

August 8, 2023

VIA ELECTRONIC FILING

Michael S. Regan, EPA Administrator  
United States Environmental Protection Agency  
1200 Pennsylvania Ave NW  
Washington, DC 20460

Re: EPA Docket Number: EPA-HQ-OAR-2023-0072  
New Source Performance Standards for 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

Dear Administrator Regan:

Southwest Power Pool, Inc. (“SPP”) hereby submits comments in response to the above-referenced proposed rule the Environmental Protection Agency (“EPA”) published in the Federal Register on May 23, 2023 (the “Proposed Rule”). SPP submits these comments in its capacity as a Federal Energy Regulatory Commission (“FERC”) - approved Regional Transmission Organization (“RTO”) and a Reliability Coordinator with responsibility to ensure the reliability of the bulk electric system within the SPP region. These comments are in addition to the comments submitted jointly by PJM Interconnection, L.L.C.; Electric Reliability Council of Texas, Inc.; Midcontinent Independent System Operator, Inc.; and SPP (“Joint Comments”).

## **I. Introduction**

Because of its statutory responsibilities and the characteristics of its footprint, SPP believes it can offer a helpful perspective by sharing its concerns regarding the Proposed Rule and its potential impact to the reliability of the electric transmission system. As a FERC-approved RTO, SPP works to ensure the existence of a reliable supply of power, adequate transmission infrastructure, and competitive wholesale electricity prices.

SPP currently has 109 members<sup>1</sup> and administers transmission service over approximately 72,000 miles of transmission lines in a 552,885 square-mile service territory across all or part of 14 states.<sup>2</sup> SPP's RTO services include reliability coordination, tariff administration, regional scheduling, transmission expansion planning, market operations, compliance, and training. SPP administers the Integrated Marketplace, a centralized day-ahead and real-time Energy and Operating Reserve market with locational marginal pricing and market-based congestion management. SPP also is the Market Operator for the Western Energy Imbalance Service Market in the Western Interconnection.

As an RTO, SPP is also subject to statutory and regulatory directives to ensure the reliability of the bulk electric system within its footprint. Section 215 of the Federal Power Act requires the North American Electric Reliability Corporation ("NERC") to develop mandatory and enforceable standards that contain the reliability-related requirements for planning and operating the North American bulk power system. NERC monitors entities' compliance with these mandatory standards and enforces compliance through financial penalties and other sanctions for violations. SPP is the NERC-registered Planning Coordinator, Reliability Coordinator, and Balancing Authority for its region and performs these functions pursuant to its Open Access Transmission Tariff ("Tariff") and the applicable reliability standards NERC has promulgated.<sup>3</sup>

SPP is concerned that the Proposed Rule could exacerbate the already serious challenges posed by generator retirement, inadequate generation replacement, and increasing demand. As discussed below, SPP requests that the requirements set forth in the Proposed Rule be amended to provide adequate flexibility in the near term to allow proper integration of the resources envisioned by the rule in order for SPP to maintain electric reliability in its region. SPP has also considered more specific solutions and joins other organizations in the Joint Comments to propose more detailed amendments to the Proposed Rule aimed at mitigating the severity of potential reliability impacts.

## **II. Discussion**

The SPP region has long been at the forefront of renewable energy integration, particularly wind generation. In the last decade, SPP has transitioned from a resource fleet that was overwhelmingly made up of traditional generation to a fleet in which wind is the number one supplier of energy in the SPP footprint. SPP has welcomed and facilitated the transition to carbon-free generation and is supportive of moving toward a resource mix that lowers emissions as new technology evolves. During a time of tremendous growth in wind generation, SPP has also experienced a significant reduction in fossil fuel-fired generation. While this experience has helped SPP to more fully understand the benefits of transitioning to a renewable resource mix, the changes involved have

---

<sup>1</sup> SPP's members include 16 investor-owned utilities, 13 municipal systems, 22 generation and transmission cooperatives, 6 state agencies, 19 independent power producers, 11 power marketers, 13 independent transmission companies, 1 federal agency, 4 large retail customers, 2 alternative power entities, and 2 public interest entities.

<sup>2</sup> SPP's service territory covers portions of Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming.

