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The Honorable Bill Johnson, Chair
Subcommittee on Environment,
Manufacturing, and Critical Materials
Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn HOB
Washington, DC 20515-6115

Dear Chairman Johnson:

Thank you for the invitation and great honor of participating in the Subcommittee's June 6, 2023 hearing on "Clean Power Plan 2.0: EPA's Latest Attack on America's Electric Reliability."

As reports suggest that the U.S. Environmental Protection Agency is set to imminently release the Final Rule for the "Clean Power Plan 2.0," this is a timely exchange.

I am pleased to provide responses to the additional questions posed by the Members. Responses to those questions are attached.

Thank you again for the opportunity to deliver this testimony before the Subcommittee.

Sincerely,



Michael Nasi

Attachment

Attachment—Responses to Additional Questions for the Record

The Honorable Bill Johnson

Does EPA's modeling of the proposed Clean Power Plan 2.0 comport with EIA data and any information on public announcements of the retirements of coal and natural gas generation? If not, please explain?

There are major problems with EPA's modeling of the Clean Power Plan 2.0 proposed rule. There are several discrepancies with EPA's assumptions and EIA data. Lignite Energy Council conducted a number of modeling exercises to understand the impact of the EPA's proposed Clean Power Plan 2.0 rule and to discover discrepancies between EPA's modeling assumptions and publicly available data. Comments of Lignite Energy Council, Document No. EPA-HQ-OAR-2023-0072-0678. This modeling uncovered a number of significant issues with EPA's modeling. Here are a few examples:

- EPA assumes by 2030 there will be 52,140 MW of combustion turbine natural gas-fired electric generation capacity within the Midcontinent Independent System Operator (MISO) regional system. This is an 75% more than the 29,694 MWs of combustion turbine natural gas-fired electric generation capacity that is expected in 2030 based on EIA announcements of new builds within MISO at the time of LEC modeling.
- EPA assumes by 2030 there will be 15,135 MW of coal-fired electric generation capacity within the MISO regional system, 4,210 MW of which will have carbon capture and sequestration (CCS) installed. This is 40% less than the 25,196 MW of coal-fired electric generation capacity in 2030 according to announced coal retirements from EIA and utility Integrated Resource Plans (IRPs) at the time of LEC's modeling.
- EPA assumes by 2030 there will be 11,007 MW of nuclear electric generation capacity within MISO. This is a 15% decrease from the 13,025 MW of capacity expected to be on the grid in 2030 based on announced retirements at the time of LEC's modeling.

The bottom line is that EPA's modeling presents an overly optimistic view of the availability of gas-fired generation, while acknowledging that its proposed rule will likely force early retirement of a significant amount of coal-fired electric generation capacity. This has significant implications for the affordability and reliability of electricity across the country.

We expect EPA to issue its Final Rule shortly, and interested parties should seek to understand whether EPA has corrected these issues in its new modeling, and whether EPA's assumptions for future natural gas-fired electric generation capacity are realistic to ensure that all Americans have access to affordable, reliability electricity.

The Honorable Randy Weber

In your written testimony, you demonstrate the “clear and present danger” of the EPA’s proposed carbon rule to the core of our nation’s electricity generation capabilities—coal and natural gas, which according to the U.S. Energy Information Administration, account for 59.3 percent of our nation’s electricity generation. The EPA’s proposed rule would have all coal and natural gas plants have operating Carbon Capture Sequestration (CCS) or hydrogen burning capabilities in place by 2030.

In your opinion, is this a realistic time frame for plants to meet this requirement within the next 7 years?

Can you elaborate on challenges that these facilities to construct and permit the infrastructure, pipelines, all under the assumption that the local geology is even conducive for CCS storage?

In short, no—EPA’s 5-year timeline is not realistic.

The timeline laid out by EPA in its proposed rule for both new and existing coal and natural gas plants is unrealistic.

In its proposed rule, EPA lays out a 5-year timeline for existing coal-fired power plants to utilize carbon capture and storage (CCS) technology. This means that all three components of CCS must be operational by 2030: carbon capture, transportation, and storage. At each stage in the process, there are significant technical and regulatory challenges that would make a 5-year implementation timeline infeasible.^w

Carbon Capture: Carbon capture has never been achieved at full scale anywhere in the world. In its proposed rule, EPA points to two small, prototype plants to suggest that the technology for capturing carbon from power plants is ready to be deployed at scale across the country.¹ One of these prototype plants is no longer running, and both plants have struggled to remain economically viable despite significant government subsidies.

