

**UNITED STATES OF AMERICA BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**Impacts of COVID-19 on the
Energy Industry**

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Docket No. AD20-17-000

**POST-TECHNICAL CONFERENCE COMMENTS OF AMERICA'S POWER
AUGUST 31, 2020**

America's Power respectfully submits these comments in accordance with the Federal Energy Regulatory Commission's (Commission) July 16 "Notice Inviting Post-Technical Conference Comments" regarding the Commission's July 8-9 Technical Conference titled "Impacts of COVID-19 on the Energy Industry" (Technical Conference).

America's Power advocates on behalf of coal-fueled electricity and the nation's coal-fueled electric generating units (coal fleet). Our membership is comprised of electricity generators and the coal fleet supply chain—coal producers, railroads, barge operators, and equipment manufacturers.

We commend the Commission for examining the impacts of the COVID-19 pandemic on the energy sector. At the same time, we encourage FERC to take a longer-term view by considering what steps must be taken now to ensure the electricity grid can provide a reliable and resilient supply of electricity not only during but also after the pandemic.

Our comments explain that fallout from the pandemic —

- Has dramatically reduced the generation of electricity from the coal fleet which makes coal-fueled generation less economically viable;
- Could result in a large increase in coal retirements over the next three years above and beyond the troubling number of retirements already expected; and
- Is causing serious—and at some point irreparable—harm to the coal fleet supply chain which will make it challenging to produce and deliver coal.

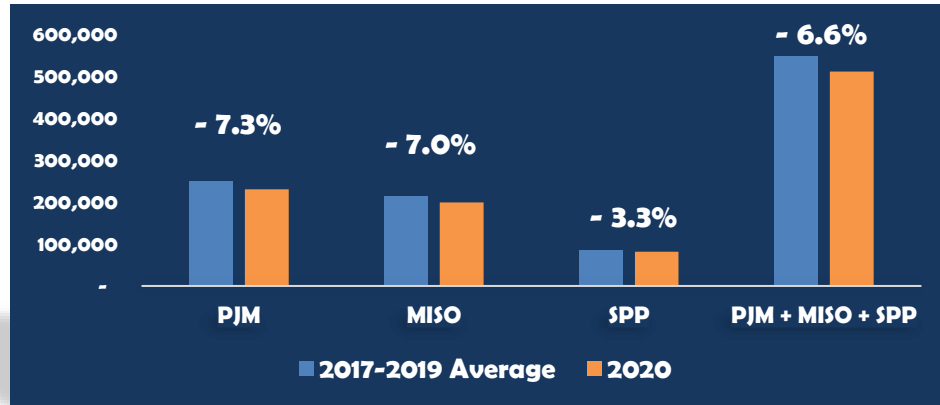
As in past comments filed with FERC, we again urge the Commission to take steps to properly value the resilience and fuel security attributes provided by the nation's coal fleet and its supply chain.

Fallout from the pandemic is harming the coal fleet and its supply chain.

Analysis of trends within PJM Interconnection (PJM), Midcontinent Independent System Operator (MISO), and Southwest Power Pool (SPP) demonstrates the adverse effects of the pandemic. These three regional transmission organizations (RTOs) have

the largest coal fleets—totaling 131,000 MW, or more than half the nation’s coal fleet—of all the nation’s grid operators. All three maintain readily accessible databases which show that **overall electricity demand** from March through June of this year was down 7.3% in PJM, 7.0% in MISO, and 3.3% in SPP, compared to March through June 2017-19. The combined drop across the three regions averaged 6.6%.ⁱ

