Edison Electric INSTITUTE

Power by Association℠

December 11, 2023

Michelle Lloyd
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Docket No. EPA-HQ-OLEM-2020-0107

[SUBMITTED ELECTRONICALLY]

RE: Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments

The Edison Electric Institute appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA or Agency) notice of data availability, *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments* (NODA). 88 *Fed. Reg.* 77,941 (Nov. 14, 2023).

EEI is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity for more than 235 million Americans and operate in all 50 states and the District of Columbia. The electric power industry supports more than seven million jobs in communities across the United States. EEI members invest more than $140 billion annually to make the energy grid smarter, cleaner, more dynamic, more flexible, and more secure; to diversify the nation's energy mix; and to integrate new technologies that benefit both customers and the environment. Across the nation, investor-owned electric companies are leading a clean energy transformation, making significant progress to reduce greenhouse gas (GHG) emissions in our sector, while also creating good-paying jobs and an equitable clean energy future. They are united in their commitment to get the energy they provide as clean as they can, as fast as they can, while keeping reliability and affordability front and center, as always, for the customers and communities they serve.

As EEI members continue to decommission coal-based electric generating units (EGUs or units), CCR will continue to be managed. EEI members have been complying with the requirements in the 2015 CCR Rule and are committed to decreasing their CCR footprints and remediating historic sites that are presenting a reasonable probability of adversely affecting human health or the environment. EEI members have specific interest in the Proposed Rule and NODA, as the requirements included therein relate directly with the continued clean energy transformation described infra. EEI's comments focus on the

definition of CCR management unit (CCRMU), beneficial use of CCR on site, compliance deadlines and the definition of legacy surface impoundment.

Questions on these comments may be directed to Patrick McGuire (202-508-5167), Richard Huggins (202-508-5233), or Alex Bond (202-508-5523).

Sincerely,

/s/ Alex Bond

Alex Bond
Deputy General Counsel, Climate & Clean Energy

COMMENTS FROM THE EDISON ELECTRIC INSTITUTE ON THE ENVIRONMENTAL PROTECTION AGENCY'S NOTICE OF DATA AVAILABILITY, HAZARDOUS AND SOLID WASTE MANAGEMENT SYSTEM: DISPOSAL OF COAL COMBUSTION RESIDUALS FROM ELECTRIC UTILITIES; LEGACY CCR SURFACE IMPOUNDMENTS

Docket No. EPA-HQ-OLEM-2020-0107

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The Edison Electric Institute appreciates the opportunity to submit comments to the U.S. Environmental Protection Agency (EPA or Agency) regarding their notice of data availability, *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments* (NODA). 88 *Fed. Reg.* 77,941 (Nov. 14, 2023). The purpose of the NODA is to provide and take comment on new information and data pertaining to the Agency's May 18, 2023, proposed rule, *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments* (Proposed CCR Rule). 88 *Fed. Reg.* 31,982 (May 18, 2023).

The NODA continues EPA's process of promulgating new regulations for coal combustion residuals (CCR) after the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) vacated the exemption for inactive surface impoundments at inactive facilities included in EPA's 2015 rule, *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities*[1] (2015 CCR Rule), and remanded the issue back to EPA in *Utility Solid Waste Activities Group (USWAG), et al. v. EPA*, 901 F.3d 414 (D.C. Cir. 2018).

[1] 75 *Fed. Reg.* 21,302 (Apr. 17, 2023).

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As EEI members continue to decommission coal-based electric generating units (EGUs or units), CCR will continue to be managed. EEI members have been complying with the requirements in the 2015 CCR Rule and are committed to decreasing their CCR footprints and remediating historic sites that present a reasonable probability of adversely affecting human health or the environment. EEI members have specific interest in the NODA, as the data and information included as well as the requirements in the Proposed CCR Rule relate directly to the continued clean energy transformation described *infra*. As EPA is aware, the data and information needed for analysis of the proposal and management of CCR is extensive and complex. Given that, EEI's comments focus on the definition of CCR management unit (CCRMU), beneficial use of

CCR on site, compliance deadlines and the definition of legacy surface impoundment as areas the Agency must address given the short timeline the Agency has proposed for this rulemaking.