One of these units is the Boundary Dam project in Saskatchewan, Canada. This project is a 110 MW slipstream project, which means that the project operates from a small portion of the overall flue gas outflow from the power plant. This project was heavily subsidized by the Canadian government, receiving \$240m in grants.

The other unit is the Petra Nova project in Texas. This project is also a slipstream project, drawing a 240 MW equivalent (37%) of the overall flue gas outflow from a single unit at a multi-unit power plant. Petra Nova met EPA’s standards of 90% capture at times, but the plant closed operations in 2020. Further, Petra Nova was subsidized by a program funded by the Energy Policy Act of 2005. This law contains language that specifically prohibits EPA from considering

¹ U.S. Environmental Protection Agency, New Source Performance Standards or Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, Proposed Rule, 88 Fed. Reg. 33,240, 33,254, 33,290 (May 23, 2023).

these facilities when determining whether a particular pollution control technology has been adequately demonstrated and is ready for widespread use in the industry.²

In summary, while promising R&D projects are underway, CCS technology is far from being able to be deployed at full-scale power plants across the country, whether that power plant uses coal or natural gas.

Transportation: EPA's timeline for development of a nationwide network of CO₂ pipelines is, to put it mildly, a pipe dream. The issues involved with CO₂ pipeline construction include siting, acquisition of property rights, permitting, public engagement, litigation, and so on. There are currently 5,339 miles of CO₂ pipelines in the United States. In order to support nationwide CCS, this pipeline network will need to be expanded by more than an order of magnitude, to 66,000. EPA notes in its Proposed Rule that there was a 13% growth in CO₂ pipelines in the last 10 years. 88 Fed. Reg. at 33,294. EPA's timeline assumes that it will be possible to build 100 times the amount of pipeline that exists today in half the time, or a 200% growth rate.

Storage: Once captured and transported, the CO₂ must be stored. This involves geologic exploration for suitable storage sites, drilling, permitting, acquisition of pore space rights, and so on. Each step of this process is complex and has many opportunities for delay. To achieve EPA's proposed standards, hundreds of injection sites all across the country will need to be constructed and permitted.

To take just one example, permitting: EPA has only permitted two CO₂ injection wells, and only one of those sites was ultimately constructed. The permitting process for these two sites took three years.

In short, a 5-year timeline is unrealistic; even a 10-year timeline is unrealistic. But regardless, The entire process has not yet been demonstrated at full scale—EPA lacks the authority to demand that industry do what has never been done.

² 42 U.S.C. § 15962(i)(1) (“No technology, or level of emission reduction, solely by reason of the use of the technology, or the achievement of the emission reduction, by 1 or more facilities receiving assistance under this Act, shall be considered to be adequately demonstrated for purposes of section 7411 of this title.”)

The Honorable Russ Fulcher

You noted the heavy challenge for electric companies to permit pipeline construction of CO₂ to storage. Can you build on your testimony regarding the permitting challenges? In other words, are there any specific parts or types of permits that are particularly challenging and that we can reform?

EPA's proposed requirement for carbon capture and storage will require the construction of a nationwide network of CO₂ pipelines that would need to stretch 66,000 miles. There are currently 5,339 miles of CO₂ pipelines in place. This will require an expansion of this network by more than an order of magnitude within a 5-year time horizon.

There are a number of regulatory hurdles for new pipeline projects, but I would point out one: the National Environmental Policy Act. Both of these regulatory programs serve important purposes for protecting the environment and public, but both regulatory programs are broken and in serious need of reform.

In 2020, the Trump administration's Council on Environmental Quality issued a suite of reforms to the NEPA process that would make permitting vital new infrastructure projects more streamlined while still allowing for significant public engagement and ensuring the protection of the environment and the public.³ These reforms were subsequently largely rolled back during the Biden Administration in 2022.⁴

Reviving the 2020 reforms would be an excellent place to start; Congress could take a serious look at these regulations and consider enacting all or parts of these reforms by statute, thus preventing the costly back-and-forth between presidential administrations that only creates additional regulatory uncertainty for vital infrastructure projects.

³ Council on Environmental Quality, Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304 (Jul. 16, 2020).

⁴ See Council on Environmental Quality, National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23,453 (Apr. 20, 2022).