<sup>3</sup> SPP also serves as Reliability Coordinator for certain utilities in the Western Interconnection.

also brought new challenges. Thermal resources can be dispatched to provide the power needed as wind and solar resources ramp up and down. The ability to supplement power to meet load as variable resources react to fuel supply has allowed SPP to utilize renewable resources as frequently as they are available, while using traditional thermal fleets to fill in the demand on the system beyond the energy that can be supplied by renewables at any point in time.<sup>4</sup>

SPP understands that the Proposed Rule will update greenhouse gas emissions standards for new fossil fuel-fired power plants and set emissions guidelines for existing fossil fuel-fired power plants. It also appears the Proposed Rule's requirements and abilities to comply with same are premised on the utilization of certain technologies such as carbon capture/storage and hydrogen co-firing. SPP has concerns that these technologies have not yet been adequately demonstrated at scale and will not be commercially available at the level needed by the EPA's proposed compliance time frame. If the availability of existing and new thermal power plants is further reduced while the technologies being relied upon by the Proposed Rule are not able to be utilized in a meaningful time frame, SPP's ability to perform its responsibilities regarding reliability will be directly impacted. Any final rule should recognize that, if thermal resources are not available to provide the necessary service, there must be technologies available and interconnected to the SPP system that can.

Over the last several years, SPP has seen an increase in risks associated with inability to meet energy consumption needs. As the cost of renewable energy has declined and environmental emissions standards have risen, SPP has witnessed an increase in the retirement of aging fossil fuel units. At the same time, the capacity available on the system has gradually decreased. The decrease in capacity has been composed almost entirely of fossil fuel generation. Reductions in excess capacity coupled with the need to balance larger levels of variable energy have increased the times when there are slim margins of available resources to meet load. Because of these changes, SPP is working on a variety of policy changes to increase available capacity from which to operate the system. These initiatives include, among others, reforms in the speed at which new generation can be interconnected and increased requirements on planning capacity for times of the year beyond summer peak periods.

However, such policies aimed at increasing available capacity take time to develop and effectuate. Constructing new generation resources to replace retiring units along with meeting additional needs to integrate variable generation cannot be done quickly. Importantly, SPP is looking to the horizon to plan for the grid of the future. This work has produced a paper and vision approved by the SPP Board of Directors which envisions the transmission, demand, and supply-side resources necessary to transition to a clean energy future. This vision includes the integration of more clean energy resources and energy storage. Energy storage will be critically important to helping provide many of the needed tools to address the variability of wind and solar resources. It also requires regional and interregional transmission expansion which will be critical to ensuring reliability of regional electricity systems. These changes are needed, and SPP is working to plan and implement

---

<sup>4</sup> While the wind generation fleet has, at times, served over 80% of the SPP load, there are also times when its output is low. For example, SPP currently has over 32 GW of installed wind, with 5 GW accredited to meet resource adequacy requirements. In June of 2023, SPP experienced a seven-year historical low wind output of 110MW (0.36% capacity factor).

the policies and infrastructure required, but these changes will take time. During the transition, SPP will need to rely on a resource mix that includes sufficient resources to balance load and variable energy generation reliably.

SPP fears the Proposed Rule will continue the cumulative impact of other EPA actions<sup>5</sup> that will make it difficult for fossil-fuel resources to maintain operational feasibility needed to meet SPP's energy requirements during a delicate transitional period to a zero-emission energy future in the United States. To be clear, SPP is not expressing these concerns about a hypothetical potential future reliability crisis. These comments address the likelihood that the Proposed Rule's requirements would exacerbate an issue that is already upon us. As reported in NERC's recent 2023 Summer Reliability Assessment, SPP faces risk of electric supply shortfalls due to declining reserve margins "as a result of increasing peak demand and declining anticipated resources."<sup>6</sup> The reliability assessment further noted that "SPP can face energy challenges in meeting extreme peak demand or managing periods of thermal or hydro generator outages if wind resource energy output is below normal."<sup>7</sup>

SPP's generating fleet has undergone significant changes in recent years. SPP has adapted its market design, operations processes, and transmission planning practices to keep pace with the changing resource fleet. Since 2014, SPP has experienced the retirement of over 7,600 MW of thermal resources. SPP saw over 2,796 MW of thermal generation retire from 2019 to 2022, and SPP has already seen an additional 809 MW retire thus far in 2023. It is not just a matter of the remaining thermal fleet playing a more critical role. As the thermal fleet shrinks without comparable replacement in fuel-assured, ramp-able capacity, the remaining fleet carries the additional burden the recently retired resources once supported. This additional stress has led to more planned and forced outage rates, particularly with an aging fleet of such resources. Some resources are being forced to take maintenance outages during summer and winter conditions. As previously stated, these retirements have also contributed to declining reserve margins. SPP has recently seen an increase in levels of system alerts as those margins have declined as the remaining thermal fleet is increasingly stressed by managing typical load fluctuations.