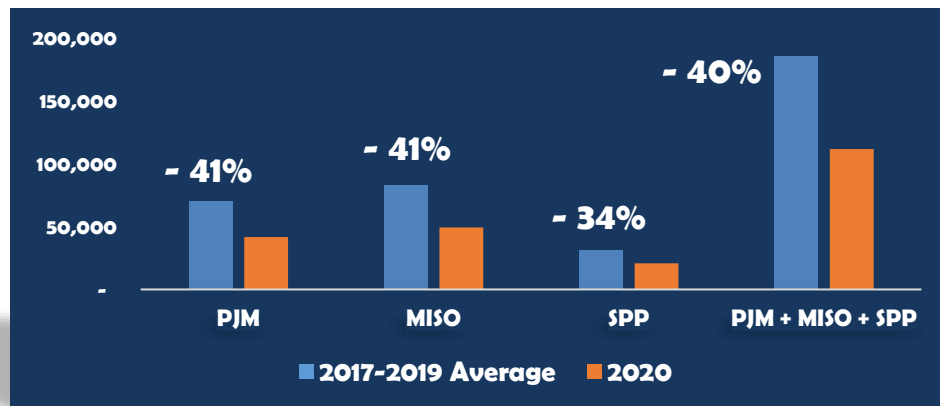
**Change in Electricity Demand
(% and GWh)**



In that same period, **natural gas prices** saw dramatic drops, falling 39% nationally, 42% in PJM, and 40% in both MISO and SPP. These unusually low gas prices caused an increase in electricity generation from natural gas-fired power plants, which displaced coal-fueled generation. Electricity generation from natural gas was 27% higher in PJM, 17% higher in MISO, and 6% higher in SPP.

The result has been a substantial reduction in **coal-fueled electricity generation**. From March through June 2020, electricity produced by coal dropped dramatically. Coal-fueled generation declined 41% in both PJM and MISO and 34% in SPP. The combined drop averaged nearly 40%.

**Decline in Coal-fueled Electricity Generation
(% and GWh)**



Resulting low capacity factors mean that expenses are spread over fewer MWhs, making it difficult for coal units to recover their operating costs. As noted in testimony to the Technical Conference, coal plants are cycling more than they were designed to cycle, which increases maintenance costs.ⁱⁱ

Within PJM, MISO, and SPP, **coal consumption** dropped by 40%. Historically high coal stockpiles have affected the ability of some coal-fueled electric generating facilities to offload coal deliveries, resulting in rail penalties.ⁱⁱⁱ In March through June 2020, rail shipments fell by over 31% compared to the same period in 2019. The decline in coal shipments was the largest of any freight rail category.

An additional 83,000 MW of coal-fueled generation is at risk of retirement.

Coal retirements since 2010 have reduced coal-fueled electric generating capacity from 31% to 21% of total U.S. generating capacity. EIA projects that coal-fueled generating capacity will represent only 10% of the grid's generating capacity by 2030.^{iv} However, this already troubling projection does not take into account COVID-19's effect on the electricity grid. The sudden drop in electricity demand and natural gas prices create even more challenges for a coal fleet already under stress because of regulations and poorly designed market rules.

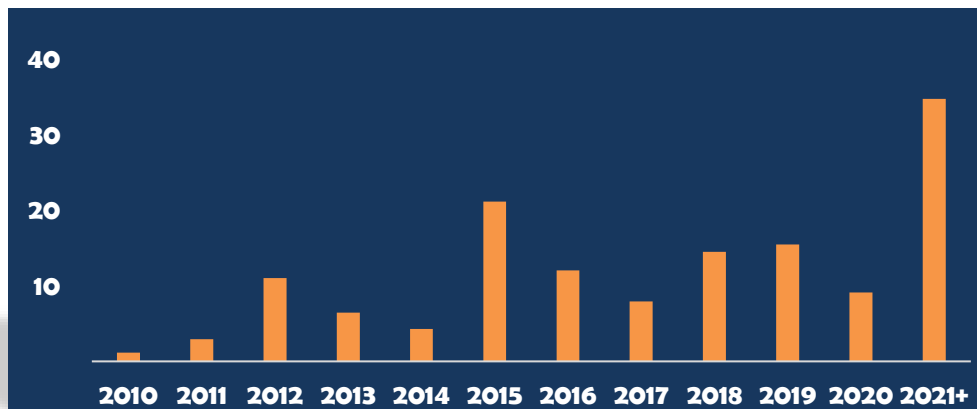
An August 18 article sums up the dire situation facing the coal fleet and its supply chain: "Demand for coal has been decimated by the COVID-19 pandemic, with production and employment in the sector falling to new lows as the lower demand weighs further on a sector already in secular decline. In recent weeks, multiple power generators made comments about the future of their generation fleets suggesting more coal plant retirements loom on the horizon."^v

A study recently conducted by Energy Ventures Analysis (EVA) estimates that 38,400 to 83,000 MW of coal-fueled electric generating capacity is at risk of retirement over the three-year period 2020-2022.^{vi} This estimate is in addition to the 141,500 MW that have retired or been announced for retirement. This means the coal fleet could be reduced by more than half by the end of 2022, and this is also why we have been urging RTO/ISOs to incorporate more pessimistic assumptions into their analyses of reliability and fuel security.

