UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midcontinent Independent System Operator, Inc.	)	Docket No. ER24-1638-000

LIMITED PROTEST OF

Sierra Club, Natural Resources Defense Council, Sustainable FERC Project, Fresh Energy, and Clean Wisconsin

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INTRODUCTION

Pursuant to Rule 211 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("FERC" or "Commission"), 18 C.F.R. § 385.211, Sierra Club, Natural Resources Defense Council, Sustainable FERC Project, Fresh Energy, and Clean Wisconsin (jointly, the "Public Interest Organizations") submit this Limited Protest to the proposed tariff changes made by the Midcontinent Independent System Operator, Inc. ("MISO") on March 28, 2024, to modify the resource capacity accreditation methodology used by MISO ("Proposal" or "Tariff Filing"[1]) under Section 205 of the Federal Power Act, 16 U.S.C. § 824d.

Each of the Public Interest Organizations is also a member of MISO's Environmental Sector stakeholder group,[2] and shares an interest in ensuring that the outcome of this proceeding promotes the adoption of a clean electricity grid in a reliable and cost-effective manner. The Public Interest Organizations have regularly participated in MISO's Resource Adequacy Subcommittee ("RASC") stakeholder process that accompanied the development of the Proposal and appreciate the importance of accrediting resources based on their contribution to electric system need. While PIOs appreciate MISO's efforts to develop the Proposal, PIOs believe that discrete elements of the Proposal are not adequately developed or supported and cannot be accepted by the Commission as just and reasonable. PIOs therefore respectfully request that the

[1] MISO's Filing to Reform MISO's Resource Accreditation Requirements (Mar. 28, 2024), Accession No. 20240328-5329.

[2] The MISO Environmental Sector is a group of environmentally-focused entities recognized by MISO, based on the definitions, rights, and processes outlined in Article Two, Section VI, paragraph A of the MISO Transmission Owners Agreement and Section 6.1 of the MISO Bylaws, https://cdn.misoenergy.org/MISO%20TOA%20(for%20posting)47071.pdf; and the MISO Stakeholder Governance Guide (Stakeholder Sectors and Voting Rights), https://cdn.misoenergy.org/Stakeholder%20Governance%20Guide105455.pdf. Not every member organization of the MISO Environmental Sector is a signatory to this Limited Protest, and this Limited Protest should not be taken to represent the MISO Environmental Sector as a whole or any Environmental Sector member organizations not included here.

Commission direct MISO via a deficiency notice to clarify and improve the policy features discussed at length below, or in the alternative, to reject MISO's Proposal without prejudice.

I. BACKGROUND

A. Changing Industry Dynamics

The power sector is undergoing significant changes, with aging thermal resources retiring and more renewable resources coming online. These industry trends are already shifting MISO's resource mix.[3] Moreover, states within the MISO footprint are continuing to adopt energy policies that are likely to further drive this transition, even in the less than two years since the Commission last addressed MISO's capacity market.[4] Last year, for instance, two more states enacted 100 percent clean energy standards. Michigan's law requires utilities to obtain 50 percent of their energy from renewable sources by 2030, increasing to 60 percent by 2035 and 100 percent by 2040.[5] Similarly, Minnesota now requires 80 percent clean energy by 2030, increasing to 90 percent by 2035 and 100 percent by 2040.[6] And Illinois—which already has its own clean energy standard—passed new legislation last year to streamline local land use requirements for new wind and solar projects.[7] Additionally, 2023 legislation in Indiana introduced a set of five attributes—including, for the first time, sustainability—to the standards

[3] *See, e.g.*, MISO, *Attributes Roadmap: A Reliability Imperative Report*, at 6 (Dec. 2023) ("Attributes Roadmap"), https://cdn.misoenergy.org/2023%20Attributes%20Roadmap631174.pdf.

[4] *See Midcontinent Indep. Sys. Operator, Inc.*, 180 FERC ¶ 61,141 (2022), *order on reh'g*, 182 FERC ¶ 61,096 (2023); *infra* section I.C.

[5] *See* Exec. Off. of the Mich. Governor, *Governor Whitmer Signs Historic Clean Energy & Climate Action Package* (Nov. 28, 2023), https://www.michigan.gov/whitmer/news/press-releases/2023/11/28/governor-whitmer-signs-historic-clean-energy-climate-action-package; 2023 Mich. Pub. Acts 235, https://legislature.mi.gov/Bills/Bill?ObjectName=2023-SB-0271.

[6] *See* Mn. Com. Dep't, *Governor Walz Signs Bill Moving Minnesota to 100 Percent Clean Energy by 2040* (Feb. 7, 2023), https://mn.gov/commerce/news/?id=17-563384; 2023 Minn. Sess. Law ch. 7, https://www.revisor.mn.gov/laws/2023/0/Session+Law/Chapter/7/2023-08-07%2011:36:24+00:00/pdf.

[7] Ill. Pub. Act 102-1123 (Jan. 27, 2023), https://ilga.gov/legislation/publicacts/102/PDF/102-1123.pdf.

that the state regulatory commission must consider in evaluating electric utilities' integrated resource plans and requests to construct new generating resources.[8]

Even as this technological shift is underway, MISO and other grid operators must also contend with new and more extreme weather patterns that arise from global climate disruption. The MISO region has experienced near-annual winter or spring cold snaps for about a decade as arctic air blows south with unprecedented regularity; and in the summer, the risk of heat waves is growing every year. These severe weather impacts have forced policy makers to re-evaluate the reliability of their generation resources with a focus on whether those resources are performing during these extreme weather disruptions. In particular, underperformance of the gas fleet and (to a lesser extent) the coal fleet in MISO has contrasted sharply with the near-perfect capacity accreditation values they historically received from MISO and other grid operators.

And layered on top of the clean energy transition and climate disruption are reports and projections identifying significant new sources of projected load growth that will force its own transition.[9] These factors have created a need for MISO to address an evolving set of reliability needs.

B. Public Interest Organizations' Animating Principles

The PIOs appreciates MISO's efforts to improve its resource adequacy and capacity accreditation regimes to meet those challenges. We have participated throughout MISO's stakeholder processes involving these reforms, advocating for an accreditation approach that fairly and accurately values all resources' contributions to system reliability. To guide our

[8] H.B. 1007 (Pub. Law 55-2023), 123d Gen. Assemb. 1st Reg. Sess. (Ind. 2023), https://iga.in.gov/pdf-documents/123/2023/house/bills/HB1007/HB1007.04.ENRS.pdf.

[9] *Attributes Roadmap*, *supra* note 3, at 6.

evaluation of MISO's accreditation proposals, we have used the principles identified by the Energy Systems Integration Group ("ESIG"),[10] including the following five pillars:

- **Non-Discriminatory:** Accreditation is applied to all resources using a similar methodology.
- **Robust:** Accreditation continues to work as the resource mix, load patterns, and system risk change over time.
- **Transparent:** Accreditation can be effectively communicated to stakeholders, and data are readily available for decision making.
- **Reliable:** Accreditation accurately measures performance during real scarcity events.
- **Predictable**: The process is repeatable and consistent. It does not yield volatile or unexplained changes year to year.[11]

These pillars are foundational elements for any successful accreditation approach. Indeed, as discussed below in section I.D, MISO's tariff filing acknowledges the importance of these pillars, which likewise influenced MISO's own chosen evaluation criteria.[12]

However, while many aspects of MISO's proposal are consistent with these pillars, MISO's filing falls short in two critical areas, as explained further below in Section II of this Limited Protest.

C. Procedural Background

In 2021, MISO filed a proposal to move from a single annual Planning Resource Auction to a four-season construct for its annual auction.[13] In that same proceeding (Docket No. ER22-

[10] ESIG is a 35-year-old nonprofit educational organization whose mission is to chart the future of grid transformation and energy systems integration.

[11] ESIG, *Ensuring Efficient Reliability: New Design Principles for Capacity Accreditation*, at 32 (Feb. 2023), https://www.esig.energy/wp-content/uploads/2023/02/ESIG-Design-principles-capacity-accreditation-report-2023.pdf.

[12] Letter from Michelle Quinn, Senior Corp. Couns., MISO, to the Hon. Debbie-Anne Reese, Sec'y, FERC, at 11–12 (Mar. 28, 2024) ("Transmittal Letter"); Tariff Filing at Tab. E, Prepared Direct Testimony of Zakara Joundi, Executive Director, Market & Grid Strategy, at 59:6–61:13 (Mar, 27, 2024) ("Joundi Test.").

[13] Midcontinent Independent System Operator, Inc.'s Filing to Include Seasonal and Accreditation Requirements for the MISO Resource Adequacy Construct, at 4, Docket No. ER22-495 (Nov. 30, 2021), Accession No. 20211130-5166 ("2021 Seasonal Accreditation Filing").

495), MISO also proposed a new capacity accreditation methodology for what it termed Schedule 53 resources (that is, all thermal generating resource types, considered together as a class). The Schedule 53 accreditation methodology uses forced outage rates[14] to calculate the aggregate megawatt accreditation of the thermal class (within each season), then allocates these megawatts to individual resources based on a resource's real-time availability during the past three years, with the heaviest weight applied to MaxGen and other low-margin hours.[15]

Although the PIOs supported MISO's general intention to address the identified reliability issues, we raised several concerns with MISO's proposal.[16] Of particular relevance here, the PIOs explained that material differences between the Schedule 53 accreditation methodology for thermals and existing accreditation methodologies for renewable resources would result in undue discrimination.[17] While MISO proposed to change accreditation of non-thermal resources to a seasonal basis to match the new seasonal capacity auction structure, MISO also proposed to retain the prior discriminatory framework that accredited non-wind intermittent resources based on historic performance during certain specified hours; accredited the wind class in aggregate based on an effective load carrying capability ("ELCC") methodology; and

[14] Although MISO's initial filing states that MISO's accreditation framework today (following the Commission's order in Docket No. ER22-495) uses "availability during times of need for thermal resources," Transmittal Letter at Tab F, Testimony of Zachary Ming, Director of Energy and Environmental Economics Inc., at 20:1–2 (Mar. 26, 2024), that is true only for the relative allocation of accredited megawatts among individual resources within the thermal resource class. The average accreditation percentage of the thermal resource class -- which is relevant in the capacity market vis-à-vis the average accreditation percentage of each of wind, solar, and other classes – is determined based on UCAP, which is based only on historical forced outage rates across the full season, rather than focused on specific times of high need. Midcontinent Independent System Operator Inc.'s Filing to Include Seasonal and Accreditation Requirements for the MISO Resource Adequacy Construct, at Tab C, Prepared Direct Testimony of Shawn McFarlane, at 14:16–15:6, 27:23–28:7, Docket No. ER22-495 (Nov. 30, 2021) ("McFarlane Direct").

[15] 2021 Seasonal Accreditation Filing at 15–18.

[16] Comments of Clean Energy Coalition, at 1–3, Docket No. ER22-495 (Jan. 14, 2022), Accession No. 20220114-5233.

[17] *Id.* at 5–10.

accredited thermal resources in aggregate based on forced outage rates averaged across the full season.[18]

In August 2022, the Commission accepted MISO's proposed revisions.[19] Dissenting from the Commission's Order, Commissioner Clements focused, among other issues, on the disparate treatment between generating technologies in MISO's proposal, noting that it is "reasonable to expect grid operators to move toward methodologies that are more consistent across resource types."[20] Observing that "MISO has chosen an approach that sets Schedule 53 and non-Schedule 53 resources on different courses," Commissioner Clements called on MISO to "work to bring its divergent resource valuation techniques into alignment."[21]

While Docket No. ER22-495 was still in the litigation phase, MISO initiated a parallel policy development process at the stakeholder level to modify capacity accreditation of renewable resources.[22] Initially, MISO expressly limited the scope of the investigation to wind, solar, and "other use-limited and emerging resources, including hybrids and storage resources."[23] By implication, this policy process would not have affected accreditation of thermal generating resources, which was at issue in the then-pending Docket No. ER22-495. MISO's Problem Statement for its non-thermal accreditation review correctly asserted that "[r]esource

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[18] McFarlane Direct at 27:23–28:20, 31:9–:23.