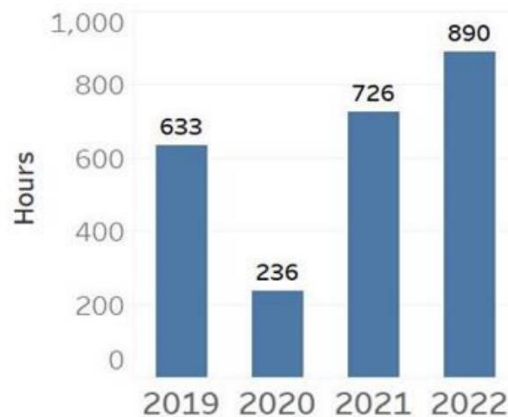
As illustrated below in Figure 1, from 2019 to 2022, SPP experienced over 2,475 hours of system alerts, including 33 hours of Energy Emergency Alerts. In 2022, SPP experienced 257 more alert hours than it did in 2019, which amounts to almost eleven more days of system duress.

---

<sup>5</sup> SPP comments in EPA Docket Number EPA-HQ-OAR-2021-0668.

<sup>6</sup> See North American Electric Reliability Corporation, 2023 Summer Reliability Assessment (May 2023) at page 5 posted at: [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_SRA\\_2023.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2023.pdf) ("NERC SRA").

<sup>7</sup> *Id.*



*Figure 1*

Another metric the electric industry has been reviewing and adopting on an international scale as additional reliability criteria is Expected Unserved Energy (“EUE”). EUE is the expected amount of energy not supplied by the generating system, during the period of observation, due to capacity deficiency. SPP’s potential risk of EUE has historically been in the single digit range of MWh. In analyses performed in 2022, SPP reviewed EUE risk over the previous five years and concluded that the risk for the SPP system was approximately 1 MWh in 2017 when maintaining a reserve margin of 12%. However, based on those same 2022 analyses, SPP concluded that the risk was expected to increase to as much as 504 MWh in 2023 if a reserve margin of 13% were maintained. This demonstrates that risks of an increasing amount of unserved energy have grown by a factor of over 500 between 2017 and 2023.<sup>8</sup>

The concerns about this increase in EUE has been a factor in SPP’s review of its planning policies. SPP establishes a Planning Reserve Margin (“PRM”) requirement designed to ensure that SPP will have sufficient capacity to serve peak demand obligations. SPP recently increased its PRM requirement from 12% to 15%. SPP has performed some preliminary assessments that show that a higher PRM is needed for the winter season in order to maintain reliability. While a full study of the appropriate level of a winter PRM is not yet complete, it is evident that more resources will be needed to meet the requirement than currently are on the SPP system. The adoption of a policy to reduce carbon emissions must allow for SPP to maintain and increase generation resources to meet load requirements reliably within a reasonable time.

As of early 2023, SPP has identified a number of initiatives to enhance resource adequacy. One of the higher priority initiatives is an effort to retain resources to give time for new resources to be constructed. Loads are projected in current transmission planning models to grow more than 1% on an annual average due to general load growth, electrification, electric vehicle charging, hydrolyzers, crypto-mining, data centers, and micro-grids (when they are grid-served). In an effort

---

<sup>8</sup> SPP’s analyses also indicated that the probability of experiencing a loss-of-load event increased by over 30 times during the same period.

to facilitate an orderly transition that ensures appropriate reliability levels during this load growth, it is imperative resources do not accelerate retirement until there are adequate replacements.

As SPP has previously advised EPA, SPP’s Tariff requires Load Responsible Entities (“LRE”) in SPP to maintain adequate capacity for the upcoming summer season. The current PRM requirement of 15% was determined in accordance with SPP’s Tariff, which directs SPP to conduct a Loss of Load Expectation (“LOLE”) study and set a PRM value to maintain a loss of load expectation equal to or less than one day in ten years. SPP’s PRM requirement is subject to change and will likely need to be increased in future years as the transition to a less-dispatchable resource mix continues.

