85 Fed. Reg. at 72,531.

¹⁵⁵ Proposed Denial at 44 of 54.

¹⁵⁶ Proposed Denial at 45 of 54.

¹⁵⁷ USWAG, 901 F.3d at 448-449.

should work with Luminant and ERCOT, to the extent possible, to explore non-generation alternative options in any reliability analysis, in the event that Luminant seeks an extension of the cease-receipt date for electric reliability reasons. In this way, the potential continued use of the unlined impoundment, and continued operation of the plant, past the 135-day date will be a last resort. Implementation of alternative solutions could take until past the 135-day mark to be complete (and could warrant a limited extension past that date), but has the potential to allow quicker cessation of waste receipt at the unlined impoundment than simply allowing continued coal boiler operation as the reliability-saving solution.

EPA proposed that Luminant must submit a planned outage request to ERCOT within 15 days after EPA's final decision, and must submit any reliability-based disapproval decision (with a formal reliability analysis) to EPA within 10 days after receiving it.¹⁵⁸ EPA should amend the phrase "planned outage" to additionally include "suspension or the like" to encompass multiple pathways for generator shutdown that a utility might consider under applicable ERCOT rules.

EPA notes that if ERCOT denies an outage request:

EPA would expect the plant owner to work with ERCOT to plan an outage schedule that can be approved by ERCOT and satisfies the plant owner's RCRA obligations, without regard to any cost implications (e.g., in meeting any contractual obligations with third parties) that may result for the plant owner under a revised proposed outage schedule. . . .

If, however, ERCOT requests that Luminant move its planned outage or requires alternative solutions to be implemented prior to an outage that exceeds the compliance timeline allowable under RCRA based on a technical demonstration of operational reliability issues, EPA is proposing that, based on its review of that decision and its basis, EPA could grant a further extension (i.e., beyond 135 days of the date of EPA's final decision). EPA is further proposing that such a request could only be granted if it were supported by the results of the formal reliability assessment(s) conducted by ERCOT that established that the temporary outage of the boiler during the period needed to complete construction of alternative disposal capacity would have an adverse impact on reliability. In such a case EPA is proposing that, without additional notice and comment, it could authorize continued use of the impoundments for either the amount of time provided in an alternative schedule proposed by ERCOT or the amount of time EPA

¹⁵⁸ Proposed Denial at 49 of 54.

determines is needed to complete construction of the alternative disposal capacity based on its review of the demonstration, whichever is shorter. EPA is further proposing that a request from ERCOT to move a requested outage until other solutions are in place without a finding of technical infeasibility for demonstrated reliability concerns would not support EPA's approval of an extension of the date to cease receipt of waste because any concern about outage schedules and their implications for plant economics could be resolved without an extension of RCRA compliance deadlines (e.g., through provision of replacement power and/or capacity, rearranging plant maintenance schedules, reconfiguration of equipment).¹⁵⁹

EPA's proposal is flawed, for several reasons. As an initial matter, EPA cannot lawfully "authorize" the continued, indefinite use of a coal ash pond that is in violation of the CCR Rule "without additional notice and comment." RCRA mandates that "[p]ublic participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program under this chapter shall be provided for, encouraged, and assisted by the Administrator." 42 U.S.C.A. § 6974(b). To that end, the Act requires that "[b]efore the issuing of a permit to any person with any respect to any facility for the treatment, storage, or disposal of hazardous wastes under section 6925 of this title, the Administrator shall (A) cause to be published in major local newspapers of general circulation and broadcast over local radio stations notice of the agency's intention to issue such permit," and "[i]f within 45 days the Administrator receives written notice of opposition to the agency's intention to issue such permit and a request for a hearing, . . . he shall hold an informal public hearing (including an opportunity for presentation of written and oral views) on whether he should issue a permit for the proposed facility." 42 U.S.C.A. § 6974. RCRA, the Administrative Procedure Act, and fundamental due process preclude EPA from permitting the continued use of a coal ash disposal pond that is not in compliance with the law.

Second, EPA should make clear in its final decision that as part of its consideration of any reliability-based extension request, EPA will evaluate whether continued use of PDP-5 is necessary for the power plant's operation. At a minimum, any request by Luminant to extend PDP-5's cease-receipt date on electric grid reliability grounds must contain: a comprehensive accounting and discussion of each waste stream that goes to PDP-5; all efforts undertaken to arrange for alternative disposal of each wastestream; why no on-site or off-site alternative disposal for the waste stream is feasible—without regard to cost or inconvenience—prior to the 135-day mark; and how boiler operation creates the waste stream.

¹⁵⁹ Proposed Denial at 47-48 of 54.