I. EEI Members Continue to Lead the Clean Energy Transformation.

EEI members are leading a profound, long-term transformation in how electricity is generated, transmitted, and used. This transformation is being driven by a wide range of factors, including relatively lower prices for natural gas, particularly as compared to historic high prices; increased deployment of renewable energy resources, energy efficiency measures, and demand-side management; technological improvements; changing customer, investor, and owner expectations; federal and state regulations and policies; legislation, including the Infrastructure Investment and Jobs Act[2] (IIJA) and Inflation Reduction Act of 2022[3] (IRA); and the increasing use of distributed energy resources. Across the industry, electric companies are investing in a broad range of affordable, carbon-free technologies and approaches with the goal of finding the most cost-effective ways to deliver resilient clean energy.

The mix of resources used to generate electricity in the United States has changed dramatically over the last decade and is increasingly cleaner.[4] In 2022, for the first time, renewable energy

[2] Pub. L. No. 117-58.

[3] Pub. L. No. 117-169.

[4] *See* U.S. Energy Information Administration (EIA), Today in Energy: Renewable generation surpassed coal and nuclear in the U.S. electric power sector in 2022 (Mar. 27, 2023), https://www.eia.gov/todayinenergy/detail.php?id=55960&src=email; *See also* EIA, Electric Power Monthly: Data for February 2023—Table 1.1 Net Generation by Energy Source: Total (All Sectors), 2013-February 2023 (Mar. 24, 2023), https://www.eia.gov/electricity/monthly/xls/table_1_01.xlsx; *and* EIA, Electric Power Monthly: Data for February 2023—Table 1.1.A. Net Generation from Renewable Sources: Total (All Sectors) (Mar. 24, 2023), https://www.eia.gov/electricity/monthly/xls/table_1_01_a.xlsx.

sources[5] surpassed coal as a fuel: 22.6 percent of total generation at utility-scale facilities in the United States came from renewable sources compared to 19 percent from coal-based generation.[6] In total, more than 40 percent of America's electricity came from clean carbon-free resources in 2022, including nuclear energy, hydropower, solar, and wind,[7] putting clean resources at parity with natural gas generation, which provided approximately 40 percent of the country's total electricity generation at utility scale facilities in 2022.

As part of the move toward clean, resilient energy, electric companies are deploying more energy storage, which is a key asset in helping the grid integrate increasing amounts of renewables and offering resilience and reliability. Electric companies are the largest users and operators of the approximately 34 gigawatts (GW) of operational storage in the country—representing 93 percent of active energy storage projects.[8]

Going forward, renewable and clean energy technology deployments will continue. EIA predicts that declining capital costs for solar panels, wind turbines, and battery storage, along with government support such as the IRA, will make these technologies increasingly cost effective

[5] Renewables here include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, hydroelectric conventional, solar thermal, photovoltaic energy, solar, and wind. *See* EIA, Electric Power Monthly, Table 1.1, *supra*, n. 4.

[6] *See id*.

[7] *See id.*

[8] Compiled from the following proprietary sources: *Wood Mackenzie Power & Renewables/ESA* (2022); *Dept. of Energy's Energy Storage Database* (2022); *Hitachi Energy, The Velocity Suite; EEI Business Analytics & Energy Supply* (Mar. 2023).

compared to the alternatives when building new power generating capacity.[9] EIA projects that in the United States renewable generation will more than triple by 2050, with both wind and solar responsible for most of the growth.[10]

The changes in the mix of resources used to generate electricity have profoundly decreased the sector's carbon dioxide (CO_2) emissions, the primary greenhouse gas emissions associated with electricity production. EIA's full-year estimates for 2022 electric power sector CO_2 emissions were 36 percent below 2005 levels, as low as they were almost 40 years ago,[11] and once again led the nation in reducing emissions. These reductions will continue.[12] Further, 50 EEI members have announced voluntary, forward-looking carbon reductions goals, 41 of which include a net-zero by 2050 or earlier equivalent goal, and members routinely increase the ambition or speed of their goals or altogether transform them into net-zero goals to reflect changing expectations about the cost and availability of renewable generation and other clean energy resources.

[9] EIA, Annual Energy Outlook 2023 (AEO 2023) 9 (Mar. 16, 2023), https://www.eia.gov/outlooks/aeo/pdf/AEO2023_Narrative.pdf.

[10] *See* AEO 2023 at Table 16. Renewable Energy Generating Capacity and Generation: Electric Power Sector: Generation: Total (Mar. 16, 2023), https://www.eia.gov/outlooks/aeo/data/browser/#/?id=16-AEO2023&region=0-0&cases=ref2023&start=2021&end=2050&f=A&linechart=ref2023-d020623a.25-16-AEO2023~&ctype=linechart&sid=ref2023-d020623a.25-16-AEO2023~ref2023-d020623a.64-16-AEO2023&sourcekey=0.