SPP planning staff has analyzed projected capacity levels as reported by its LREs and has issued a five-year outlook for the SPP Balancing Authority Area.<sup>9</sup> The currently reported PRM for the 2023 summer season is 20.1%, which is above the current PRM requirement of 15%. However, the combined impacts of decreasing resource capacity and increasing demand are projected to lead to a significant decrease in the PRM over the next five years. As reflected in Figure 2 below, the projected margin will barely exceed the current PRM requirement by 2026. If the projection were to hold true, it will fall below the current requirement in 2027 and will continue to drop to 9.7% by 2028. Of course, the current 15% PRM requirement and any future established PRM requirements must be maintained by the LREs in SPP. However, such requirements and penalties for not maintaining the required PRM cannot override a mandate from this Proposed Rule. Once the reserve margin has fallen below the current 15% PRM requirement or any future requirement, SPP will no longer be able to meet the industry standard for loss of load of one day in ten years.



Figure 2

<sup>9</sup>See Southwest Power Pool, Inc., 2023 SPP Resource Adequacy Report (June 15, 2023) posted at: <https://www.spp.org/documents/69529/2023%20spp%20june%20resource%20adequacy%20report.pdf>.

SPP is concerned that the current pace of new generation development will be insufficient to offset current and projected resource retirement trends. SPP has improved its generator interconnection process and continues to facilitate, to the extent it is able, development of new generation. However, issues remain with the ability of new generation to replace the conventional generation being lost. Although SPP is on schedule to clear its generator interconnection queue by the end of 2024, uncertainty in fuel and emission regulation may negatively impact the ability to meet the SPP footprint’s needs for adequate resource diversity in new generator interconnection requests.

A diverse mix of generation with the correct levels of particular operational characteristics is needed to adequately meet demand. The SPP region currently includes a diverse mix of generating resources and has seen the addition of over 28,000 MW of wind generation added to its footprint over the past decade, bringing the total nameplate capacity of wind in SPP to approximately 32,000 MW. SPP has incorporated high levels of renewable generation in its region, having seen as much as 88.5% of the region-wide load being served by wind. SPP has seen as much as 24,000 MW of that capacity produce energy but has also seen as little as 110 MW produced. SPP has been successful integrating this much wind generation to date largely because of the existence of a sufficient amount of flexible thermal generation capable of being called upon when wind is unavailable.