[19] *Midcontinent Indep. Sys. Operator, Inc.*, 180 FERC ¶ 61,141 (2022). Multiple parties, including the PIOs, sought rehearing. The Commission denied rehearing by operation of law, *Midcontinent Indep. Sys. Operator, Inc.*, 181 FERC ¶ 62,079 (2022), and later issued a further order on rehearing that modified the discussion in the August 2022 Order but continued to reach the same result, *Midcontinent Indep. Sys. Operator, Inc.*, 182 FERC ¶ 61,096 at P 1 (2023).

[20] *Midcontinent Indep. Sys. Operator, Inc.*, 180 FERC ¶ 61,141 (Aug. 31, 2022) (Clements, Comm'r, dissenting at P 39).

[21] *Id.* at P 43.

[22] MISO, *Market Redefinition: Accreditation Reforms for Renewables / ELCC* (Jan. 26, 2022), https://cdn.misoenergy.org/20220126%20RASC%20Item%2005b%20Renewables%20Accreditation%20MISO%20Presentation620190.pdf.

[23] *Id.* at 8.

accreditation should reflect the availability of resources when they are most needed,"[24] but—throughout 2022—MISO continued to limit its accreditation investigation to non-thermal resources only. In response to stakeholder feedback, MISO indicated an openness to expand its new methodology to "other resource types" in November 2022[25] and January 2023,[26] then in April 2023 announced a definite intent to apply the methodology to all resources.[27]

The "DLOL" (Direct Loss of Load) accreditation proposal settled on by MISO and proposed in the instant proceeding divides generating resources into different technology classes based on "similar operating characteristics,"[28] then evaluates each resource class's aggregate accredited megawatts based on the modeled availability and performance of all resources in the class during measured "Critical Hours" among thousands of probabilistically generated hourly outcomes of system margins.[29] (Notably, MISO proposes to weight modeled "Critical Hours" most heavily to the extent their modeled system margin is most negative, with "Critical Hours" of positive but low system margin weighted least. Thus, modeled resource availability in the most extreme situations will be counted much more heavily than still-risky periods for the

[24] MISO, *Market Redefinition: Accreditation Reforms for Non-Thermal Resources*, at 3 (May 25, 2022), https://cdn.misoenergy.org/20220525%20RASC%20Item%2006b%20Non-Thermal%20Accreditation624769.pdf.

[25] MISO, *Market Redefinition: Accreditation Reforms for Non-Thermal Resources*, at 14 (Nov. 30, 2022), https://cdn.misoenergy.org/20221130%20RASC%20Item%2007b%20Non-Thermal%20Accreditation%20Presentation%20(RASC-2020-4%202019-2)627100.pdf.

[26] MISO, *Market Redefinition: Accreditation Reform*, at 6, 14 (Jan. 18, 2023), https://cdn.misoenergy.org/20230117-18%20RASC%20Item%2014b%20Non-Thermal%20Resource%20Accreditation%20(RASC-2020-4,%20RASC-2019-2)%20Presentation627472.pdf.

[27] MISO, *Market Redefinition: Accreditation Reform*, at 6, 12–13 (Apr. 18, 2023), https://cdn.misoenergy.org/20230418-19%20RASC%20Item%2012a%20Non-Thermal%20Accreditation%20Presentation628530.pdf.

[28] Tariff Filing at Tab B, 24-37, Proposed Schedule 53A: Extended Seasonal Accredited Capacity Calculation ("Proposed Schedule 53A"), § I.C.

[29] *Id.* § II.A.

system.) Within each resource class, the aggregated accredited megawatts would be distributed among individual resources using an approach similar to today's Schedule 53 method for thermal resources: based on resources' actual availability during measured historical hours, with greatest emphasis on a defined set of historical risky hours called "RA Hours."[30]

D. Statement of Law

Under Section 205 of the Federal Power Act (the "FPA"), the Commission must ensure that "[a]ll rates and charges . . . by any public utility for or in connection with the transmission or sale of electric energy" are "just and reasonable."[31] The Commission must also ensure that utilities do not "make or grant any undue preference or advantage to any person or subject any person to any undue prejudice or disadvantage" or "maintain any unreasonable difference in rates."[32] A utility proposing to change its rates bears "the burden of proof to show that the increased rate . . . is just and reasonable."[33] Under this standard, where MISO proposes tariff changes to "better align prices" with periods of potential risk, MISO "must show that any such proposed methodology produces just and reasonable rates."[34]

As the Commission has observed, the FPA "bristles with concern about undue discrimination."[35] Section 205(b) states that no public utility may "subject any person to any undue prejudice or disadvantage" or "maintain any unreasonable difference in rates, charges, service, facilities, or in any other respect, either as between localities or as between classes of

[30] *Id.* §§ IV-VI; Joundi Test. at 30:20–34:14.

[31] 16 U.S.C. § 824d(a).

[32] *Id.* § 824d(b).

[33] *Id.* § 824d(e).

[34] *See PJM Interconnection, L.L.C.*, 180 FERC ¶ 61,089 at P 51 (2022).

[35] *Am. Elec. Power Serv. Corp.*, 67 FERC ¶ 61,168, at 61,490 (1994) (citing *Associated Gas Distribs. v. FERC*, 824 F.2d 981, 998 (D.C. Cir. 1987)).

service."[36] This standard prohibits one type of market participant from receiving preference over another type that can provide a similar service without an adequate justification.[37] The Commission has explained that different treatment is unduly discriminatory "when there is a difference in rates or services among similarly situated entities."[38] Determining that entities are similarly situated "does not mean that there are no differences between them; rather, it means there are no differences that are material to the inquiry at hand."[39] Entities are similarly situated "if they are in the same position with respect to the ends that the law seeks to promote or the abuses that it seeks to prevent, even if they are different in many other respects."[40] Irrelevant differences do not justify dissimilar treatment.[41] Consistent with those precedents, the Commission has, for example, determined that new and existing generators were similarly

[36] 16 U.S.C. § 824d(b).

[37] *"Complex" Consol. Edison Co. of N.Y., Inc. v. FERC*, 165 F.3d 992, 1012 (D.C. Cir. 1999); *see also Town of Norwood v. FERC*, 202 F.3d 392, 402 (1st Cir. 2000) ("Specifically, the Federal Power Act outlaws unjustifiably disparate treatment of similarly situated entities under the rubric of 'undue preference'"); *Mkt. Based Rates for Wholesale Sales of Elec. Energy, Capacity & Ancillary Servs. by Pub. Utils.*, Order No. 697, 119 FERC ¶ 61,295 at P 963 (2007) ("The standard for judging undue discrimination or preference remains what it has always been: disparate rates or service for similarly situated customers."); 16 U.S.C. § 824e(a) (requiring the Commission to fix a rate found "unjust, unreasonable, unduly discriminatory or preferential").

[38] *Calpine Oneta Power, L.P.*, 116 FERC ¶ 61,282 at P 36 (2006); *El Paso Nat. Gas Co.*, 104 FERC ¶ 61,045 at P 115 (2003); *Towns of Alexandria, Minn. v. Fed. Power Comm'n*, 555 F.2d 1020, 1028 (D.C. Cir. 1977).

[39] *N.Y. Indep. Sys. Operator, Inc.*, 162 FERC ¶ 61,124 at P 10 (Feb. 15, 2018) (Order granting, in part, and denying, in part, rehearing and clarification, and requiring further compliance).

[40] *Id.* The Commission further explained that "[c]onsistent with those precedents, the Commission has, for example, determined that new and existing generators were similarly situated for 'reactive power compensation purposes' because they were equally capable of providing that service, notwithstanding significant differences" (citing *Calpine Oneta Power, L.P.*, 116 F.E.R.C. ¶ 61282 (Sep. 26, 2006); *see also PJM Interconnection, L.L.C.*, 168 FERC ¶ 61,121 (2019) ("[N]on-federal renewable resources are similarly situated to federal hydroelectric and thermal resources for purposes of transmission curtailments because they all take firm transmission service").

[41] *Calpine Corp., et al. v. PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,035 at P 123.

situated for "reactive power compensation purposes" because they were equally capable of providing that service, notwithstanding other significant differences.[42]

In order to ensure that the Commission is able to exert adequate oversight over utilities' rates and charges, utilities are required to include in any rate filing each of the key contributing components that lead to such rates and charges. This requirement is called the "Rule of Reason," and it is foundational to the regulatory construct set up by the FPA, in which utilities or groups of utilities are given broad leeway to operate wholesale power systems subject to Commission oversight to ensure that those systems will not result in unjust or unreasonable rates. Specifically, the FPA requires all rate schedules to include "the classifications, practices, and regulations affecting such rates and charges."[43] Commission regulations go even further, requiring that rate schedules set forth "clearly and specifically,"[44] "all . . . practices . . . which in any manner affect or relate to . . . service, rates, and charges."[45] Elements that "'significantly affect rates, terms, and conditions' of service, are readily susceptible of specification, and are not generally understood in a contractual agreement *must be included in the tariff*" under the Commission's Rule of Reason.[46] "These requirements ensure that the public has adequate notice of the proposed rate, and that the Commission has an opportunity to evaluate the proposal to ensure that it is just and reasonable and not unduly discriminatory or preferential."[47]

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[42] *Calpine Oneta Power, L.P.*, 116 FERC ¶ 61,282 at P 36 (2006); *see also Iberdrola Renewables, Inc. v. Bonneville Power Admin.*, 137 FERC ¶ 61,185 at P 62 (2011) (explaining that that "non-[f]ederal renewable resources are similarly-situated to [f]ederal hydroelectric and thermal resources for purposes of transmission curtailments because they all take firm transmission service").

[43] 16 U.S.C. § 824d(c).

[44] 18 C.F.R. § 35.1(a).

[45] *Id.* § 35.2(b).

[46] *Am. Elec. Power Serv. Corp. v. Sw. Power Pool, Inc.*, 183 FERC ¶ 61,068 at P 39 (2023) (citing *N.Y. Indep. Sys. Operator, Inc.*, 179 FERC ¶ 61,102 at P 106 (2022)) (upheld on rehearing) (emphasis added).

[47] *Sw. Power Pool, Inc.*, 182 FERC ¶ 61,100 at P 34 (2023) (order on rehearing).

The Commission's requirement that utilities provide sufficient detail on their rate structure focuses on "methodological or procedural detail, rather than specific numeric values that are the result of applying those methodologies or procedures."[48] In cases where those details are not provided, "the Commission has often invoked the rule of reason to require additional detail be included in [incomplete] jurisdictional tariffs."[49] And any determination whether the tariff in question complies with the Rule of Reason "requires a case-by-case analysis, comparing what is in the . . . Tariff against what is in the Business Practice Manuals."[50] Tariffs that omit major details about the process of calculating rates may be revised or rejected, and courts have overturned Commission orders that failed to require sufficient detail in the tariff.[51]

Utilities' obligation to provide sufficient detail on the calculation of rates extends to capacity accreditation methodologies. In 2007, the DC Circuit ruled in *Keyspan-Ravenswood, L.L.C. v. FERC* that the Rule of Reason warranted remand where the methodology for a UCAP capacity accreditation was not found in an approved tariff.[52] In that case, the court found that "the rule that forced outage rates be measured over a one-year period for generators and a ten-year period for LSEs is, to say the least, easily reduced to writing," and therefore must be codified in the tariff.[53]

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[48] *Am. Elec. Power Serv. Corp.*, 183 FERC ¶ 61,068 at P 46 (emphasis added).

[49] *Id.* at P 46 (emphasis omitted); *see also Am. Elec. Power Serv. Corp. v. Sw. Power Pool, Inc.*, 184 FERC ¶ 61,207 at PP 31–33 (2023) (rejecting a proposed tariff filing because it did not provide sufficient detail on how the Loss of Load Study results are translated into a final Planning Reserve Margin).

[50] *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274 at P 1370 (2006).

[51] *See, e.g.*, *City & County of San Francisco v. FERC*, 24 F.4th 652, 661 (D.C. Cir. 2022).

[52] *Keyspan-Ravenswood, L.L.C. v. FERC*, 474 F.3d 804, 811 (D.C. Cir. 2007).

[53] *Id.*

In addition to issues around undue discrimination and the Rule of Reason described above, the Commission's findings must be supported by "substantial evidence."[54] More generally, reasoned decision making requires "a 'rational connection between the facts found and the choice made.'"[55] "Unless an agency answers objections that on their face appear legitimate, its decision can hardly be said to be reasoned."[56] In determining that any aspect of MISO's proposal—or the proposal as a whole—is (or is not) just and reasonable, the Commission must consider whether the information marshaled by MISO to modify its capacity accreditation methodology logically supports its proposed policy features.