[11] *See* EIA, Monthly Energy Review, Environment, Table 11.6—Electric Power Sector (Mar. 2023), https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf.

[12] AEO 2023 at 4.

In addition, the electric industry has significantly reduced emissions of traditional air pollutants, such as mercury, hazardous air pollutants (HAPs), sulfur dioxide (SO_2), and nitrogen oxides (NOx). As of 2022, SO_2 and NOx emissions have declined 95 and 88 percent, respectively, since 1990.[13] In addition, mercury emissions have declined by 95 percent since 1990,[14] and total HAPs—including all acid gas emissions—declined by 96 percent between 1990 to 2017.[15]

EEI's member companies see a clear path to continued emissions reductions over the next decade using current technologies, including nuclear power, natural gas-based generation, energy demand efficiency, energy storage, and deployment of new renewable energy—especially wind and solar[16]—as older coal-based and less-efficient natural gas-based generating units retire.[17] These technologies will continue to enable significant, cost-effective carbon reductions.

In the long term, reaching net-zero carbon emissions also will require the deployment of next-generation, carbon-free, 24/7, dispatchable technologies not currently available commercially.

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[13] *See* EPA, Power Plant Emissions Trends (Feb. 2023), https://www.epa.gov/power-sector/power-plant-emission-trends.

[14] *See* EPA, Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards 2-7 (Dec. 2011), https://www.epa.gov/sites/default/files/2015-11/documents/matsriafinal.pdf.

[15] *See* 84 *Fed. Reg.* 2,670, 2,689 (Feb. 7, 2019).

[16] Once built and when the resource is available, wind and solar are the least cost resources to operate to meet electricity demand because they have zero fuel costs. Over time, the combined investment and operating cost advantage increases the share of zero-carbon electricity generation. *See* AEO 2023 at 5.

[17] EIA notes that coal-fired generation capacity will decline sharply by 2030 to about 50 percent of current levels (from about 200 GW to 100 GW) with a more gradual decline thereafter. *See* AEO 2023 at 13.

Supported by the clean energy tax incentives included in the IRA and the grant funding available via the IIJA, electric companies are partnering with technology developers, academic institutions, investors, philanthropists, each other, and other stakeholders to develop, demonstrate, and deploy these new clean energy technologies. These include long-duration energy storage, carbon capture and storage, advanced nuclear and renewable generation, and clean fuel (like hydrogen, renewable natural gas, and ammonia). Developing and deploying a broad range of advanced clean energy technologies will further expedite the transition of the electric power sector to one that is low- or non-emitting while keeping electricity affordable and reliable for customers.

II. Comments on NODA and Proposed Rule.

a. EPA Should Narrow the Definition of CCRMU and Should Consider Excluding Beneficial Uses.

EPA should take a risk and prioritization-based approach to managing CCR—either in regulatory compliance or through targeted policy choices in regulatory development—so that electric companies can prioritize and devote resources to specific CCR concerns in a way that both will ensure that finite resources are allocated efficiently and that the focus is first on those areas with the highest potential risk to human health and environment. In the Proposed CCR Rule, EPA defined CCRMU as "any area of land on which any non- containerized accumulation of CCR is received, placed, or otherwise managed at any time, that is not a CCR unit." 88 *Fed. Reg.* at 32,108 (to be codified at 40 C.F.R. § 257.53). Notably, this definition includes inactive CCR landfills and CCR units that closed prior to October 17, 2015. As proposed, the definition of CCRMU is overly broad and would regulate areas that do not pose a probable risk to human health and the environment. The NODA did not explicitly include a threshold amount of CCR in a CCRMU that could pose a risk to human health and the environment, but it appears the

modeling performed by EPA will enable the Agency to set a minimum threshold in the definition of CCRMU in a final rule. A minimum threshold is an appropriate approach from EPA, providing certainty regarding which small accumulations of CCR are considered CCRMU and which are not. EPA should adopt such an approach, and ensure it is tailored appropriately to allow for companies to prioritize addressing CCRMU that pose significant risks first, before addressing other accumulations.