Fuel-secure electricity resources were already retiring at an alarming rate before the pandemic.

Long before the impacts of COVID-19 were felt, concern was growing about the retirement of a substantial portion of the coal fleet. Since 2010, plant owners have announced either the retirement or conversion to other fuels of 717 coal-fueled electric generating units in 42 states, totaling 141,500 MW (bar chart below). This represents nearly 45% of the coal fleet that was operating in 2010. In that same period, coal-fueled electricity generation has dropped by 48%, with coal consumption declining by 45%.

Coal Retirements That Have Occurred or Been Announced (GW)

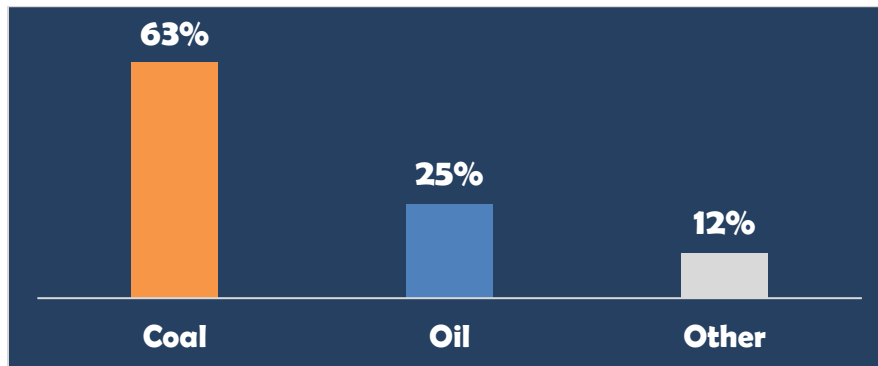


As the Commission is aware, the nation’s coal fleet possesses a number of attributes that are essential to maintaining a reliable and resilient electricity grid. Fuel security is one of these attributes. Fuel security is essential to resilience because it enables the grid to absorb and recover quickly from manmade or natural disturbances that could have severe, possibly catastrophic, consequences. The fuel security provided by coal-fueled powerplants, with their large onsite stockpiles of coal, cannot be matched by electricity sources that are reliant on intermittent resources or vulnerable to fuel supply disruptions. Even before COVID-19, a number of grid experts expressed concern about the loss of these attributes due to the rapid rate of baseload coal retirements.

In late February, the Department of Energy’s (DOE) National Energy Technology Laboratory (NETL) released a report examining the adverse impact to consumers caused by coal retirements.^{vii} NETL found that during the 2018-2024 winter seasons, the cost savings for PJM, New England Independent System Operator (ISO-NE), and the New York ISO (NYISO) if there are no coal retirements range from \$9 billion to \$30 billion.

This study followed another by NETL in March 2018 examining the resilience of different electricity resources — coal, oil, natural gas, nuclear and renewables – during the 2017/2018 Bomb Cyclone.^{viii} That study concluded that across ISO/RTOs, coal is the most resilient form of generation, warning that without available capacity from partially utilized coal units, PJM would have experienced blackouts. Indeed, across all six eastern ISO/RTOs, coal-fueled generation was the primary source of generation to meet incremental electricity demand during the Bomb Cyclone. NETL noted that the increase in energy services during the Bomb Cyclone was \$288 million per day, effectively representing a resilience value of \$3.5 billion. Even under pre-COVID-19 retirement projections, simulating that event would be expected to produce higher energy costs and subsequently a higher value of resilience.