E. The PIOs appreciate MISO's efforts to make certain much-needed updates to its accreditation methods.

In the following sections, the PIOs address two key flaws in MISO's filing that the Commission should require MISO to address before approving its Tariff Filing. However, the PIOs note as an initial matter MISO's proposed DLOL methodology represents a significant improvement over the RTO's existing accreditation regime, and the PIOs appreciate that MISO has developed an accreditation methodology that applies to all resource classes.

The overarching goal of any resource accreditation methodology should always be to value the capacity of resources based on those resources' ability to provide power when the system needs it. The need for this focus has been made more urgent by two major trends impacting the power sector: first, a transition toward clean energy solutions such as solar and

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[54] 16 U.S.C. § 825*l*(b).

[55] *Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (*quoting Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)).

[56] *Tesoro Alaska Petroleum Co. v. FERC*, 234 F.3d 1286, 1294 (D.C. Cir. 2000) (citing *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 648 (D.C. Cir. 1973) and *City of Vernon v. FERC*, 845 F.2d 1042, 1048 (D.C. Cir. 1988)).

wind, increasingly supported by paired or stand-alone battery storage systems; and second, a demonstration in recent winter storms (and associated grid emergency events) that the thermal units grid operators have long relied on to provide "dispatchable" power are not performing at anywhere near their accreditation levels when grid operators most need them, because they are prone to correlated outages during increasingly common extreme weather events.

MISO acknowledges both of these dynamics,[57] and its DLOL-based accreditation Proposal ties both resource class-level and individual generator accreditation values explicitly to their performance during the highest-risk periods on MISO's system.[58] At a high level, this approach is consistent with the ESIG principles discussed above. It is nondiscriminatory because it accredits resources based only on their projected performance, in a technology-neutral manner. It is robust, because as the LOLE analysis's assessment of risk shifts, accreditation values will also shift. It is a transparent and reliable translation of the LOLE analysis outputs into accreditation values. And it will be exactly as reliable and predictable as the underlying LOLE analysis it so carefully mirrors in the form of resource accreditation values.

The major limitation to the DLOL methodology is that its accuracy is directly tied to the accuracy of the underlying LOLE model. PIOs discuss this dynamic at greater length below, but for instance a LOLE model that fails to appropriately dispatch storage resources could artificially deflate the accredited values not just of storage resources, but also of wind and solar resources. But putting aside that question for now, and assuming the LOLE analysis is roughly correct, this explicit tie to final accredited values will prevent any misplaced incentives to build or retain specific types of resources. It will also empower utility system planners with the knowledge that

[57] Transmittal Letter at 2.

[58] *Id.* at 3–4.

meeting their Planning Reserve Margin Requirement and ensuring the actual reliability of their system can be achieved simultaneously. Both of these outcomes, if achieved, will benefit ratepayers across MISO's footprint.

The PIOs also appreciate MISO's discussion of the distinction between deterministic (*i.e.* historic) and probabilistic (*i.e.* modeled) performance metrics, and share MISO's conclusion that a blended method that accounts for actual events while continuing to look at potential future performance is likely the best path forward.[59] As such, the PIOs agree with MISO's commitment to base individual resource accreditation both on generators' probabilistic performance in the RTO's loss-of-load expectation ("LOLE") analysis, and on their deterministic performance during actually experienced high-risk periods. The PIOs do believe MISO could have selected a better technique for blending consideration of probabilistic and deterministic performance during high-risk hours than basing class-level accreditation entirely on resources' probabilistic performance via the LOLE model and then allocating those accredited values to individual generators based entirely on their deterministic performance during historical high-risk hours.[60] A metric that incorporated more historic performance values into the class-level accreditation system would have more effectively offset the risk of discriminatory final accreditation values that a potentially biased LOLE analysis now poses. But PIOs do not believe that this particular choice by itself renders the proposed accreditation methodology unjust or unreasonable; instead, it underscores the importance of ensuring that MISO's LOLE analysis is and remains unbiased.

[59] *Id.* at 13–14.

[60] *Id.* at 19–22.

II. ARGUMENT

In two important respects, MISO has not shown that its Proposal falls within the range of reasonableness. First, MISO has kept the details of its Loss of Load Expectation Study out of the filing, preventing the Commission from offering meaningful oversight over a crucial part of the accreditation process; and second, MISO has injected an arbitrary last-minute, poorly supported weighting calculation that is also not adequately delineated in the Tariff Filing. Each of these issues is discussed below.

A. MISO's LOLE model is now so central to its proposed accreditation outcomes that it should have been included in the tariff filing and subject to Commission oversight.

MISO's decision to base its class-level accreditation values entirely on the outputs of the LOLE analysis has one crucial impact that perhaps the RTO has not yet appreciated: it places outsized importance on the fairness and accuracy of the LOLE analysis. MISO has chosen to put its LOLE analysis at the heart of its accreditation process by giving it the ability to accredit classes of resources based on their collective contribution to grid reliability.[61] As discussed above, this is a principled choice—but, as MISO acknowledges, "the quality of this [probabilistic LOLE] assessment is limited by the standard modeling limitations, namely quality of the inputs and the model."[62] Under MISO's proposal, any flaws or biases in the inputs and assumptions used in the LOLE analysis will manifest directly as flaws or biases in the accredited values of resources. This concern is particularly acute given new types of system strains MISO has experienced in the past ten years, which MISO has acknowledged necessitate further model

[61] Transmittal Letter at 19-21.

[62] *Id.* at 13; *see also* Joundi Test. at 46:16–:18 ("The probabilistic model is at the heart of MISO's proposed accreditation methodology because resource accreditation and Resource Adequacy Requirements will be directly determined using the same probabilistic model.").

improvements such as its recent change to modeling of cold weather outages in thermal units, and several other significant modifications under consideration, as detailed below.

The LOLE analysis's outsized role in MISO's proposed accreditation regime subjects it to the requirements of the Rule of Reason. As discussed above, the Rule of Reason requires that rate filings include "those practices that affect rates and service significantly, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous."[63] In the context of MISO's filing, each of these three descriptors apply to the RTO's LOLE analysis. The LOLE analysis affects rates and service significantly because its outputs determine almost directly the relative accreditation values between different resource classes.[64] The entirety of the LOLE model is perhaps not "susceptible of specification," but the key inputs and assumptions that guide its operation can be specified—and should be—because they have major impacts on the resulting accreditation values. These inputs and assumptions cannot be said to be "generally understood in any contractual arrangement." As such, MISO should have included more information on the LOLE analysis in its filing and in its tariff; in that absence, the Commission should inform MISO of this deficiency, and decline to approve the overall Tariff Filing until that information is included in the tariff.

[63] *City & County of San Francisco v. FERC*, 24 F.4th 652, 661 (D.C. Cir. 2022) (quoting *Keyspan-Ravenswood, LLC v. FERC*, 474 F.3d 804, 811 (D.C. Cir. 2007)); *see also City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985).

[64] The Commission has previously recognized that a "resource accreditation methodology significantly affects rates because it affects [load-serving entities'] ability" to comply with resource adequacy requirements. *Sw. Power Pool, Inc.*, 180 FERC ¶ 61,074 at P 25 (2022), *reh'g granted on other grounds*, 182 FERC ¶ 61,100 at PP 34–35 (2023) (affirming rule of reason violation and rejecting tariff filing).

Unfortunately, the information MISO has shared on the LOLE analysis is limited, and none of it is in MISO's proposed tariff.[65] As PIOs' witness Anna Sommer highlights in her testimony, this is consistent with MISO's longstanding practice: the RTO maintains tight control over large swaths of information necessary for outside parties to evaluate its decision-making, which will become increasingly problematic once the LOLE model dictates accreditation outcomes so directly.[66] MISO's description of the LOLE analysis in its transmittal letter is no better; it does not offer more detail than the following passage:

> The LOLE analysis includes a Monte Carlo probabilistic simulation using 30 years of correlated load and weather data for each of five load forecasts that incorporates economic uncertainties and associated probabilities into the forecasts (probabilistic approach).[67]

MISO does offer the testimony of Zakaria Joundi, who discusses several elements of the LOLE model in more detail;[68] but even this discussion does not offer the Commission a real opportunity to review all of MISO's modeling choices and whether those choices are causing undue discrimination in treatment between different classes of resources. For example, when asked how MISO's LOLE analysis considers the impact of cold-weather outages in the thermal fleet on its generation supply, Mr. Joundi offered the following assessment:

> Yes, Astrapé, the entity that manages the SERVM software used for LOLE analysis, performed an analysis showing that as the temperatures decreased, the average megawatts (MW) of forced outages for coal and gas resources increases. Based on that analysis, a MW/degree relationship was developed and modeled so that at each temperature, there is a specific MW amount of incremental cold weather outage captured for each zone. The incremental cold weather outages are not assigned to a particular resource but rather represent the aggregate Resource

[65] The existing and proposed tariff memorializes the fact that MISO utilizes a Loss of Load Expectation study, but provides no detail on *how* that study is structured. Tariff Filing at Tab B, 22, Proposed Tariff § 68A.2.1.

[66] Ex. A, Affidavit of Anna Sommer, PP III.2-.9 ("Sommer Affidavit").

[67] Transmittal Letter at 3.

[68] Joundi Test. at 50:3–54:23.

> Class-level impact on the system to the Coal, Gas, and Combined Cycle Resource Classes.[69]

While PIOs support the use of the cold weather "adder" that is described here, which serves as a proxy for the correlated outage risk of these resource classes at low temperatures, Mr. Joundi's description is missing any explanation of how the MW/degree relationship was developed, what underlying modeling supported its development, or why the ratio Astrapé selected is appropriate. Also missing is any assessment of how accurately the cold weather outage modeling assumption mirrors MISO's real-world experience with outages in the thermal fleet in recent winter storms and how it might be updated to reflect any future winter storm experience. And Mr. Joundi fails to explain why MISO declined to consider the possibility of correlated outages or derates in the coal and gas fleets in response to other weather patterns, such as heat waves or droughts.[70] MISO is currently not required, under the existing tariff, to share such information; the existence of the adder is not even mentioned in MISO's proposed tariff language. Nonetheless, the cold weather forced outage adder will have a profound impact on accreditation values over the next decade, which will in turn drive resource planning decisions across MISO's footprint. This makes it is exactly the type of "methodological or procedural detail" with an outsized impact on accreditation values that the Commission regularly requires utilities to include in filings.[71] Thus, MISO's failure to provide more information undermines the Commission's ability to fulfill its oversight obligation here.

The importance of Commission review of the inputs and assumptions underlying MISO's LOLE model extends beyond the cold weather forced outage adder. MISO regularly updates its

[69] Joundi Testimony at 52:5–:14.

[70] *Id.*

[71] *See Am. Elec. Power Serv. Corp.*, 183 FERC ¶ 61,068 at P 46.

LOLE model and has several such changes queued up,[72] and those changes can have outsized impact on the accreditation values for entire classes of resources. Most recently, MISO has indicated to stakeholders that it believes its current LOLE modeling approach inflates the accreditation values for electric storage facilities, and that it would like to reform its modeling choices presumptively to reduce the accreditation values given to electric storage facilities so that they are in line with where MISO believes such values should be.[73] MISO has not yet made clear to stakeholders what those modeling changes are or what additional impacts they will have on storage accreditation values; but their projected impact is already clear: storage resources are expected to receive a lower accreditation value.

Furthermore, in addition to changes to its storage modeling, MISO has also identified the following as "[n]ear-term" areas of LOLE model enhancements: correlated outages, planned outages, load forecasting, demand-side validation. It also has long-term plans to change its transmission modeling, better consider external assistance, and utilize economic dispatch.[74] This last change is particularly meaningful As Ms. Sommer explains, MISO's use of the Strategic Energy Risk Valuation Model in preparing its LOLE is "unconventional" and reduces MISO's ability to account for non-catastrophic failures and derates at thermal units in particular.[75] Again, MISO's reform of the LOLE study assumptions in each of these areas will have a direct impact on entire resource classes' accreditation outcomes, and consequently individual resource

[72] *See* Sommer Affidavit at PP III.7-.10.