In this light, EPA reasonably proposed that the latest extension possible would be no later than “the amount of time EPA determines is needed to complete construction of alternative disposal capacity based on its review of the Application.”¹⁶⁰ In any decision allowing an extension for electric reliability reasons, EPA must make a specific finding of the earliest practicable time that alternative disposal capacity for each relevant waste stream could be completed, and any reliability-based extension should not go beyond the latest such date. In addition, EPA should require in its final decision that, if it grants any reliability-based extension, its decision would be conditioned on Luminant providing ongoing updates at regular intervals (*e.g.*, every three months) to EPA and the public of all steps undertaken by Luminant and/or MISO to overcome the electric reliability issue.

EPA also reasonably states that any reliability-based extension recommended by ERCOT and granted by EPA should be the minimum period absolutely necessary, in order to minimize the period of adding new CCR waste to dangerous unlined impoundments.

C. ERCOT has Expressed Confidence in System Reliability.

The Martin Lake power plant is part of the Electric Reliability Council of Texas (“ERCOT”) Independent System Operator.¹⁶¹ EPA noted that as of now, it has “no evidence” that a planned outage of the Martin Lake plant’s electric generation could trigger electric grid reliability violations in ERCOT.¹⁶² Commenters agree with this point and also with EPA’s emphasis on securing a formal reliability assessment from ERCOT, under ERCOT’s own processes. Commenters expect that ERCOT and EPA will work together in good faith to identify any genuine reliability concerns that may arise from any temporary generator shutdown attributable to EPA’s decision in this matter.

Commenters note that one portion of the Proposed Decision needs to be updated to incorporate recent ERCOT rule changes around the scheduling of planned outages. Regarding the required timing of a planned outage request to ERCOT, EPA states:¹⁶³

According to the ERCOT Outage Scheduling Manual, the normal process for obtaining approval for a planned outage occurs within two months or fewer [*citing* ERCOT Nodal Protocols § 3 as of June 1, 2022]. If a generating facility submits a request for a planned outage at least

¹⁶⁰ Proposed Denial at 48-49 of 54.

¹⁶¹ An Independent System Operator or “ISO” is similar to an RTO, with one difference being that an ISO is in one state and not “regional.”

¹⁶² Proposed Denial at 48 of 54.

¹⁶³*Id.* at 49-50 of 54.

45 days prior to the planned outage, ERCOT will accept the request, but may discuss alternatives to minimize reliability and cost impacts. If a generating facility submits a request less than 45 days in advance of the planned outage, ERCOT will approve or reject the request within 1-5 business days.

In fact, ERCOT revised¹⁶⁴ its Nodal Protocols on July 29, 2022 to implement requirements of Texas Senate Bill 3 (enacted in 2021). The new Section 3.1.6 of the Nodal Protocols provides that “ERCOT shall approve or reject all requested Outage plans for a Resource other than a Reliability Resource submitted to ERCOT more than 45 days before the proposed start date of the Outage” and that the outage request will be evaluated based on a “Maximum Daily Resource Planned Outage Capacity” during the requested outage time, and that the planned outage request shall be decided within five business days.¹⁶⁵ Meanwhile, the amended Section 3.1.6.6(1) of the protocols appears to suggest that the required outage notification time for optimal consideration is not greater than 45 days, but greater than 15 days. EPA should coordinate with ERCOT to clarify if 15 days is in fact the relevant threshold. And EPA should acknowledge these changes to ERCOT’s protocols in the final decision for Martin Lake. Since a planned outage request submitted with sufficient lead time now will *not* be automatically approved by ERCOT, it is doubly important that EPA’s final decision give appropriate treatment to potential determinations of electric reliability problems, as discussed above.

Notwithstanding this discussion, Commenters believe that, because at most 45 days of notice are required to ERCOT for a planned outage request, and Luminant had the opportunity in January of this year to submit the planned outage request, the utility’s proposed shutdown date (based on the anticipated final decision date) will be after the earliest time allowed under ERCOT rules. Additionally, Commenters believe that the timeline for a planned outage request, plus ERCOT’s determination, plus notice to EPA within ten days, plus consideration by EPA of the formal reliability analysis, should end prior to the required 135-day cease receipt date (which would be around August 23 at the earliest).

V. CONCLUSION

For the reasons discussed above, EPA should promptly finalize its Proposed Denial of Martin Lake’s alternate liner demonstration application for PDP-5. In addition, EPA should accompany its final decision with enforcement measures to

¹⁶⁴ See <https://www.ercot.com/mktrules/nprotocols/library> for a history of recent changes to the protocols.

¹⁶⁵ See July 29, 2022 changes to ERCOT Nodal Protocols § 3.1.6.6.

ensure compliance with the numerous, significant CCR Rule violations discussed above.

Sincerely,

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