Contribution to Meeting Incremental Electricity Demand in Six RTOs During the Bomb Cyclone of 2018



In December 2018, the North American Electric Reliability Corporation (NERC) released its *Generation Retirement Scenario – Special Reliability Assessment (SRA)*, which evaluated the impacts of accelerated coal and nuclear retirements by conducting a “stress test” on the reliability of the bulk power system.^{ix} That assessment raised concerns about resource adequacy, disruptions to natural gas supplies and transportation, declining fuel diversity, and the time required to upgrade transmission systems. NERC concluded that premature coal and nuclear retirements would trigger gas supply disruptions and cause electricity shortages under extreme weather conditions. Although NERC assumed that just 18,000 MW of coal-fueled generating capacity would retire, in fact, some 50,000 MW have actually retired or announced retirement. Once again, this was before COVID-19 slammed the economy.

Quanta Technology similarly assessed the PJM grid in May 2018, examining nine scenarios of coal retirements and availability of gas-fired generation.^x This modeling confirmed that the PJM grid was reliable under a capacity oversupply condition. However, Quanta also found that when more coal-fueled generation retired prematurely and natural gas-fired generation experienced supply disruptions, the PJM grid could not meet reliability criteria for transmission security, resource adequacy, or both under seven of the nine scenarios. Among other things, the Quanta study showed that PJM could be on track to lose its resilience to gas outages if coal retirements continued even at pre-COVID-19 levels.

Policy initiatives launched before COVID-19 have not stopped coal retirements.

With concerns growing that the loss of fuel-secure electric generation could undermine grid resilience and reliability, DOE took action in late 2017, sending the Commission a proposal that would have valued the resilience attributes of generating facilities with on-site fuel supplies.^{xi} America’s Power provided comments to that rulemaking docket explaining the fuel security provided by the coal fleet and the risks to the grid from the rapid loss of coal-fueled generating capacity.^{xii} However, the Commission declined to finalize the proposal, instead opening up a docket to assess ISO/RTO grid resilience in early 2018.^{xiii} More than two years later, the Commission has yet to take action on that docket.

In the absence of Commission action, other stakeholders have undertaken measures to address fuel security concerns, but none of these policy initiatives has slowed the closure of coal-fueled generating facilities.

In response to Commission’s resilience docket, PJM launched its Fuel Security Initiative in May 2018. As part of that effort, PJM formed a Fuel Security Senior Task Force in April 2019 to examine potential market changes to address fuel security. However, the task force has not met since December 2019, nor has it identified policy measures that might slow the rate of coal retirements.

For its part, the Commission took action in December 2019 issuing an order revising PJM’s Minimum Offer Price Rule (MOPR) to account for unfair state subsidies for certain generation resources.^{xiv} This was a positive step towards addressing some flaws in PJM’s energy markets. However, the effect of changes to the PJM MOPR on coal retirements remains unclear.

More recently, in March 2020, NERC issued its *Reliability Guideline: Fuel Assurance and Fuel-Related Reliability Risk Analysis for the Bulk Power System*.^{xv} The guideline is a positive first step towards mitigating fuel security vulnerabilities, but it lacks key elements that would help grid operators give fuel security and resilience the attention they require. The guideline does not recommend metrics and thresholds for assessing fuel security risks, nor does it encourage the kind of analysis that properly recognizes the fuel-security value of the coal fleet under high impact, low frequency disturbance scenarios. These scenarios are, of course, when fuel assurance is most desirable. As long as this effort does not analyze plausible fuel disruption scenarios, it may not adequately address growing fuel security vulnerabilities caused by coal retirements.

Technical Conference testimony validates concerns that natural gas infrastructure cannot meet the demands of a recovering economy.

Even before the pandemic, experts concluded that increased dependence on natural gas for electricity generation would require additional infrastructure. NETL’s February 2020 analysis included modeling projecting the need for new natural gas infrastructure (beyond projects already planned) in order to maintain reliable operation of the grid, as well as to serve other demands for natural gas.^{xvi} The resulting capital costs for natural gas pipelines were projected to reach as much as \$1.07 billion under extreme weather.

While participants at the Technical Conference representing natural gas noted burdens arising from COVID-19, much discussion also focused on challenges associated with natural gas infrastructure which predated the pandemic and will likely continue into the foreseeable future.