[73] MISO, *LOLE Modeling and Accreditation Workshop*, at 36 (Sep. 22, 2023), https://cdn.misoenergy.org/20230922%20LOLE%20Modeling%20and%20Accreditation%20Workshop%20Presentation630256.pdf.

[74] Sommer Affidavit at P III.7; *see also* MISO, *Resource Adequacy Model Enhancement Plan*, at 4 (Feb. 28, 2024), https://cdn.misoenergy.org/20240228%20RASC%20Item%2005c%20RA%20Model%20Enhancement%20Presentation631891.pdf.

[75] Sommer Affidavit at PP III.11-.13.

accreditation, but the RTO has not given any indication that it intends to submit itself to Commission review of and oversight over any of those changes. This is improper.

The PIOs are aware that the Commission has not traditionally exerted oversight over the details of LOLE analyses,[76] nor are they aware of any previous effort to solicit Commission oversight over utility operation of such models. But in proposing an accreditation regime that is effectively a straight application of the LOLE analysis outputs, MISO has thrust that analysis into a position where it is more directly impacting resource investment decisions and other rate outcomes than it ever has before. As a result, no reasonable assessment of the proposal can occur without understanding how the LOLE study is reaching its predictions. The stronger connection between the LOLE study and accreditation outcomes requires the Commission to take a different approach in this case, to ensure it continues to exert meaningful oversight over MISO's Section 205 rate filings. The PIOs urge the Commission to do so in this proceeding.

B. MISO's weighting proposal suffers from numerous flaws.

The other major aspect of the Tariff Filing PIOs are concerned about is MISO's arbitrary last-minute decision to assign significantly more weight to some projected risk hours than others. As discussed above, MISO has attempted to define a set of "Critical Hours" that will be identified within its Loss of Load Expectation modeling[77] consisting of modeled hours with

[76] *See, e.g.*, *PJM Interconnection L.L.C.*, 186 FERC ¶ 61,080 at PP 146-48, 183-87 (2024) (approving a rate filing from PJM that did not include the operational details of its LOLE model); *see also* Capacity Market Reforms to Accommodate the Energy Transition While Maintaining Resource Adequacy, Att. B, Proposed RAN Schedule 9.2, § D.2.a, Docket No. ER24-99 (Oct. 13, 2023), Accession No. 20231013-5157; *N.Y. Indep. Sys. Operator, Inc.*, 179 FERC ¶ 61,102 at P 108 (2022) (approving a rate filing from NYISO that did not include the operational details of its LOLE model).

[77] MISO's LOLE modeling uses thirty different weather years (that is, thirty sets of 8,760 hours), each with different profiles of weather across the hours and thus different profiles of load and resource performance across the hours. For each weather year, MISO perturbs the projected hourly loads in five different ways according to certain "load forecast errors" or "LFEs," as discussed above. For each

negative system margins[78] ("Loss of Load Hours" or "LOL Hours") and modeled hours with positive system margins of 0% up to 3% ("Expanded Hours") of load. For any Resource Class, the modeled performance of all resources will be evaluated across the full set of Critical Hours. Then, a weighted average of resources' modeled performance across those Critical Hours is calculated to arrive at an accreditation value for the Resource Class.[79]

However, at the very end of a two-year stakeholder process, MISO introduced the additional weighting policy component in January[80] of this year, just over two months before filing the instant Proposal: the seasonal average of modeled resource performance across Critical Hours would be a *weighted* average based on the modeled system margin in each Critical Hour. Specifically, within any season and for each Critical Hour, an "effective margin" is first identified equaling the distance, in megawatts, from the hour's modeled system margin to the season's maximum margin of all Critical Hours.[81] (The maximum margin in the season will

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weather year-LFE combination, MISO applies 50 to 300 draws of random generator outages, based on some underlying probability distribution. Therefore, the total number of modeled hours covering a whole year in the LOLE model is at least 8,760 * 30 * 5 * 50 = 65.7 million, up to 8,760 * 30 * 5 * 300 = 394.2 million. For a single season, the number of modeled hours would be approximately ¼ of those numbers, around 16.425 million to 98.55 million. Joundi Test. at 43:10–:13; MISO, *LOLE Modeling Enhancement: Planned Outage Modeling*, at 3 (Apr. 17, 2024), https://cdn.misoenergy.org/20240417%20RASC%20Item%2005d%20LOLE%20Modeling%20Enhancements%20-%20Planned%20Outage%20Modeling632508.pdf, at 3; MISO, *LOLE Modeling and Accreditation Workshop*, at 18 (Sept. 22, 2023), https://cdn.misoenergy.org/20230922%20LOLE%20Modeling%20and%20Accreditation%20Workshop%20Presentation630256.pdf. From this pool of around 16 to 98 million modeled hours per season, Critical Hours will be identified. If the number of modeled Loss of Load Hours is under 1,950 in the season, then total Critical Hours will be capped at 1,950 for the season, and if the number of Loss of Load Hours is 1,950 or above then no Expanded Hours will be included as Critical Hours.

[78] For any season, load and resource performance will be modeled based on the assumed circumstances of each modeled hour; this (coupled with net system imports) determines a modeled system margin (that is, available resources vs. demand) in each modeled hour. Joundi Test. at 24:6–:17.

[79] Proposed Schedule 53A § II.A; Joundi Test. at 22:1–25:19.

[80] MISO, *Market Redefinition: Accreditation Reform*, at 7–9 (Jan. 17, 2024), https://cdn.misoenergy.org/20240117%20RASC%20Item%2007a%20Accreditation%20Presentation%20(RASC-2020-4%20and%202019-2631379.pdf.

[81] Joundi Test. at 26:1–:16.

likely be *close* to a positive 3% margin in most seasons except Summer.[82,83]) To illustrate, assume for simplicity that load is 100,000 MW across all modeled hours, and the highest-generation Expanded Hour in the season has 103,000 MW of available generation. For a Critical Hour that is a LOL Hour with 93,000 MW of available modeled generation or negative 7,000 MW margin, the "effective margin" is 10,000 MW; for a Critical Hour with 102,000 MW of available modeled generation or positive 2,000 MW margin, the "effective margin" is 1,000 MW. The "effective margin" for any Critical Hour is then further multiplied by the probability of the load forecast error ("LFE") perturbation that was previously applied to the load forecast for that modeled hour:

LFE Levels				
-2.0%	-1.0%	0.0%	1.0%	2.0%
Probability assigned to each LFE				
4.8%	24.1%	42.1%	24.1%	4.8%

[84]

The new weights across all the Critical Hours in a season are then normalized so they add up to 100% (maintaining the relative magnitudes of weights across hours).[85] Finally, the number of Critical Hours is potentially culled according to the following rule: if LOL Hours for the season are at least 1,950, then all LOL Hours are selected as Critical Hours, but all Expanded Hours are

[82] Because the amount of load in megawatts is not equal across all modeled hours, it is conceivable that a modeled hour with less than 3% system margin could have a greater margin *in terms of megawatts* than an hour with 3% margin.

[83] Joundi Test. at 27:15 (showing that for the most recent Planning Year, all Expanded Hours would be included in Critical Hours in Fall, Winter, and Spring, but no Expanded Hours would be used in Summer).

[84] Joundi Test. at 27:17–28:9 (citing MISO, Planning Year 2023-2024 Loss of Load Expectation Study Report, at 31 (last updated May 1, 2023), https://cdn.misoenergy.org/PY%202023-2024%20LOLE%20Study%20Report626798.pdf).

[85] *Id.* at 27:20.

excluded. If LOL Hours for the season are less than 1,950, then Expanded Hours are included up to a cap of 1,950 total Critical Hours.[86]

MISO's weighting proposal is poorly defined in the proposed tariff language, violating legal requirements that a rate filing clearly and specifically describe the new rate (and practices affecting the rates). Additionally, MISO has not justified why its uneven weighting methodology for comparing different Critical Hours is appropriate. MISO's choice of a weighting methodology that nearly erases the effect of including positive-margin "Expanded Hours" runs contrary not only to the concerns of many stakeholders who argued for such inclusion, but to MISO's acknowledgment of those concerns and original decision to add "Expanded Hours" in the first place. Even worse for MISO's stakeholder engagement approach, MISO introduced the new weighting concept just under two months before filing this proposal and did not fully describe it to stakeholders until the moment of filing this case. Accordingly, the Commission should reject the weighting aspect of MISO's DLOL resource evaluation across "Critical Hours," consistent with its authority under the FPA and applicable caselaw.

1. The Rule of Reason requires MISO to include the weighting methodology in the tariff.

MISO's proposed tariff revisions do not satisfy the Rule of Reason. Under the DLOL-based methodology, MISO proposes to weight the LOLE model's simulation of class-wide performance during each Critical Hour based on (1) "the probability associated with the load forecast error scenario" used for that Critical Hour in the model, and (2) "the effective margin for each hour."[87] For the first factor, MISO currently includes LFE scenarios in the LOLE model

[86] *Id.* at 22:16–:18, 26:17–27:16.

[87] Transmittal Letter at 21; *see also* Joundi Test. at 27:17–:20.

"to account for economic load uncertainty" and develops the probability for each LFE scenario as part of the annual planning year LOLE study.[88] As noted above, in MISO's Planning Year 2023-2024 example, the probabilities for different LFE scenarios range from 4.8% to 42.1%.[89] For the second factor, MISO proposes to calculate the "effective margin" for each Critical Hour by taking (as discussed in more detail above) the difference between the maximum margin among all Critical Hours and the margin (either positive or negative) for that Critical Hour.[90]

MISO's proposed tariff revisions, however, do not include these essential details of the MISO's weighting methodology. Instead, the tariff states in the relevant part: "Once Critical Hours are determined for each Season, weights are calculated for each of the Critical Hours using *a weighting system that assigns greatest weight to the hours with the highest risk (i.e. hour with most unserved energy)*, as further described in the Business Practices Manual for Resource Adequacy."[91] The tariff omits two key components.

First, this general language reveals that MISO will assign the most weight to the hours with the most unserved energy, but it provides no indication as to how MISO will approach the critical question of *how much* more weight to assign to hours with more unserved energy. As detailed further below in section II.B.2, there are a range of weighting methodologies that MISO could use within this broad umbrella. That choice among weighting approaches, which MISO has not sufficiently justified, could result in significantly different accreditation for resources. The rule of reason requires that MISO provide details of its "effective margin" weighting calculation methodology in the tariff.

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[88] Transmittal Letter at 21.

[89] *Id.* at 21.

[90] *Id.* at 20.

[91] Proposed Schedule 53A § II.A (emphasis added).

Second, the tariff does not even mention the use of LFE scenario probabilities in calculating weights for Critical Hours, a change that MISO introduced at the very end of the stakeholder process, as discussed more in section II.B.4 below. This additional variable can dramatically shift the relative weights of Critical Hours. As shown in MISO's example, the LFE scenarios for Planning Year 2023-2024 are distributed such that a LFE of 0 (or no error) has a probability of more than eight times a LFE of +/- 2%.[92] The tariff does not even mention this significant modification to MISO's weighting scheme, nor does it foreclose the introduction of additional variables with comparable or greater impacts. The Rule of Reason requires MISO to include these elements.

a. MISO's weighting methodology significantly affects rates.

MISO's weighting methodology significantly affects rates.[93] Again, the Commission has previously recognized that a "resource accreditation methodology significantly affects rates because it affects [load-serving entities'] ability" to comply with resource adequacy requirements.[94] Similarly, the Commission has found that "the methodology for calculating [a] factor" has a significant effect where that factor "directly affects which . . . resources clear the market and the market-clearing price."[95]

Here, weighting modeled resource performance during certain Critical Hours more heavily—often multiple times more (and potentially orders of magnitude more) than performance during other Critical Hours—can substantially shift the allocation of class-level

[92] Transmittal Letter at 21. To be more precise, the zero-LFE scenario has a probability of 42.1%, which is roughly 8.77 times greater than the 4.8% probability assigned to the +/- 2% LFE scenarios.

[93] *See City & County of San Francisco*, 24 F.4th at 661.

[94] *Sw. Power Pool, Inc.*, 180 FERC ¶ 61,074 at P 25 (2022). The Commission subsequently granted rehearing and rejected the tariff filing based on this violation of the rule of reason. *See Sw. Power Pool, Inc.*, 182 FERC ¶ 61,100 at PP 34–35.