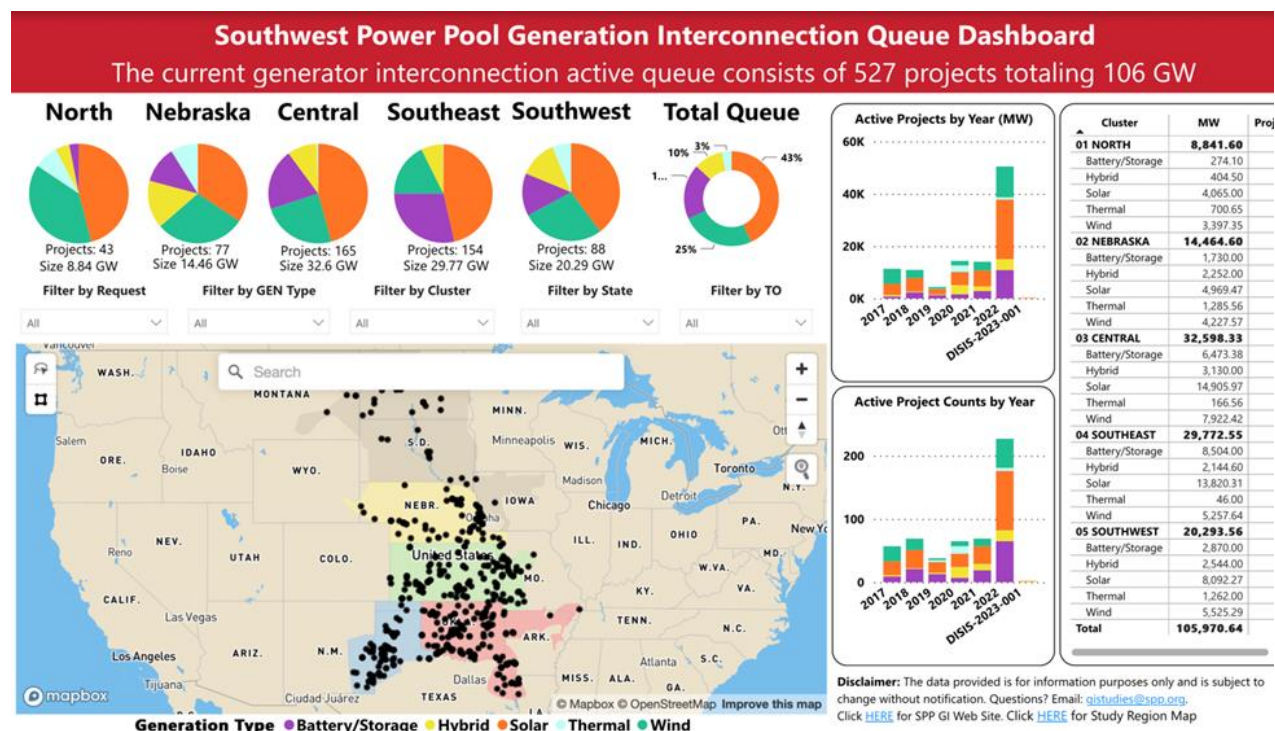


Figure 3

SPP’s generator interconnection queue currently includes over 100,000 MWs of additional generation, 97% of which consists of wind, solar, battery, and hybrid technologies. The generation in SPP’s queue is largely variable in nature. Variable resources are accredited a fraction of the

capacity value of thermal resources and therefore introduce increased risks of energy and capacity not being available when needed to serve system reliability needs.

SPP is fortunate to have a robust and growing portfolio of renewable generation in its footprint, but thermal resources continue to play a critical role in managing the variability of renewable resources and preserving system reliability. As more thermal resources experience retirement or reduced output, operational challenges will increase unless resources with similar ancillary capabilities are available. In addition, replacement generation of any type may not come online when needed due to regulatory and economic issues including siting processes and supply chain costs and delays.<sup>10</sup> Additional generation requires additional transmission infrastructure and replacement of existing, aging infrastructure. After a generator interconnection is approved, it takes additional years to plan, approve, and construct transmission facilities that would be required for new generation. Therefore, even with ongoing improvements to queue processing times, SPP is concerned that sufficient generation may not be constructed or connected within the time contemplated by the Proposed Rule.

SPP is concerned that an impactful risk to electric system reliability is introduced with every incremental conventional resource retired until such time as appropriate levels of accredited and essential reliability service attributes are available as needed to maintain regional reliability. SPP's concerns regarding retirement and insufficient replacement of generation are heightened because of the current and anticipated trends of growing demand. SPP sees no slowing of electricity demand as typical load growth trends combine with the growth in its footprints of new load types such as data centers, cryptocurrency mining, and electric vehicle adoption.

### **III. Conclusion**

SPP is concerned that the Proposed Rule will create a conflict between a generator's requirements under the Proposed Rule and SPP's regulatory requirements for maintaining reliability if an adequate allowance for transition is not provided. Despite SPP's portfolio of renewable generation in its footprint, generation from its thermal resources continues to be a key tool for managing the variability of renewable resources and preserving system reliability. SPP asks that the EPA take into consideration provisions of the Proposed Rule that will jeopardize, through accelerated retirement or reduced output, SPP's ability to utilize that tool until such time as adequate clean alternatives are available. Even without the impacts of the Proposed Rule, SPP has experienced scarce supply conditions and is predicting that those conditions will worsen over the coming planning horizon.

Because of SPP's extensive experience operating a grid with significant numbers of weather-dependent, variable energy resources, SPP is keenly aware of the need for a diverse resource mix

---

<sup>10</sup> See, e.g., NERC SRA at 7 (“Difficulties in obtaining sufficient labor, material, and equipment as a result of broad economic factors has affected pre-season maintenance of transmission and generation facilities in North America. These supply chain issues have led some owners and operators to delay or cancel maintenance activities that are typically performed to ensure facilities are ready for summer conditions. Additionally, GOs in some areas that were preparing to interconnect new generation are facing delays that will prevent some from being available to meet expected peak summer demand.”)



Administrator Regan

August 8, 2023

Page 9

of renewable and thermal generation for maintaining reliability with currently available technology. Until technological development and regulatory processes have adequately adapted, operating the grid will continue to require thermal generation. As SPP continues to strive to create policies that facilitate the grid of the future, including adoption of policies that encourage the use of storage and hybrid resources, SPP requests that the Proposed Rule provide the flexibility to use adequate levels of thermal generation to operate reliably.

With proper consideration of the need for organizations like SPP to have adequate generation available to be operated and the provision of appropriate emergency-use exceptions or allowances, SPP's ability to maintain adequate system reliability will be improved while EPA's goals to reduce emissions are also being supported.

SPP appreciates the opportunity to share its perspective and concerns.

Respectfully submitted,

*/s/ Lanny Nickell*

Lanny Nickell

Chief Operating Officer

Southwest Power Pool, Inc.

201 Worthen Drive

Little Rock, AR 72223

(501) 614-3232

[lnickell@spp.org](mailto:lnickell@spp.org)

cc: SPP Board of Directors