A representative for the Interstate Natural Gas Association of America noted that it now takes a year or more to get a certificate for pipeline expansion and “once the certificate is received, it’s no longer the start of construction, but the start of a new set of challenges.”^{xvii} Kinder Morgan pointed out that significant challenges to

constructing needed infrastructure preceded the current economic downturn: “For example, there is a small but vocal and well-financed group of individuals and organizations across the country willing to use any and all venues to disrupt, delay, and stop pipeline projects regardless of those projects’ significant environmental and economic benefits.”^{xviii}

These pressures are contributing to reliance on a limited amount of natural gas infrastructure. As the representative for the American Public Gas Association noted, “there has been heightened awareness of many APGA members’ dependence on one pipeline for gas supply.”^{xix} Yet there is concern that these challenges may not appreciably improve even after the pandemic. Citing the recent cancellation of the Atlantic Coast Pipeline, the CEO of one natural gas production and transportation company said, “ ... the reality is that many believe that we will soon be wrapping up some of the last completed oil and natural gas pipelines in the country.”

Pre-pandemic trends had already raised the possibility that grid reliability and resilience could suffer without additional natural gas infrastructure. Yet such concerns will be greatly exacerbated should the pandemic force additional coal retirements.

These retirements could also subject ratepayers in the post-COVID-19 economy to price spikes. One analyst informed the Technical Conference that the “new paradigm will result in natural gas prices moving into a range that is persistently 50% higher than we would have expected them to be before COVID-19 – for example \$3.00-\$3.50/MMBtu versus the \$2.00-\$2.50/MMBtu environment that we have been experiencing recently. This would result in higher wholesale power prices for the first time in years.”^{xx}

These projections are confirmed by the Energy Information Administration’s latest short-term energy outlook which projects that natural gas prices will see sharp increases in the fall and winter, with Henry Hub natural gas spot prices increasing from an average in 2020 of \$2.03/MMBtu to \$3.14/MMBtu in 2021.^{xxi}

Policymakers need a better understanding of increased fuel security vulnerabilities due to COVID-19.

The Commission must act now to ensure that the post-pandemic grid can meet the country’s needs as it works towards recovery. To do so, policymakers and stakeholders across the electricity sector should work to develop detailed technical analyses of emerging grid vulnerabilities due to the pandemic. In recent years, a number of organizations, including NERC and ISO/RTOs like PJM, have analyzed the impact of coal retirements on grid reliability and resilience. But these studies often underestimate the full scope of such closures. More importantly, none anticipated the challenges facing the grid due to COVID-19.

Reliability and resilience analyses of the transitioning grid should be updated to reflect current challenges facing coal-fueled generating facilities. As such, America’s Power and the Lignite Energy Council recently sent a letter to NERC requesting that it update its 2018 SRA to account for significantly higher pre-COVID-19 coal retirements as well

as coal facilities at risk of retirement due to the pandemic. Updating retirement assumptions to the SRA's conclusions would enable NERC to better "assure the effective and efficient reduction of risks to the reliability and security of the grid." Other organizations responsible for grid reliability should likewise reassess retirement assumptions in their planning.

As the EVA analysis identifies PJM to be at greatest risk for pandemic-related closures, the RTOs should evaluate vulnerabilities under scenarios that take into account the possibility, if not likelihood, of unexpected coal retirements. In particular, PJM should analyze recently proposed ISO-NE market enhancements that have become necessary to restore operational flexibility as ISO-NE lost its coal units and became heavily dependent on gas-fired generation. Other grid operators should also analyze the impacts of accelerated baseload retirements. Likewise, state utility commissioners should weigh the impact of coal retirements on reliability and fuel security, as well as fuel diversity.

Action is needed now to ensure grid reliability and resilience in the future.

The unprecedented challenges created by COVID-19, in addition to the already troubling number of coal retirements, call for action to ensure that the grid does not lose even more fuel secure sources of electricity.

It is long past time for the Commission to take action on its resilience docket. Distortions in market structures inhibit valuation of fuel security attributes. Efforts such as the Commission's order addressing the MOPR are a positive step toward addressing some of these issues, albeit in an indirect way. However, far more needs to be done. ISO/RTOs need to value fuel security and resilience. If they do not do so on their own accord, then the Commission should step in and require action.