In addition, the CCRMU definition is overly broad as proposed by the Agency since it includes CCR beneficially used on site. Beneficial use of CCR is critical as it provides functional and economic benefits for construction and engineering projects as we continue to build clean energy infrastructure.[18] For example, one EEI member beneficially used CCR material as part of a project to repair surface slides on an earthen dam (non CCR unit). The CCR material was utilized as a soil amendment to increase the unconfined compressive strength of the soil excavated from the surface of the dam and then utilized to repair the surface slides, in accordance with a professional engineer's recommendation and specifications for the repair work. Furthermore, owners and operators should be provided with the opportunity to demonstrate to the permitting authority that these beneficial use projects do not pose a risk to human health and the environment and therefore should not be regulated as CCRMU.

[18] EPA should consider excluding beneficially used CCR on site and that meets the regulatory definition of beneficial use.

b. EPA Should Make Alterations to the Requirements for Groundwater Monitoring, Corrective Action, and Closure for CCRMU.

As noted *supra*, EPA should primarily look to regulate areas that have significant non-containerized accumulation of CCR that pose a risk to human health and the environment. To that end, groundwater monitoring and corrective action are appropriate to address the risks posed by those areas. Broadly requiring mandatory closure or re-closure for all CCRMU is unnecessary and could result in greater environmental impacts and grid stability issues. Therefore, the Agency should defer closure decisions to the permitting authority (EPA or approved state) so that they may decide if closure is necessary for a specific CCRMU to protect human health and the environment on a site-specific basis.

Furthermore, many EEI members have CCR located where critical infrastructure now resides—or where CCR is an integral part of that very same infrastructure. This includes buildings, transmission towers, gas lines, electric generating units, coal piles, rail lines, conveyors and transfer hoses, pump houses, screening berms, air pollution control technologies, solar installations, historic landfill cells or closed surface impoundments beneath active and currently in-use landfill cells and water treatment facilities.[19]

Many EEI members have done significant work on these CCRMU areas and EPA should look to preserve and build upon those types of efforts, not look to require duplicative closure requirements. EPA did not provide for those CCRMU that have already gone through a state

[19] In addition, EPA should provide regulatory flexibility in documenting and delineating these areas in the Facility Evaluation Report.

closure process or are otherwise conducting closure under state oversight. Some members have even planted and restored forests and other natural vegetation on these CCRMU.

It would be imprudent, and in some cases could present significant operational risk and safety concerns, to require site owners and operators to remove critical infrastructure in order to close the CCRMU, especially given the nature of that infrastructure as described above. Therefore, the Agency should be explicit in saying that any CCRMU supporting a structure or incorporated in infrastructure will not be required to initiate closure, if closure is even necessary, until the decommissioning and removal of the overlying infrastructure. Such an approach would be consistent with a prioritization approach and would provide additional certainty to EEI members in addressing near term CCRMU considerations.

c. EPA Should Ensure that Compliance Timeframes in Any Final Rule are Fair, Appropriate, and Reflective of Real-World Conditions.

In the Proposed CCR Rule, EPA includes timelines for compliance with specific regulatory requirements for legacy CCR surface impoundments and CCRMU. Many of these timelines are very short, resulting in significant compliance difficulties for EEI members from a feasibility perspective. One difficulty that applies to all the expedited compliance deadlines is that EPA estimated that it would take one to two weeks to hire a contractor. However, companies have detailed processes to hire a contractor and those contractors are in limited supply. Many EEI members are required to go through a competitive bidding process to ensure selection of the contractor that can provide the best value or to ensure that diverse suppliers are appropriately considered. Once a new project is authorized, under normal circumstances, it can take six to eight weeks from issuance of the request for proposals to make the recommendation to award. Then, assuming the selected vendor has a current Master Services Agreement with the electric

company, another four weeks for contract negotiations, resulting in the issuance of a purchase order. EPA should therefore consider providing additional time to allow for these processes to be completed, including:

- *Legacy CCR surface impoundment applicability documentation*. The proposal requires that the owner or operator must complete this documentation on the effective date of the final rule (six months from publication in the *Federal Register*). This timeframe is insufficient as the applicability documentation requires delineation of unit boundaries (§ 257.100(f)(1)(i)(A)) and the size of the unit in acres (§ 257.100(f)(1)(i)(D)). Many inactive facilities have an assortment of site accessibility, safety, and security issues such as lack of roads to move machinery and personnel, heavy vegetation which must be cleared for equipment and conduct site investigation, potential human encampments, or even periodic illicit activities that must be addressed by law enforcement. Sites may also have become habitat for threatened or endangered species, which may require a lengthy permitting process before site activities can commence. Therefore, EPA should provide more time to complete the applicability documentation.
- *Facility evaluation and report*. The proposal requires that the owner or operator complete a thorough review of available records, a physical facility inspection and a report documenting the results of the facility inspection within three months of the effective date of the final rule (nine months from publication in the *Federal Register*). This timeframe is insufficient for a variety of reasons, some of which are highlighted below.[20]

[20] EEI members (TVA and Southern Company) provided detailed FER timeline comments to the proposed rule that illustrate the need to extend the FER compliance date.

