

October 20, 2022

The Honorable Richard Glick  
Chairman  
Federal Energy Regulatory Commission  
888 First Street NE  
Washington, DC 20426

*Re: Modernizing Wholesale Electricity Market Design, Docket No. AD21-10-000*

Dear Mr. Chairman:

We are writing to provide information indicating that half or more of the nation's existing coal fleet will retire by the end of 2030. Coal retirements on a massive scale and over a relatively short period of time will increase reliability risks by depriving the grid of the reliability attributes of coal-fired generation.

In August, we sent a letter (attached) to the North American Electric Reliability Corporation (NERC) summarizing announced coal retirements as well as providing information on U.S. EPA regulations. NERC used 25,000 megawatts (MW) of "confirmed" coal retirements during 2022-2030 as the basis for its 2021 *Long-Term Reliability Assessment (LTRA)*.<sup>1</sup> However, NERC's confirmed retirements constitute only a fraction of the 93,200 MW of coal that have announced plans to retire over the same nine-year period.<sup>2</sup> (For perspective, the coal fleet totaled approximately 207,000 MW last year.) As we understand it, NERC is considering ways to address the discrepancy regarding confirmed versus announced coal retirements in its upcoming 2022 LTRA.

We are providing the Commission with updated information, which differs slightly from the information included in the August NERC letter. The only major difference is that announced coal retirements in the Midcontinent Independent System Operator (MISO) region increased by 6,400 MW. (Coal capacities in this letter are rounded to the nearest 100 MW for simplicity.) It is important to emphasize that announced coal retirements do not include retirements that will result from upcoming EPA rules. For example, EPA projects that its proposed Ozone Transport Rule will cause the retirement of 23,000 MW of coal-fired generation by 2025.<sup>3</sup> The table below shows announced retiring coal capacity during 2022-2030. MISO's retiring capacity is already approaching 60 percent of its existing coal fleet.

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<sup>1</sup> NERC, *Long-Term Reliability Assessment*, December 2021.

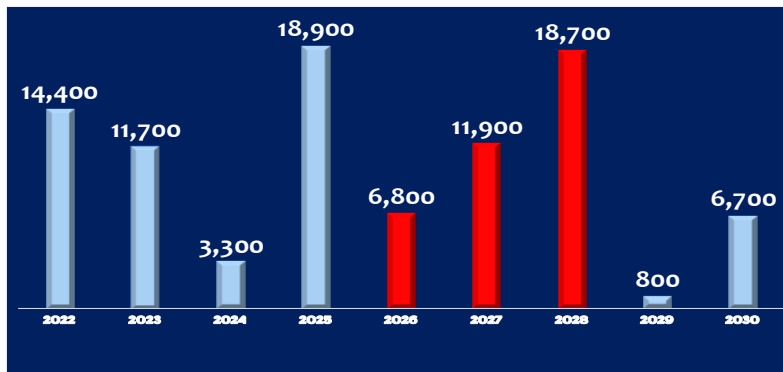
[https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_LTRA\\_2021.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2021.pdf)

<sup>2</sup> Information on announced coal retirements comes from utility commission filings, news releases, media stories and subscription data bases.

<sup>3</sup> See Table 4-14, *Regulatory Impact Analysis for Proposed Federal Implementation Plan Addressing Regional Ozone Transport for the 2015 Ozone National Ambient Air Quality Standard*, EPA-452/D-22-001, February 2022. [https://www3.epa.gov/ttn/ecas/docs/ria/transport\\_ria\\_final-csapr\\_2011-06.pdf](https://www3.epa.gov/ttn/ecas/docs/ria/transport_ria_final-csapr_2011-06.pdf)

|              | <b>Announced Coal Retirements<br/>2022-2030</b> | <b>Announced Retirements as % of<br/>Region's Coal Capacity</b> |
|--------------|---|---|
| <b>U.S.</b>  | <b>93,200 MW</b>                                | <b>45%</b>  |
| <b>MISO</b>  | <b>29,100</b>                                   | <b>57</b>   |
| <b>PJM</b>   | <b>22,600</b>                                   | <b>47</b>   |
| <b>SPP</b>   | <b>5,400</b>                                    | <b>24</b>   |
| <b>ERCOT</b> | <b>2,000</b>                                    | <b>15</b>   |

In addition, the chart below shows announced retirements (MW) nationwide for each year during 2022-2030. Please note that announced retirements total 37,400 MW during 2026-2028 (red bars). This three-year period is worth highlighting because we estimate that coal retirements will increase considerably during that time, given EPA's likely implementation schedule for six rules.<sup>4</sup> After all, only one of these six rules is projected to cause the retirement of more than ten percent of the existing coal fleet by 2025. This fact alone implies that coal retirements could reach almost 42,000 MW (18,900 MW + 23,000 MW) in 2025. The attached letter to NERC provides additional information on EPA rules.