Finally, NERC should continue efforts regarding fuel assurance. To that end, it should not only update the 2018 SRA, but work to transform its Fuel Assurance Guideline into a standard.

As our country goes back to work, coal-fueled electric generation will continue to be critical to providing the affordable, reliable, and resilient electricity needed to support economic growth and a return to normalcy. We urge the Commission to take timely steps to assure that coal's resilience and fuel security values are not lost because of even more coal retirements.

We thank the Commission for the opportunity to submit these comments.

Sincerely,



Michelle Bloodworth
President and CEO
America's Power

ⁱ Load and generation data cited here were compiled from queries at the ISO websites, <https://pjm.com/markets-and-operations/data-dictionary.aspx>, <https://www.misoenergy.org/markets-and-operations/real-time--market-data/market-reports>, and <https://marketplace.spp.org/pages/generation-mix-historical>.

ⁱⁱ Opening Statement of Curt Morgan, President and CEO, Vistra Corp., Technical Conference, July 8, 2020.

ⁱⁱⁱ *Ibid.*

^{iv} Energy Information Administration, *Annual Energy Outlook 2020*, Jan. 29, 2020.

^v Darren Sweeney and Taylor Kuykendall, “US utilities, power providers continue plans to accelerate coal retirements,” S&P Global, Aug. 18, 2020, <https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/081820-us-utilities-power-providers-continue-plans-to-accelerate-coal-retirements>

^{vi} EVA used screening criteria, such as capacity factors, to assess the possibility that specific power plants might retire in 2020, 2021 and 2022. The amounts of at-risk coal-fueled generation are not projections or predictions but rather collective estimates. The identity of specific plants is confidential.

^{vii} *Reliability, Resilience, and the Oncoming Wave of Retiring Baseload Units, Vol. I*, Mar. 18, 2018, available at: <https://www.netl.doe.gov/energy-analysis/details?id=2594>.

^{viii} *Reliability, Resilience, and the Oncoming Wave of Retiring Baseload Units, Vol. II*, Feb. 20, 2020 available at: <https://netl.doe.gov/node/9516>.

^{ix} *Generation Retirement Scenario: Special Reliability Assessment*, Dec. 18, 2018, available at: https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Retirements_Report_2018_Final.pdf

^x *Ensuring Reliability and Resiliency: A Case Study of the PJM Power Grid*, Apr. 23, 2018, available at: <http://www.americaspower.org/wp-content/uploads/2018/05/Quanta-Study.pdf>

^{xi} *Grid Resiliency Pricing Rule*, 82 Fed. Reg. 46,940 (Oct. 10, 2017.)

^{xii} Available at: <http://www.americaspower.org/wp-content/uploads/2017/10/ACCCE-NMA-DOE-NOPR-Comments-c.pdf>

^{xiii} *Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures*, 162 FERC ¶ 61,012, Jan. 8, 2018.

^{xiv} *Order Establishing Just and Reasonable Rate*, 169 FERC ¶ 61,239 (Dec. 9, 2019).

^{xv} Available at: https://www.nerc.com/comm/PC_Reliability_Guidelines_DL/Fuel_Assurance_and_Fuel-Related_Reliability_Risk_Analysis_for_the_Bulk_Power_System.pdf

^{xvi} NETL, *Reliability, Resilience, and the Oncoming Wave of Retiring Baseload Units, Vol. II*, Feb. 20, 2020 available at: <https://netl.doe.gov/node/9516>.

^{xvii} *Opening Statement of Toby Rice, CEO of EQT Corporation under AD20-17*, Technical Conference, July 9, 2020.

^{xviii} *Opening Statement, Kimberly Dang, Kinder Morgan under Docket Number AD20-17-000*, Technical Conference, July 9, 2020.

^{xix} *Opening Statement, Gary Gibson, APGA, under Docket Number AD20-17-000*, Technical Conference, July 9, 2020.

^{xx} Paul Segal, *Opening Statement of LS Power Group under AD20-17*, Technical Conference, July 8, 2020.

^{xxi} *Short-Term Energy Outlook: Natural Gas*, August 11, 2020, <https://www.eia.gov/outlooks/steo/report/natgas.php>