- The collection of historic records is not a simple process as many members maintain records off site (since most files have not been digitized) and they are not maintained in an easily searchable manner. Some records may be maintained by a government agency and information requests would need to be filed to obtain those records. For example, some facilities have lost their historic records due to natural disasters such as hurricanes, tornadoes, or floods, resulting in the state maintaining the only remaining existing documents.
- As this rule may be signed in May 2024, the effective date of the final rule would not be until late 2024 or even early 2025. For some members this would make site work over the winter months extremely difficult or even impossible at times due to weather conditions. Therefore, some members may be unable to initiate site work until April 2025.
- As mentioned previously some areas of sites may be heavily vegetated or be wetlands. This will impede the ability to investigate the location of a possible CCRMU, the ability to delineate the unit and the ability to estimate the volume of the waste. If the area is a wetland, then specialty drill rigs will be required, and these types of rigs are in limited supply nationally.

- *Groundwater Monitoring.* The proposal requires the installation of groundwater monitoring wells no later than six months after the effective date of the final rule. This timeframe is insufficient. First, as noted above, it will take a significantly longer period than EPA estimated to identify and delineate legacy CCR surface impoundments and CCRMU which must occur before groundwater monitoring wells can be installed. Second, the timelines EPA used for well drilling, installation and development are not

consistent with EEI member company experiences. [21] Third, the timeframe does not consider the need to gather site specific geology and hydrogeologic information. Fourth the timeframe does not account for the significant lead time to schedule well drillers.[22] Fifth, the timeframe did not take seasonality or weather delays into account. Therefore, the Agency should provide more time to install groundwater monitoring wells after completion of the FER.[23]

d. Definition of Legacy CCR Surface Impoundment.

In the Proposed CCR Rule, the Agency defined a legacy CCR surface impoundment as "a CCR surface impoundment that no longer receives CCR but contained both CCR and liquids on or after October 19, 2015, and that is located at an inactive electric utility." The Agency believes this definition is most consistent with the D.C. Circuit's decision in *USWAG v. EPA,*[24] and the most protective of the options considered. EPA also asked for comment on defining a CCR legacy surface impoundment on the effective date of the final rule.

One critical issue regarding the proposed definition of legacy surface impoundments is whether free liquids were present on or after October 2015 date. However, determining whether free liquids were present at a particular point in history can be incredibly difficult based on a variety

[21] EEI members (TVA, Southern Company, and Duke Energy) provided detailed groundwater monitoring comments to the proposed rule that illustrate the need to extend the groundwater monitoring compliance dates.

[22] Duke Energy provided letters attached to their comments to the proposed rule as "Exhibit O" from well drillers describing these challenges.

[23] In addition, the Agency should consider requiring the design and installation of a groundwater monitoring system under the oversight of a permit program.

[24] *USWAG v. EPA*, 901 F.3d 414 (D.C. Cir. 2018).

of factors, including geography, geology and other technical considerations. There are many technical reasons why facilities cannot determine if liquids were in the surface impoundment before the effective date of the rule—*e.g.*, a lack of GW well data, or the lack of other mapping or GW elevation tools.

As stated above, the most appropriate legacy CCR surface impoundment definition should be based on the effective date of the final legacy rule. However, if the Agency chooses to use the October 19, 2015, date in the definition of legacy CCR surface impoundment—any legacy surface impoundment that has closed in place—per the Agency's own part 257 regulations—should receive credit for time and requirements already completed. For example, if the unit has been in post closure care for five years, the unit should only have 25 years left in post closure care. In addition, EPA should allow EEI members to make a technical case as to why free liquids were unlikely to be present on or after October 19, 2015.

III. Conclusion.

EEI looks forward to continuing discussions with EPA on the NODA and Proposed CCR Rule as the Agency works toward finalization. Further, individual EEI members are also interested in speaking with EPA regarding issues specific to their sites and facilities. EPA should take time to speak with these individual EEI members.

Questions on these comments may be directed to Richard Huggins (202-508-5233), Patrick McGuire (202-508-5167), or Alex Bond (202-508-5523).