We hope this information is helpful to the Commission's efforts to ensure the reliability of the bulk power system. Please contact either me [mbloodworth@americaspowerr.org](mailto:mbloodworth@americaspowerr.org) or Paul Bailey [pbailey@americaspower.org](mailto:pbailey@americaspower.org) if you need additional information.

Sincerely,

Michelle Bloodworth  
President and CEO

Copy to Commissioners Danly, Clements, Christie and Phillips

Attachment: Letter to James B. Robb, NERC President and CEO

<sup>4</sup> Coal Combustion Residuals Rule, Ozone Transport Rule, revised Effluent Limitations Guidelines, an ACE replacement rule, Regional Haze Rule, and revised Mercury and Air Toxics Standards.

August 16, 2022

Mr. James B. Robb  
President and CEO  
North American Electric Reliability Corporation  
3353 Peachtree Road NE  
Atlanta, GA 30326

Dear Mr. Robb:

We are writing to provide information that shows the alarming possibility that half or more of the remaining coal fleet could retire by 2030, with a sharp rise in retirements possible during 2026-2028. This information is a follow up to productive discussions with John Moura, Tom Coleman, Mark Lauby, and others.

We trust our information will be useful as NERC continues to assess the implications of the changing resource mix for the reliability of the bulk power system. Based on the possibility of massive coal retirements over the next nine years, we respectfully urge NERC to (1) update its December 2018 “Special Reliability Assessment: Generation Retirement Scenario” to better understand the impacts of confirmed and unconfirmed coal retirements during the period 2022-2030 and (2) designate EPA regulations as an emerging issue.

The information we are providing is derived primarily from Energy Information Administration (EIA) data, EPA data, utility commission filings, media stories/news releases, and subscription databases. We can provide additional detail and welcome feedback from NERC and other stakeholders as to the validity of the information and its implications.

NERC and others have expressed concerns about resource adequacy in both the near-term and long-term. We share these concerns, especially in regard to capacity shortfalls resulting from (1) coal capacity that has retired in recent years, (2) announced coal retirements that are not reflected in reliability assessments, and (3) EPA rules that are certain to cause greater-than-confirmed retirements. The information below highlights national retirement trends and trends in MISO, PJM, SPP, and ERCOT because these four regions rely to a significant extent on coal-fired generation.

### **Historical Retirements**

For historical perspective, the nation’s coal fleet totaled almost 317,000 megawatts (MW) of net summer generating capacity in 2010. Last year, the fleet totaled slightly more than 207,000 MW. Thus, over the past 12 years more than a third of the coal fleet has retired. Some 63,900 MW have retired since 2015. Coal retirements since 2015 in the four regions of interest were 23,100 MW in PJM, 18,300 MW in MISO, 6,300 MW in ERCOT, and 5,400 MW in SPP.

### **2022-2030 Retirements**

**Projected retirements** EIA (AEO 2022) projects coal retirements to total slightly more than 76,000 MW nationwide during the period 2022-2030. EIA/AEO also projects retirements on a

regional basis. (See table below.) Other groups have their own projections, but EIA’s projections are a useful reference point because they are based on transparent data and assumptions, and they are publicly accessible. EIA’s projections do not include future policies, such as future EPA rules.

**Announced retirements** We have tracked coal retirement announcements for over a decade. Announced retirements are based on public statements by the owners of coal plants that they plan to retire certain units/plants. (NERC might call these “unconfirmed” retirements.) The statements by owners appear mostly in media reports and IRPs, and the announced retirement dates are subject to change. However, announced retirements still provide some insight into the size of the coal fleet which makes them useful input for reliability assessments. According to the data base (maintained by Energy Ventures Analysis) we rely on, nationwide announced coal retirements total 92,900 MW during 2022-2030; we also track announced retirements by region. (See table below.) In contrast, NERC’s 2021 “Long-Term Reliability Assessment” (LTRA) includes approximately 25,000 MW of confirmed coal retirements during 2022-2030, almost 68,000 MW fewer than announced retirements.

**Coal Retirements (MW) 2022-2030**

|                   | <b>AEO<br/>projected</b> | <b>Announced<br/>as of May 2022</b> | <b>NERC<br/>“confirmed”</b> |
|-------------------|--------------------------|-------------------------------------|-----------------------------|
| <b>Nationwide</b> | <b>76,000</b>            | <b>92,900</b>                       | <b>25,000</b>               |
| <b>MISO</b>       | <b>18,600</b>            | <b>22,700</b>                       | --                          |
| <b>PJM</b>        | <b>18,500</b>            | <b>21,100</b>                       | --                          |
| <b>SPP</b>        | <b>6,600</b>             | <b>6,000</b>                        | --                          |
| <b>ERCOT</b>      | <b>3,700</b>             | <b>2,300</b>                        | --                          |

**EPA Rules**

We expect EPA to continue implementing existing rules and to issue new rules that impact the coal fleet. Unless moderated, we estimate these rules, taken together, will cause coal retirements to rise sharply during 2026-2028 and, therefore, exacerbate resource adequacy challenges in certain regions of the country.