[95] *Energy Storage Ass'n*, 162 FERC ¶ 61,296 at PP 102, 104.

accredited megawatts, and thus, the accredited capacity of individual resources.[96] In turn, resources' accredited capacity directly affects resource offers into the MISO's Planning Reserve Auction (and thus auction clearing prices) and load-serving entities' compliance with Planning Reserve Margin Requirements, since resource owners have costs that generally scale per installed megawatt, but resource offers must be expressed as dollars per accredited megawatt.

b. MISO's weighting methodology is realistically susceptible of specification.

MISO's weighting methodology is likewise "realistically susceptible of specification."[97] In fact, MISO's transmittal letter and supporting testimony not only identify the two variables that will make up a Critical Hour's weight—namely, LFE scenario probability and effective margin—but provides the equation that MISO will use to calculate weights:[98]

$$weight = \frac{p(lfe) * effective\ margin}{\sum_h p(lfe) * effective\ margin}$$

MISO's ability to describe its methodology to this degree demonstrates that these elements are "to say the least, easily reduced to writing."[99]

c. Recitation of MISO's specific weighting methodology would not be superfluous.

[96] *See infra* note 148 (showing proposed resource class accreditations with and without hourly weighting proposal); Proposed Schedule 53A § VI.H.

[97] *City & County of San Francisco*, 24 F.4th at 661 (quoting *Keyspan-Ravenswood*, 474 F.3d at 811).

[98] Transmittal Letter at 21; Joundi Test. at 26:6–:16, 27:17–28:9.

[99] *Keyspan-Ravenswood*, 474 F.3d at 811; *see* also *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,084 at P 66 (2021) ("PJM has already specified several ELCC Classes in its Deficiency Letter Response and states that it would do so in its manuals, which undermines PJM's claim that ELCC Classes are not readily susceptible to specification due to fast-paced technological change.").

MISO's specific weighting methodology is "not so generally understood in any contractual arrangement as to render recitation superfluous."[100] The tariff's statement that MISO will "assign[] greatest weight to the hours with the highest risk (i.e. hour with most unserved energy)"[101] does not inevitably result in the specific choices that MISO made in its weighting proposal.[102] Rather, as in prior cases where the Commission has required more detail, the "broad term[s]" in MISO's tariff could "describe a variety of [weighting] methodologies."[103] For instance, MISO's supporting testimony asserts that "MISO considered alternative weighting schemes."[104] Several of those alternatives would fit under the tariff language's umbrella, including "weights based on the amount of unserved energy," weighting "loss of load hours and low margin hours with a fixed ratio," and "alternative weighting based on margin."[105] The tariff does not provide any indication of MISO's current choice among this range of options, nor any different choices MISO might make in the future.

Similarly, there is no protection in the proposed Schedule 53A tariff language against MISO further modifying the Critical Hours weights based on additional factors. Given this lack of detail, the PIOs have "concerns that [MISO] may, with unfettered discretion, base its [weighting] determination 'on unidentified factors . . . and wholly outside the terms of the Tariff.'"[106] In fact, MISO's transmittal letter refers readers to the LOLE Study Report for more

[100] *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985).

[101] Proposed Schedule 53A § II.A.

[102] *Cf. Hecate Energy Greene Cnty. 3 LLC v. FERC*, 72 F.4th 1307, 1314 (D.C. Cir. 2023) ("[E]ven specifiable practices that significantly affect rates need not be included if they are clearly implied by the tariff's express terms.").

[103] *Sw. Power Pool, Inc.*, 180 FERC ¶ 61,074 at P 28.

[104] Joundi Test. at 29:9.

[105] *Id.* at 29:10–:12.

[106] *Am. Elec. Power Serv. Corp.*, 184 FERC ¶ 61,207 at P 33.

detail on LFE values,[107] but that report reveals that MISO is evaluating whether to replace LFE with "alternative methods for determining economic uncertainty to be used in the LOLE process."[108] The tariff's lack of detail could thus insulate from the Commission's review the reasonableness of any such changes and the direct effects on rates.

d. Commission precedent requires MISO to include these elements in the tariff.

These missing elements are not mere implementation details, such as "the specific numerical value of the Planning Reserve Margin."[109] Rather, they are significant methodological choices that MISO has made regarding its "process for determining the capacity accreditation values of certain resource classes," and as such, must be included in the tariff.[110] MISO's failure to include the specific factors for weighting hours contrasts with other capacity accreditation filings where the Commission has found that the tariff satisfied the rule of reason. For example, in a recent PJM order, the Commission reasoned that the proposed tariff revisions "detail[ed] the proposed ELCC methodology, process, and inputs for calculating ELCC Class Ratings, Accredited UCAP, and ELCC Resource Performance Adjustments."[111] There, the tariff expressly provided for a resource-specific performance adjustment "based on a metric consisting of the weighted average expected hourly output of the resource in the ELCC model during hours of loss of load risk," and further specified that "the weights correspond to the modeled

[107] Transmittal Letter at 21.

[108] MISO, *Planning Year 2023-2024 Loss of Load Expectation Study Report*, at 31 (May 1, 2023), https://cdn.misoenergy.org/PY%202023-2024%20LOLE%20Study%20Report626798.pdf.

[109] *Am. Elec. Power Serv. Corp.*, 184 FERC ¶ 61,207 at P 30.

[110] *Id.*

[111] *PJM Interconnection, L.L.C.*, 186 FERC ¶ 61,080 at P 54 (2024).

probability of losing load in such hour."[112] PJM's loss-of-load model will produce a specific LOL probability for any hour, while MISO's stated intent to employ "a weighting system that assigns greatest weight to the hours with the highest risk (i.e. hour with most unserved energy)" admits myriad possible implementation approaches, as discussed below in section II.B.2. Moreover, in a New York ISO decision regarding capacity accreditation almost exactly two years ago, the Commission found that NYISO's tariff is consistent with the rule of reason because it "provides sufficient detail to define 'marginal reliability contribution,' and in addition sets forth the process for calculating the marginal capacity accreditation."[113] There, the Commission noted that "all parties in this proceeding . . . understand that 'marginal reliability contribution' refers to a measure of resources' capacity value consistent with the generally understood ELCC approach."[114] While ELCC methodologies are widely used in the industry, MISO's specific weighting approach here is novel and not obvious.

By contrast, in a decision on Southwest Power Pool ("SPP") resource adequacy issues last year, the Commission found that SPP's tariff failed to adequately explain "how SPP accounts for" one data set (the results of the Loss of Load Expectation Study) "or any additional considerations," to determine another key data point, the Planning Reserve Margin.[115] The Commission directed SPP to revise its tariff to adequately explain this process.[116] Similarly, MISO's proposed tariff here does not specify *how* MISO will account for an hour's expected

[112] Capacity Market Reforms to Accommodate the Energy Transition While Maintaining Resource Adequacy, Attachment B, Revisions to the PJM Open Access Transmission Tariff and PJM Reliability Assurance Agreement, Proposed Schedule 9.2 § D.2.a., Docket No. ER24-99 (Oct. 13, 2023), Accession No. 20231013-5157.

[113] *New York Indep. Sys. Operator, Inc.*, 179 FERC ¶ 61,102 at P 108 (2022).

[114] *Id.* at P 109.

[115] *Am. Elec. Power Serv. Corp.*, 184 FERC ¶ 61,207 at P 33 (2023).

[116] *Id.* at P 34.

unserved energy in determining weights, nor does the tariff address the use of additional considerations such as LFE scenario probability.[117] As with SPP, the Commission should direct MISO "to maintain in its Tariff, with as much clarity as possible, the process through which [a crucial resource adequacy parameter] is determined."[118]

Because MISO's proposed approach to weighting of Critical Hours does not satisfy the Rule of Reason or the Federal Power Act, the weighting proposal should be denied.

2. MISO has not justified its chosen weighting methodology for Critical Hours with substantial evidence or grounded it in principles of capacity accreditation.

As discussed above, the FPA requires MISO to demonstrate that its tariff changes are just and reasonable, and decisions made by the Commission must be supported by substantial evidence in the record. Unfortunately, MISO here has not offered any principled justification for its Critical Hours weighting methodology (which, again, is not memorialized in the Proposed Schedule 53A tariff, but only described in its accompanying filing papers). The Commission thus cannot adopt MISO's proposed weighting component.

MISO offered the following justification in its Transmittal Letter for uneven weighting of Critical Hours:

> Once MISO agreed to expand hour selection to include low-margin hours, it confirmed the need to add weights to ensure the reliability risk that is expected during those hours is being appropriately accounted for in the accreditation calculation. Equal weighting for LOL hours and low-margin hours would assume the same level of reliability risk during those two sets of hours even though the probabilistic model indicates expected unserved energy only during the LOL hours.[119]

[117] Proposed Schedule 53A § II.A.

[118] *Am. Elec. Power Serv. Corp.*, 184 FERC ¶ 61,207 at P 34 (2023).

[119] Transmittal Letter at 33–34.

MISO's explanation here begs the question of "the need to add weights" without explaining how MISO "confirmed" that need, or why it chose to weight based purely on an hour's margin rather than considering "the duration of an LOL event of the frequency of these events," as some stakeholders suggested.[120] Nor does MISO address how it determined how significant those weights needed to be. Also missing from this explanation is any discussion of the drawbacks of hyper-focusing on an increasingly limited number of hours, or of the uncertainty associated with relying on MISO's probabilistic model to predict reliability risk with satisfying levels of accuracy (and thus identify which hours under particular weather conditions are most likely to experience loss of load).[121]

MISO witness Joundi offers a longer discussion of MISO's weighting protocol, but still does not adequately support MISO's weighting proposal. On the question of weighting writ large, Mr. Joundi offers the following explanation:

> Weighting the hours based on margin recognizes that not all the simulated events are equal, by assigning greater weights to those hours that have the highest unserved energy. It also provides a distinction between loss of load hours (with negative margins) and low margin hours (with zero or small positive margins), by providing higher weights to the former. The weighting system ensures that the expected reliability risk during Critical Hours is being appropriately accounted for in the Resource Class-level accreditation calculation.[122]

Mr. Joundi has thus tautologically described the purpose of the weighting proposal but has not explained the principles MISO believes should be used to balance avoidance of LOL events *per*

[120] MISO, RASC: Accreditation Reform (RASC-2020-4 and 2019-2) (20240117), https://www.misoenergy.org/engage/stakeholder-feedback/2024/rasc-accreditation-reform-rasc-2020-4-and-2019-2-20240117 (last visited Apr. 26, 2024) (Feb. 7, 2024 comment of State Regulatory Authorities); *infra* section II.B.3.

[121] Sommer Affidavit at P IV.12 (MISO's proposed weighting approach "assumes MISO's LOLE model is exceptionally accurate down to the hourly level without clear justification for doing so").

[122] Joundi Test. at 29:2–:7.

se[123] with avoidance of Expected Unserved Energy. On the selection of the specific weighting proposal MISO put forth here, Mr. Joundi offered the following:

> MISO considered alternative weighting schemes, ranging from equal weights for all hours, weights based on the amount of unserved energy, combining the loss of load hours and low margin hours with a fixed ratio (similar to the combination of Tier 1 and Tier 2 RA hours in Schedule 53), and alternative weighting based on margin. The selected scheme was chosen because it provides consistent emphasis on the hours with highest unserved energy, thereby appropriately accounting for the magnitude of expected reliability risks in each hour. Moreover, the approach chosen preserves the ordering of hours with respect to margins (so hours with larger positive margins always receive smaller weights), and it is numerically stable regardless of whether the group of hours include only loss-of-load hours, a few low margin hours, or a large number of low margin hours.[124]

In theory, there are many mathematical ways to assign smaller weights to hours with larger (modeled) positive margins, and larger weights to hours with larger (modeled) negative margins. For example, using MISO's example from its January 2024 presentation[125] of constant 100 MW load and hours with modeled system margins of +3 MW, -10 MW, and +2 MW (such that the "effective margin" is 0, 13 megawatts, and 1 megawatt, respectively), the Environmental Sector previously suggested—both in spoken comments at the January meeting and in written comments in February—that weights of 1.0, 1.13, and 1.01 respectively, or 1.0, 2.3, and 1.1 respectively, could satisfy the criterion of monotonic increase of weight versus effective margin without so heavily weighting the most negative-margin modeled hours versus LOL hours with smaller (modeled) negative margins or Expanded Hours.[126] MISO Staff responded in spoken

[123] Sommer Affidavit at P IV.15 ("MISO's method for calculating LOLE [] does not depend on the quantity of EUE experienced during a loss of load hour").

[124] Joundi Test. at 29:9–:18.

[125] MISO, Market Redefinition: Accreditation Reform, at 9 (Jan. 17, 2024), https://cdn.misoenergy.org/20240117%20RASC%20Item%2007a%20Accreditation%20Presentation%20(RASC-2020-4%20and%202019-2631379.pdf.

[126] Environmental Sector Comments ("Environmental Submitted by Mike Schowalter") to MISO Resource Adequacy Subcommittee (posted Feb. 8, 2024),

remarks at the January meeting that they had not considered those or other possible weighting calculation methods.[127]

Furthermore, the Commission should not accept Mr. Joundi's conclusory statement that its chosen weighting method is "numerically stable" without a numerical demonstration (which MISO has not provided either in its instant submission or in prior stakeholder materials) of that concept, or a demonstration that other weighting approaches cannot achieve that end. (Mr. Joundi also did not precisely define "numerically stable" or explain why it is important.) As witness Sommer indicates, MISO is considering further changes to its LOLE analytical approach that could change the identification of risky hours, and "[w]eighting specific hours as MISO proposes assumes a level of replicability in those risky hours in future LOLE studies that is not supported by evidence."[128]

Additionally, coupled with MISO's proposal to exclude Expanded Hours when the number of LOL Hours is at least 1,950 per season, or else to cull the number of Expanded Hours used so that total Critical Hours do not exceed 1,950 per season, MISO is *already* strongly de-emphasizing the contribution of Expanded Hours, even before any inappropriate weighting.[129] For example, MISO's filing informs us that in the Planning Year 2023-2024 LOLE analysis, the Summer season had 2,703 hours LOL Hours identified in the modeling analysis and 4,691[130] Expanded Hours, but under MISO's proposed approach, **all** Expanded Hours in summer will be excluded from use for modeled performance evaluation. This aspect of the proposed approach

https://www.misoenergy.org/engage/stakeholder-feedback/2024/rasc-accreditation-reform-rasc-2020-4-and-2019-2-20240117.

[127] *See id.* (describing MISO staff response).

[128] Sommer Affidavit, PP III.7, IV.10-.12.

[129] This point was previously made in the Environmental Sector's February 2024 comments to MISO. *See supra* note 126.

[130] That is, the total shown of 7,394 hours minus 2,703 LOL Hours in Summer.

makes additional de-weighting of Expanded Hours inappropriate. Additionally, in a scenario where the number of LOL Hours in a season is less than 1,950 but the number of Expanded Hours exceeds the gap under 1,950, Expanded Hours "beginning with the smallest effective margin"[131] will be selected up to the 1,950 hours cap, meaning the combination of the Critical Hours cap plus the weighting approach causes many of the Expanded Hours to be excluded.

What's more, MISO justifies the choice of 1,950 hours as the cap for the number of Critical Hours in a season (unless the number of LOL Hours exceeds 1,950, in which case no cap applies) based on "the logic of 65 Tier 2 Resource Adequacy (RA) hours per Season from the current Schedule 53 calculations. . . . MISO selected 65 hours times 30 weather years, which equals 1,950 hours per Season[.]"[132] While an actual historical year evaluated in the current Schedule 53 calculations has approximately 2,200 hours per season (meaning that around 3% of evaluated hours in a season could be RA Hours), the number of ***modeled*** hours evaluated per season per weather year is not 2,200; as discussed above in footnote 77, it is 2,200 multiplied by 5 multiplied by a number ranging from 50 to 300. Therefore, MISO's number of Critical Hours considered for DLOL (modeled) performance evaluation hours will be somewhere from 0.002% to 0.01% of the total number of modeled hours for a given season. This discrepancy, giving hundreds of times more weight (in terms of the representativeness of the sample) to risky hours in the resource class (modeled) performance evaluation than in the individual resource (actual) performance evaluation, has not been remotely justified by MISO.

3. MISO has effectively dismissed stakeholder input by applying weights that allow it to magnify the effect of the most extreme potential weather events at the expense of other risk hours.

[131] Joundi Test. at 27:4–:5.

[132] *Id.* at 30:13–:15.

During calendar year 2023, several stakeholders urged MISO to expand its Critical Hours set to include modeled hours with small positive system margins, in addition to modeled hours with modeled negative margins (that is, LOL Hours). After MISO raised the possibility in July of adding "Expanded Hours" up to a 3% positive system margin to the set of Critical Hours for modeled performance evaluation,[133] entities including the Public Service Commission of Wisconsin, Entergy Operating Companies, Environmental Sector, and Invenergy all expressed support for the Expanded Hours concept.[134] Other entities including Otter Tail Power Company, Mississippi Public Service Commission, and MidAmerican Energy Company expressed qualified to full support for the proposal in September.[135]

Groups including the constituent members of the PIOs hoped that the inclusion of Expanded Hours could make the DLOL accreditation methodology more stable and less dependent on the effect of a single extreme weather event within the set of modeled weather years; such a cluster of highly negative-margin LOL hours could have associated idiosyncratic weather conditions that disproportionately affect particular resource classes within the performance evaluation model. In addition, stakeholders supported expanding the hours to help correct for the fact that models such as this are not expected to be accurate.[136] In October, MISO

[133] MISO, *Market Redefinition: Accreditation Reform*, at 7 (July 11-12, 2023), https://cdn.misoenergy.org/20230711-12%20RASC%20Item%2008ai%20Resource%20Accreditation%20Presentation%20(RASC-2020-4,%202019-2)629479.pdf.

[134] The July 28, 2023 stakeholder comments may be found at MISO, RASC: Accreditation Reform (RASC-2020-4, 2019-2) (20230711-12), https://www.misoenergy.org/engage/stakeholder-feedback/2023/rasc-accreditation-reform-rasc-2020-4-2019-2-20230711-12 (last visited Apr. 25, 2024).

[135] The September 8, 2023 stakeholder comments may be found at MISO, RASC: Accreditation Reform (RASC-2020-4, 2019-2) (20230822-23), https://www.misoenergy.org/engage/stakeholder-feedback/2023/rasc-accreditation-reform-rasc-2020-4-2019-2 (last visited Apr. 25, 2024).

[136] Cf. Sommer Affidavit at P IV.9 (giving less weight to Expanded Hours compared to LOL Hours shows "a remarkable level of confidence to place on the fidelity of MISO's LOLE model").

began to hint in its public statements that it could adopt the Expanded Hours concept: "MISO's accreditation design is near final with the expansion of hours being the one remaining feature still being considered."[137] MISO also stated in October that a "[s]traight average of all [] hours" was a "final" aspect of the intended methodology.[138] But in January 2024, MISO announced that it would (i) include Expanded Hours within the critical Hours set in each season and also (ii) apply weights to all Critical Hours based on their "effective margin" as described above.[139]

MISO's proposal to apply weights to all Critical Hours, including Expanded Hours, based on each modeled hour's margin's distance from positive 3%, will have the effect of weighting the hours with the most negative margins at around 10 times the weight of Expanded Hours. This is so because the average Expanded Hour (in all seasons except Summer, which typically will not use Expanded Hours due to the large number of LOL Hours[140]) has a positive system margin of around 1,600 megawatts[141] (with an "effective margin" of around 1,500 to 1,900 megawatts) while the maximum negative margin in any LOL Hour is around 7,800 MW in Winter, 11,200 MW in Spring, and 12,200 MW in Fall—meaning that the "effective margin" for these most-negative hours is around 11,000 to 16,000 megawatts in those seasons.[142] Even the

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[137] MISO, *Market Redefinition: Accreditation Reform*, at 18 (Oct. 4, 2023), https://cdn.misoenergy.org/20231004%20RASC%20Item%2005ai%20Resource%20Accreditation%20Presentation630408.pdf.

[138] *Id.*

[139] MISO, *Market Redefinition: Accreditation Refor*m, at 7–9 (Jan. 17, 2024), https://cdn.misoenergy.org/20240117%20RASC%20Item%2007a%20Accreditation%20Presentation%20(RASC-2020-4%20and%202019-2631379.pdf.

[140] MISO's testimony shows that in the LOLE analysis for the 2023-2024 planning year, there were 2,703 LOL Hours in Summer. Joundi Test. at 27:14–:15.

[141] PIOs' calculations based on MISO spreadsheet published on Feb. 23, 2024. MISO, EUE, Outage, Gen and Load Data for PY23-24 DLOL calculations.xlsx (Feb. 23, 2024), https://cdn.misoenergy.org/20240228%20RASC%20Item%2005a%20EUE,%20Outage,%20Gen%20and%20Load%20Data%20for%20PY23-24%20DLOL%20calculations631888.xlsx.

[142] *Id.*

average LOL Hour (*i.e.* the average negative-margin hour among Critical Hours) in a given season, will be weighed at over twice the value of the average Expanded Hour, under MISO's proposal.[143,144] What's more, the Critical Hours with the most negative modeled margins would receive a weight well over 10,000 times that of an Expanded Hour with the smallest "effective margin" – say, an effective margin of 1 megawatt.

As the Environmental Sector (which several of the PIOs are members of) stated in February 2024 comments:

> MISO's weighting proposal undermines MISO's previous commitment from the November RASC meeting to appreciably expand the hours considered under its resource accreditation methodology as a means to consider LOLE modeling errors. While MISO's proposed DLOL accreditation methodology attempts to be more accurate than its predecessor, much of that inaccuracy remains because of its reliance on the LOLE model, which MISO has acknowledged needs to be updated to account for the realities of a modern energy mix. The addition of expanded hours to the DLOL analysis was meant to counteract the inherent inaccuracy found in all models, including the LOLE model, and also to smooth the volatility of annual accreditation values. But MISO's proposed weighting methodology significantly reduces the benefit of adding Expanded Hours to its accreditation calculation in the first place, by severely curtailing their influence on unit accreditation and in some cases eliminating them.[145]

Other parties including the Entergy Operating Companies, a group of trade associations, and the Mississippi Public Service Commission also expressed their opposition to MISO's Critical Hours weighting proposal.[146] Unfortunately, MISO has dismissed stakeholder concerns

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[143] *Id.*

[144] Again, modeled positive-margin hours will likely not be included at all in Critical Hours in **Summer** under MISO's proposal, as the number of LOL Hours in Summer will likely exceed 1,950.

[145] Environmental Sector feedback to MISO Resource Adequacy Subcommittee. The February 7, 2024 stakeholder comments may be found at MISO, RASC: Accreditation Reform (RAC-2020-4 and 2019-2) (20240117), https://www.misoenergy.org/engage/stakeholder-feedback/2024/rasc-accreditation-reform-rasc-2020-4-and-2019-2-20240117 (last visited Apr. 25, 2024).

[146] *See* MISO, RASC: Accreditation Reform (RAC-2020-4 and 2019-2) (20240117), https://www.misoenergy.org/engage/stakeholder-feedback/2024/rasc-accreditation-reform-rasc-2020-4-

in favor of an approach that, as discussed above, has little grounding in principles of resource accreditation.

4. MISO failed to engage meaningfully with stakeholders when it introduced its "weighting" concept approximately two months before filing its proposed tariff change.