**Coal Combustion Residuals** Presently, EPA is determining whether to approve applications from coal generators to extend closure deadlines for CCR surface impoundments at 41 coal plants (totaling 42,600 MW) in 17 states. If these deadlines are not extended, coal plants could be forced to either idle for several months or retire early.

**Effluent Limitations Guidelines** Besides setting limits for wastewater constituents, the current ELG rule provides incentives for coal plants to retire by 2028. In addition, EPA has begun to develop more stringent limits for other wastewaters, as well as to set limits for wastewaters not covered by the current rule.

**Regional Haze** States must submit implementation plans for EPA approval that require SO<sub>2</sub> and/or NO<sub>x</sub> controls on coal plants whose emissions are causing or contributing to visibility impairment in Class I Areas. As of early last year, 39 states had failed to submit plans to EPA. As

a result, the agency has begun developing federal implementation plans for states that failed to submit plans.

**Transport Rule** EPA has proposed to increase the stringency of the existing Transport Rule for reducing NO<sub>x</sub> emissions from coal and other fossil-fueled generation. EPA has projected that the proposed rule will cause 23,000 MW of coal retirements by 2025. In addition, EPA has proposed relief from certain requirements if coal plants commit to retire by the end of 2028.

**ACE Replacement Rule** EPA is expected to issue a rule in 2024 to replace the invalidated ACE rule. Because the Supreme Court did not place any restrictions on EPA’s authority to set CO<sub>2</sub> standards based on “inside the fence” measures, an ACE replacement rule could still have substantial impacts on the coal fleet.

**Mercury and Air Toxics Standards** EPA is soliciting information that could lead to more stringent limits on emissions of mercury and other hazardous air pollutants based on the agency’s “risk and technology review.” This information could lead to more stringent MATS limits.

**Air Quality Standards** EPA is considering whether to increase the stringency of the standards for PM<sub>2.5</sub> and ozone. More stringent standards would likely require further SO<sub>2</sub> and NO<sub>x</sub> reductions from coal plants. These reductions could be implemented through a new Transport Rule.

### **At-Risk Coal**

The Transport Rule, Regional Haze Rule, and a more stringent MATS rule could lead to the installation of advanced emissions controls on most, if not all, coal capacity that does not already have advanced controls. For simplification purposes, we define advanced controls as selective catalytic reduction (SCR) to reduce NO<sub>x</sub> emissions and flue gas desulfurization (scrubbers) to reduce SO<sub>2</sub> emissions. MATS controls could include SCR, scrubbers, and other to-be-determined technologies that depend on EPA’s risk and technology review. Next, we define “at risk” coal as coal capacity that does not already have SCR, scrubbers, or both. In other words, at-risk means capacity that is at risk of having to install those controls. *This does not mean that all at-risk coal would retire prematurely.* However, some amount of at-risk coal is certain to retire early rather than installing emission controls. (SCR for a typical coal-fired unit costs \$150-160 million.) The retirement of any amount of at-risk coal would add to the retirements already announced or projected. The following are our estimates of coal at risk:

#### **Coal At Risk of More Emission Controls (MW)**

|                   |               |
|-------------------|---------------|
| <b>Nationwide</b> | <b>92,000</b> |
| <b>MISO</b>       | <b>30,200</b> |
| <b>PJM</b>        | <b>14,000</b> |
| <b>SPP</b>        | <b>14,600</b> |
| <b>ERCOT</b>      | <b>9,200</b>  |

It is important to understand that at-risk coal does not include retirements (or idling) that are likely to result from the CCR or ELG rules.

## In Closing

According to NERC, “The LTRA does not predict future generator retirements but instead reports on confirmed retirements ... Because generator retirement announcements can be made as late as 90 days prior to planned deactivation in some areas, *long-range retirement projections based on confirmed retirements could be significantly understated* [emphasis added].” We understand NERC’s practice is to base its long-term assessments on confirmed retirements. However, the huge number of confirmed and unconfirmed retirements during the remainder of this decade, especially during 2026-2028, indicate a need to update NERC’s 2018 “Special Reliability Assessment: Generation Retirement Scenario” to take into account more recent information on coal retirements.

We hope that drawing more attention to this issue will lead grid operators, utility commissioners, EPA, and NERC to take steps to prevent the possibility of massive coal retirements from becoming a certainty.

Please do not hesitate to let us know if you need additional information.

Sincerely,



Michelle Bloodworth  
President and CEO  
America’s Power

Copy to:

John Moura  
Tom Coleman  
Mark Lauby