As noted above in section II.B.3, MISO did not reveal its intent to unevenly weight Critical Hours until January 2024, just over two months prior to the instant filing, and after MISO had designated a "straight average" of Critical Hours as a "final" part of its design. MISO published indicative accreditation percentages for different Resource Classes in November 2023, with and without Expanded Hours in the methodology (but notably, without any weighting in the calculation).[147] The indicative accreditation percentages MISO has published under its final Proposal are, while very close to the accreditation rates for most Resource Classes without Critical Hours weighting, not entirely identical. The Solar class's accreditation rate, for example, falls by 4 to 6 percentage points across Summer, Fall, and Spring (which will mean that accredited megawatts of solar generators would fall by around 10 to 20% compared to the

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and-2019-2-20240117 (last visited Apr. 25, 2024) (February 7, 2024 comments from Entergy Operating Companies that "MISO should use the non-weighted expanded hours approach presented at the end of 2023" and from Clean Grid Alliance, Solar Energy Industries Association, and American Clean Power Association that "putting a weighting calculation on those hours seemingly negates the purpose of extended hours and creates a further departure from Schedule 53"); MISO, RASC: Accreditation Reform Draft Tariff (RASC-2020-4, 2019-2) (20240228), https://www.misoenergy.org/engage/stakeholder-feedback/2024/rasc-accreditation-reform-draft-tariff-rasc-2020-4-2019-2-20240228 (last visited Apr. 25, 2024) (March 13, 2024 comments from Mississippi Public Service Commission that "[o]ne approach to mitigating accreditation volatility – the expansion of [evaluation] hours beyond LOL hours – has been substantially weakened by MISO's margin-weighting proposal. . . . Though the proposed weighting may be straightforward to specify and implement, that is not sufficient basis for implementing this modification. MISO has not supported the selection of this weighting method against alternatives, and has not addressed its impact on accreditation volatility.").

[147] MISO, *Market Redefinition: Accreditation Reform*, at 16 (Nov. 7-8, 2023), https://cdn.misoenergy.org/20231107-08%20RASC%20Item%2011ai%20Resource%20Accreditation%20Presentation%20(RASC-2020-4%202019-2)630757.pdf.

proposal without hourly weights), and the Wind class's accreditation rate falls by 3 percentage points in Summer.[148] Faced with this sudden shift, the Organization of MISO States Resources Work Group offered the following comment in February:

> MISO's proposed methodology would weight the actual LOL hours differently from each other, which deviates from the position MISO has maintained for the past several months. Stakeholders have not had time to assess whether weighting the depth of an LOL event is worth more than the duration of an LOL event or the frequency of these events. [] This is also a process concern. Introducing this weighting issue in January, with the expectation of filing this proposal at FERC in March, does not afford stakeholders a sufficient amount of time to process this information, provide extensive feedback, or offer alternative approaches.[149]

PIOs share the concern that the weighting concept was introduced very late in the policy development process. MISO held only one additional stakeholder meeting following the first introduction of this weighting concept. Unfortunately, MISO chose to finalize this last-minute change without meaningful dialogue with stakeholders on the implications of its particular weighting approach.

Additionally, MISO introduced the concept of multiplying hourly weights by the Load Forecast Error probability associated with each Critical Hour only at the final stakeholder meeting before filing this proposal—and then only in small print on a single slide, with no numerical illustration: "The hourly weights also reflects the probability of the 5 Economic Load

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[148] *Compare* MISO November 2023 presentation (MISO, *Market Redefinition: Accreditation Reform*, at 16 (Nov. 7–8, 2023), https://cdn.misoenergy.org/20231107-08%20RASC%20Item%2011ai%20Resource%20Accreditation%20Presentation%20(RASC-2020-4%202019-2)630757.pdf ("3% EH" column)), *with* MISO January 2024 presentation (MISO, *Market Redefinition: Accreditation Reform*, at 11 (Jan. 17, 2024), (https://cdn.misoenergy.org/20240117%20RASC%20Item%2007a%20Accreditation%20Presentation%20(RASC-2020-4%20and%202019-2631379.pdf ("Proposed" column)).

[149] MISO, RASC: Accreditation Reform (RASC-2020-4 and 2019-2) (20240117), https://www.misoenergy.org/engage/stakeholder-feedback/2024/rasc-accreditation-reform-rasc-2020-4-and-2019-2-20240117 (last visited Apr. 26, 2024) (Feb. 7, 2024 comment of State Regulatory Authorities).

Uncertainty (load forecast error) that is being modeled in the LOLE analysis."[150] Contemporaneous with this February 2024 publication, MISO released an illustrative spreadsheet[151] with data showing identified Critical Hours in the LOLE model as of 2023, including a column full of the "Weights" for each Critical Hour—although the Weights were written into the spreadsheet cells as plain numbers rather than via formulae showing their derivation. Stakeholders adept with data analysis could attempt to recreate the calculation of weights, but otherwise MISO shrouded the nature of its calculations after they were completed, rather than simply leaving the formulae to be visible in the public spreadsheet. MISO's opacity has left the PIOs at a disadvantage in quickly comprehending what exactly MISO proposes in this case, contrary to MISO's obligation to facilitate, and be responsive to, stakeholder inputs.[152]

5. The weighting proposal is severable from the remainder of MISO's proposal.

As the Commission is aware, the *NRG Power Marketing* judicial doctrine establishes that FERC may make "minor modifications" to a utility's Section 205 proposal but may not "impose[] an entirely new rate scheme" that follows "a completely different strategy" than, or is "methodologically distinct" from, the proposed rate approach.[153] MISO's weighting approach is not necessary to maintain the cohesiveness of MISO's overall capacity accreditation proposal:

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[150] MISO, *Market Redefinition: Accreditation Reform*, at 7 (Feb. 28, 2024), https://cdn.misoenergy.org/20240228%20RASC%20Item%2005a%20Accreditation%20Presentation%20RASC-2020-4%202019-2631885.pdf.

[151] MISO, EUE, Outage, Gen and Load Data for PY23-24 DLOL calculations.xlsx (Feb. 23, 2024), https://cdn.misoenergy.org/20240228%20RASC%20Item%2005a%20EUE,%20Outage,%20Gen%20and%20Load%20Data%20for%20PY23-24%20DLOL%20calculations631888.xlsx.

[152] *See* 18 C.F.R. § 35.28(g)(6) (codifying Order No. 719 requirements).

[153] *NRG Power Mktg. LLC v. FERC*, 862 F.3d 108, 115–16 (D.C. Cir. 2017) (citing *City of Winnfield v. FERC*, 744 F.2d 871, 875–76 (D.C. Cir. 1984); *Western Res., Inc. v. FERC*, 9 F.3d 1568, 1578–79 (D.C. Cir. 1993)).

MISO's use of Critical Hours to evaluate modeled resource performance for accreditation purposes is easily implementable by weighting all the hours evenly (mathematically, a different form of weighting). In fact, without MISO's proposed weighting methodology, the existence of the Critical Hours cap, which only serves to limit the number of Expanded Hours, is a form of weighting itself, since this same cap does not apply to LOL Hours.[154] Thus, MISO's weighting proposal for Critical Hours is severable from the remainder of MISO's Section 205 accreditation proposal under the *NRG* doctrine, and the Commission may lawfully reject the weighting proposal independently of its decision on the remainder of MISO's policy package.

In *NRG,* the Court noted that modifications made by the Commission to PJM's original Section 205 proposal "undid the compromise that had been the basis for PJM's proposal."[155] (PJM's filing in the underlying FERC proceeding had described PJM's approach as a "hard-fought compromise."[156]) Here, however, MISO has neither described its weighting proposal as part of any compromise, nor as integral to the overall accreditation approach. Indeed, as discussed above in section II.B.3, MISO initially indicated that it had made a "final" decision to take a "straight average of all [] hours" (including, potentially, Expanded Hours) for modeled performance evaluation, before later switching its position. And no compromise was made on this aspect of the proposal with stakeholders. In fact, this late addition to the proposal was opposed by most stakeholders. The Commission can deny the weighting aspect of MISO's proposal without upsetting any stakeholder compromise or any necessary interdependencies within the overall proposal.

[154] *See supra* at 24-25.

[155] *NRG,* 862 F.3d at 116.

[156] *Id.* at 113.

The Court in *NRG* also noted that the Commission's determination to expand Minimum Offer Price Rule exemptions in the PJM capacity auction (compared to PJM's Section 205 proposal) had the effect of denying key stakeholder parties "an opportunity to comment on FERC's modifications before FERC issued its decision," as well as "an adequate opportunity to comment in the request for rehearing" (because parties could not introduce new evidence on the topic at the rehearing stage).[157] By contrast, here, parties including PIOs have ample opportunity to marshal any evidence and argument they wish in the initial comments due on this date, and they may also seek leave to file reply comments (and MISO may seek leave to file an answer). Whereas FERC crafted its own solution in the underlying 2013 PJM proceeding, PIOs here simply ask the Commission to cleanly excise MISO's weighting proposal from its filing and direct MISO to weight all Critical Hours evenly for (modeled) resource performance evaluation in its DLOL accreditation scheme. There is no problem of opportunity to provide comment.

The *NRG* decision suggested that utility consent may be needed if FERC is to lawfully make changes to a Section 205 filing.[158] The Commission could obtain this consent by issuing a deficiency letter and asking MISO to amend its filing with the unjustified hourly weighting component removed. Should the Commission determine that requiring this modification is not allowed under its authority, PIOs ask in the alternative that the Commission reject MISO's Tariff Filing without prejudice, including guidance as to why the hourly weighting aspect of the Proposal was unlawful.

[157] *Id.* at 116.

[158] *Id.* at 114, 116.

III. CONCLUSION

For the foregoing reasons, Public Interest Organizations respectfully request that the Commission issue a deficiency letter directing MISO to clarify and improve the elements of MISO's Proposal that are not just and reasonable, as discussed in detail in this Limited Protest, or in the alternative, to deny the Proposal without prejudice.

Dated: April 29, 2024

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing has been served in accordance with 18 C.F.R. § 385.2010 upon each party designated on the official service lists in these proceedings listed above, by e-mail.

Dated: April 29, 2024

/s/ *Sameer H. Doshi*
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AFFIDAVIT OF ANNA SOMMER
IN SUPPORT OF THE LIMITED PROTEST
OF THE PUBLIC INTEREST ORGANIZATIONS

I. Introduction

1. My name is Anna Sommer. I am a Principal of Energy Futures Group ("EFG"). My business address is 60 Court Street, Canton, NY 13617.
2. I have over twenty years of experience in electric utility regulation and related fields. Much of my past work has focused on integrated resource planning and power plant procurement, particularly in the MISO footprint. I have presented testimony before state public utility commissions in ten states and I lead the IRP practice at EFG. As a primary component of my team's work, we license and run many of the major planning models used by utilities and ISOs/RTOs around the country including Aurora, EnCompass, PLEXOS, SERVM, and Strategist. We also closely follow changes to and advise the MISO Environmental Sector on MISO's resource adequacy construct since that information is among the most important inputs into integrated resource planning in the MISO footprint.
3. I hold a B.A. in Economics and Environmental Studies from Tufts University and an M.S. in Energy and Resources from UC Berkeley. My curriculum vitae, summarizing my experience and listing past testimony, is Exhibit ALS-1 attached hereto.
4. On March 28, 2024, MISO filed tariff revisions and associated testimony related to its Resource Adequacy construct. MISO requests that the new rules be in effect for its 2028/29 Planning Year.
5. This affidavit was prepared at the request of the Public Interest Organizations who filed the accompanying Limited Protest. I was asked to review the MISO Filing and comment on the proposed tariff changes.

II. Summary

1. MISO's proposed accreditation and weighting approach assumes a very high level of accuracy and fidelity in its LOLE model, much more so than other characteristics of resource adequacy for which MISO has previously used this model, e.g., to calculate its planning reserve margin. This heavy reliance on the model risks distorting accreditation outcomes in way that do not align with resources' actual contributions to system reliability.
2. It's my expectation that planned changes to MISO's LOLE model will increase expected unserved energy ("EUE") and likely the count of loss of load ("LOL") hours. Some of these changes are likely to reduce thermal accreditation and others will enhance renewable, particularly wind, accreditation, but for other planned changes the likely impact is ambiguous.
3. MISO's proposed enhancements to sharing LOLE related data with stakeholders will still keep important parts of the model obscured from stakeholder review.

III. MISO's LOLE Model is a Black Box to Stakeholders and FERC and Will Undergo Further Changes Whose Specific Outcomes are Unclear

1. The primary tool used in the proposed Direct Loss of Load ("DLOL") accreditation calculation is the Strategic Energy Risk Valuation Model ("SERVM") licensed by Astrape Consulting. SERVM is typically used by MISO to produce its annual Loss of Load Expectation ("LOLE") study which produces the planning reserve margin ("PRM") that will be used for the upcoming planning year.
2. At the April 2024 meeting of MISO's Resource Adequacy Subcommittee ("RASC"), MISO committed to providing stakeholders with additional data from its LOLE model. In addition to the renewable profiles, temperature data, and load shapes that are available with a signed non-disclosure agreement, MISO will also provide its cold weather outage adders and the following unit level data: masked resource names, resource capabilities, class average seasonalized forced outage and annualized maintenance rates, resource class, local resource zone designation, and study period availability (i.e. whether the unit is retired or suspended).[1]
3. These additional data are a significant increase in visibility into the LOLE model, but do not represent the same level of transparency that we typically have in proceedings before state-level public utility commissions ("PUC"). In those proceedings, we are normally able to receive and use exactly the same database that the utility used in support of its filing before the PUC in question.
4. MISO has stated that it cannot provide its full database to stakeholders but has not clarified its reasons, such as whether the issue is the standard non-disclosure agreement, MISO's tariff language, and/or something else.
5. At its April 2024 RASC meeting, MISO indicated that it expects to share a version of its LOLE model with stakeholders, again, subject to its Non-Disclosure Agreement ("NDA") and to Critical Energy Infrastructure Information ("CEII") clearance.[2] That model will contain the same masked and/or averaged data described in paragraph 2, above. While potentially helpful, I am concerned about the ability to replicate MISO's results, specifically the LOL and tight margin hours and the precise EUE and margin values that MISO produces using this much higher-level model since those numbers are essential ingredients into the Resource Class level accreditation. MISO has indicated that it has yet to work through how it will benchmark the quality of this shared model against its own model.
6. From EFG's extensive experience replicating grid planning modeling in PUC cases, I conclude that there are three principal benefits of making the model upon which a regulatory filing is based available to stakeholders. First, even with extensive modeling teams, it's easy to miss errors in one's modeling and review

[1] LOLE Data Transparency slidedeck from April 17, 2024 RASC meeting (https://cdn.misoenergy.org/20240417%20RASC%20Item%2005c%20LOLE%20Data%20Transparency632507.pdf) at slide 3.

[2] Ibid at slide 4.

by a fresh set of eyes can help illuminate those issues.[3] Second, comparisons of different input assumptions, model settings, or post-processing of data (e.g., using SERVM output to determine Resource Class level accreditation) by stakeholders can be made on an apples-to-apples basis instead of merely opining about how those differences might manifest.[4] Third, the ability of multiple parties to conduct modeling with differing assumptions results in a more complete record and better commission decisionmaking in litigated proceedings, such as before the FERC. Filing parties (like MISO) and stakeholders have the opportunity to demonstrate the impacts of differing modeling choices or inputs.[5]

7. MISO intends to make certain changes to its LOLE model and stakeholders will be better equipped to weigh in on those changes with access to MISO's full SERVM model. These prospective changes include:[6]
    - Correlated outages (near-term)
    - Planned outages (near-term)
    - Load forecasting (near-term)
    - Storage modeling (near-term)
    - Demand-side validation (near-term)
    - Transmission modeling (long-term)
    - External assistance (long-term)
    - Economic dispatch (long-term)
8. These changes are in addition to prior adjustments related to cold weather outages, planned outages, and seasonal outages that MISO has already made.[7]
9. For some of these changes, we do not know what they might entail or what impact they might have because MISO has not previously discussed the changes. However, I expect that at least some will have a material impact on EUE, LOL hours, and thus class-wide accreditation values. For example, during the 2024 Energy Systems Integration Group (ESIG) Spring Technical Workshop, MISO staff discussed the impact of incorporating the MISO North/South constraint[8] into

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[3] See, for example, page 12 of my testimony dated July 14, 2023 before the Kentucky Public Service Commission which describes an error in battery capacity in SERVM modeling conducted by Louisville Gas & Electric/Kentucky Utilities. This error was identified because we were able to receive and use the same data files the utilities had used: https://psc.ky.gov/pscecf/2022-00402/fitzkrc%40aol.com/07142023111349/Sommer_Testimony071423_PUBLIC_Redacted-merged.pdf.

[4] See, for example, the testimony dated August 15, 2023 of my EFG colleague, Chelsea Hotaling, before the South Carolina Public Service Commission describing changes to Dominion Energy South Carolina's SERVM model: https://dms.psc.sc.gov/Attachments/Matter/37ac251e-8046-45b2-94be-f04255e70d8f.

[5] See, for example, the April 2022 order in Minnesota Public Utilities Commission Docket No. E002/RP-19-386 starting at pdf page 14: https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId={202C2F80-0000-C11A-BA52-EC8AB5636CD4}&documentTitle=20224-184828-01.

[6] Taken from https://cdn.misoenergy.org/20240228%20RASC%20Item%2005c%20RA%20Model%20Enhancement%20Presentation631891.pdf. The designations of "near-term" or "long-term" are MISO's and no specific timeline is given.

[7] Ibid.

[8] Currently, MISO's LOLE model is a "copper sheet" which means that all generation is assumed to be perfectly deliverable to all load.

resource adequacy modeling.[9] While this modeling was conducted in PLEXOS, it is reasonable to expect similar impacts in SERVM. Among the impacts of this modeling was additional risk hours during times of high wind output which, under DLOL, would increase wind accreditation.

10. The addition of correlated outages is also expected to have a material impact on accreditation. In the same ESIG 2024 Spring Technical Meeting presentation discussed above, MISO noted a gap in simulated outages relative to observed outages, e.g. a difference of over 6,000 MW during one hour of Winter Storm Uri, still exists in its LOLE model and that the addition of correlated outages are intended as an enhancement to capture that difference.[10]
11. MISO runs SERVM in an unconventional manner from typical SERVM users in that it sets all thermal units within the model to operate at 100% of total load and does not use the economic dispatch capabilities of SERVM. This approach means that SERVM is essentially an accounting model – whether an hour experiences expected unserved energy ("EUE") is pre-determined across each weather year except that the thermal outage draw (of which there are 50)[11] and load forecast error (of which there are 5) may vary that outcome.
12. The lack of economic dispatch in SERVM may mean that MISO is overstating the availability of certain thermal units, particularly those that encounter challenges in startup or have slow ramp rates and may also mean that MISO is missing LOL hours because it is effectively assuming better performance by certain thermal units.
13. MISO plans to switch to economic dispatch, but the timeframe for doing so is unclear.[12]

IV. Weighting of Critical Hours is Arbitrary

1. As described in MISO's Transmittal Letter, class level accreditation under this proposal for any season would begin with the lowest margin hours up to 3% margin where margin equals total available generation plus net imports minus load.
2. If total LOL hours modeled for the season are under 1,950, then the low margin hours are added, up to a cap of 1,950 total. If total LOL hours modeled for the season are 1,950 or more, all LOL hours are selected, and no additional low margin hours are selected. This final selected set of hours from the LOLE model is called "critical hours."

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[9] See slide 14 of the presentation by Megan Pamperin available at https://www.esig.energy/download/session-4a-extreme-event-and-transmission-analysis-in-misos-probabilistic-modeling-megan-pamperin/?wpdmdl=11329&refresh=660c1ab4728bd1712069300.

[10] Ibid at slide 8.

[11] MISO witness Mr. Joundi, in his testimony at page 43, makes references to "hundreds of random outage draws" but to my knowledge, stakeholders have not been provided with any DLOL related material based on more than 50 outage draws.

[12] See https://cdn.misoenergy.org/20240228%20RASC%20Item%2005c%20RA%20Model%20Enhancement%20Presentation631891.pdf.

3. For each season, the hour with the highest absolute positive margin is identified.
4. The margin in each hour is calculated as either the level of unserved energy in that hour (which is negative) or if it is not an LOL hour, the difference between the hour's load and the available generation (which is positive).
5. Next, the effective margin, which is measured as the max margin across all selected hours in a season less the margin in the hour in question, is calculated for each hour.
6. The effective margin is then multiplied by the "case probability" which is defined as the probability of the load forecast error applied to that hour in the model divided by 30, i.e., the number of weather years in SERVM.
7. Finally, the total Resource Class availability is determined for each critical hour and the weighted average of those values is taken using the weights derived under the approach above.
8. MISO states that it prefers the proposed DLOL approach because it aligns with its Market Design Guiding Principle to "Maximize alignment of market requirements with system reliability requirements" and provides consistent emphasis on the hours with highest unserved energy, thereby appropriately accounting for the magnitude of expected reliability risks in each hour.
9. Under MISO's proposed approach, the weighting is far more granular than it is under Schedule 53 (for evaluating individual resources), currently. Rather than using two flat weights as MISO currently does for Tier 1 hours, e.g., at 20% and Tier 2 hours, e.g., at 80%, MISO will now (for the purpose of class-wide evaluation) weigh an hour with 108 MW of unserved energy more heavily in the resource accreditation calculation than one with 107 MW of unserved energy, and those hours without EUE at all will receive significantly less weight (holding the load forecast error constant). This is a remarkable level of confidence to place on the fidelity of MISO's LOLE model.
10. MISO's prior LOLE model improvements have already changed the critical hours significantly. For example, in data shared for the June 21, 2022 Accreditation Reforms for Non-Thermal Resources Workshop, MISO's Planning Year 2021/22 LOLE model resulted in only 3 LOL hours during the winter season which occurred two days in January. (This modeling was prior to the addition of the cold weather outage adders.) The Planning Year 2023/24 LOLE study now has 201 LOL hours in winter, all of which occur on three days in January.
11. To give another example less likely to be affected by cold weather outages, in data shared for the June 21, 2022 Accreditation Reforms for Non-Thermal Resources Workshop, MISO's Planning Year 2021/22 LOLE model resulted in 53 LOL hours during the fall season across 9 days in September. The 2023/24 LOLE model identified 265 LOL hours in fall, all falling on four days in September.
12. I provide these examples not because consistency between the LOLE studies is expected, but as examples of how much can change between LOLE studies sometimes without an obvious cause. While the cold weather outage adders are certain to have impacted the increase in winter season LOL hours, they would not have been expected to do so for the fall season. It's not clear whether other changes made to planned and seasonal outages would have. Weighting specific hours as MISO proposes assumes a level of replicability in those risky hours in

future LOLE studies that is not supported by evidence. And assuming that modeled hours with more EUE are truly more risky hours than those with less EUE is not an empirically-based conclusion, but one that assumes MISO's LOLE model is exceptionally accurate down to the hourly level without clear justification for doing so.

13. MISO's planned changes to the LOLE model will also shift and likely increase LOL hours as described above.
14. While these changes are likely to increase the precision of the LOLE model on balance (assuming they are done well), they do not necessarily support the weighting because it's not clear when and if the changes will be made and may obviate the need for weighting entirely. In the meantime, investment decisions will be made now based on the capabilities of the current LOLE model since MISO utilities are already moving to use the draft DLOL accreditation values in their integrated resource plans ("IRPs") and related filings.
15. The DLOL approach along with the proposed weighting is at odds with MISO's method for calculating LOLE, which does not depend on the quantity of EUE experienced during a loss of load hour. The LOLE calculation assumes that days with LOL are weighted only by the load forecast error.

V. Conclusion

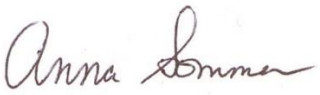
1. MISO's proposed weighting approach assumes a very high level of accuracy and fidelity in its LOLE model, much more so than other characteristics of resource adequacy for which MISO has previously used this model, e.g., to calculate its planning reserve margin. This heavy reliance on the model risks distorting accreditation outcomes in ways that do not align with resources' actual contributions to system reliability.
2. It's my expectation that planned changes to MISO's LOLE model will increase EUE and likely even the count of LOL hours. Some of these changes are likely to reduce thermal accreditation and others will enhance renewable, particularly wind, accreditation, but for other planned changes the likely impact is ambiguous.
3. MISO's proposed enhancements to sharing LOLE related data with stakeholders will still keep important parts of the model obscured from stakeholder review.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midcontinent Independent System Operator, Inc.	)	Docket No. ER24-1638-000

VERIFICATION

I, Anna Sommer, pursuant to 28 U.S.C. § 1746, state, under penalty of perjury, that I am the same Anna Sommer referred to in the foregoing document entitled "Affidavit of Anna Sommer in Support of the Limited Protest of the Public Interest Organizations," that I have read the same and am familiar with the contents thereof, and that the facts set forth therein are true and correct to the best of my knowledge, information, and belief.



Anna Sommer

Dated: April 29, 2024