

The undersigned transmission advocates appreciate the opportunity to submit comments pursuant to the 2024 PJM-MISO IPSAC Annual Issues Review (AIR) process. These build on the comments submitted by RMI last year as part of the 2023 AIR process.<sup>1</sup>

As RMI noted in its comments last year, there is an urgent need for more interregional transmission between PJM and MISO from a reliability, economic, and public policy perspective. PJM itself has observed this need as part of its Grid of the Future planning efforts.<sup>2</sup> Over the past year, there has been growing interest in interregional transmission along the PJM-MISO seam from both states and a national level. The Midwestern Governors Association (MGA) MID-GRID 2035 2.0 Initiative has set interregional transmission as one of its priorities,<sup>3</sup> the Organization of MISO States (OMS) has set interregional transmission as one of its 2024 strategic priorities,<sup>4</sup> and a December 6, 2023 joint letter from the governors of Illinois, Minnesota, and Michigan requested that MISO “engage with surrounding transmission organizations to design an interregional grid that allows these three organizations to help each other during extreme weather events.”<sup>5</sup> National-level reports have also identified the need for more interregional transmission to maintain a reliable and cost-efficient system, such as the Department of Energy’s 2023 National Transmission Needs Study<sup>6</sup> and NERC’s 2023 Long-Term Reliability Assessment.<sup>7</sup>

1. **Reliability:** Several studies have shown the value that interregional transmission between PJM and MISO adds in terms of maintaining reliability, including during extreme weather events.<sup>8</sup> Since last year’s AIR, for instance, research has illustrated that each additional GW of interregional transmission during Winter Storm Elliott (between December 22 and 26, 2022) would have saved consumers \$26 million from enhancing

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<sup>1</sup> RMI, February 17, 2023, <https://www.pjm.com/-/media/committees-groups/stakeholder-meetings/ipsac/2023/20230217/third-party-issues.ashx>

<sup>2</sup> Grid of the Future: PJM’s Regional Planning Perspective, PJM Planning Division, May 10, 2022, <https://pjm.com/-/media/library/reports-notice/special-reports/2022/20220510-grid-of-the-future-pjms-regional-planning-perspective.ashx>, top of p. 10

<sup>3</sup> “MID-GRID 2035,” <https://midwesterngovernors.org/mid-grid/>

<sup>4</sup> “2024 Strategic Priorities,” Organization of MISO States (OMS), December 14, 2023, [https://www.misostates.org/images/OrgDoc/StrategicPriorities/2024\\_Strategic\\_Priorities\\_Approved.pdf](https://www.misostates.org/images/OrgDoc/StrategicPriorities/2024_Strategic_Priorities_Approved.pdf)

<sup>5</sup> Letter copy can be provided upon request (no public link)

<sup>6</sup> *National Transmission Needs Study*, October 2023, Department of Energy, <https://www.energy.gov/gdo/national-transmission-needs-study>

<sup>7</sup> *2023 Long-Term Reliability Assessment*, North American Reliability Corporation, December 2023, [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_LTRA\\_2023.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2023.pdf)

<sup>8</sup> Manz, S.T., Bachert, A., Najafabadi, A., MacDowell, J., and Hinkle, G., Economic, Reliability, and Resiliency Benefits of Interregional Transmission Capacity: Case Study Focusing on the Eastern United States in 2035, GE Energy Consulting, October 17, 2022, <https://www.nrdc.org/sites/default/files/ge-nrdc-interregional-transmission-study-report-20221017.pdf>; Goggin, M., Transmission Makes the Power System Resilient to Extreme Weather, July 2021, [https://acore.org/wp-content/uploads/2021/07/GS\\_Resilient-Transmission\\_proof.pdf](https://acore.org/wp-content/uploads/2021/07/GS_Resilient-Transmission_proof.pdf)

capacity transfers.<sup>9</sup> Another recent study from Grid Strategies found interregional transmission provided \$15.1 billion in total value to PJM and MISO from deferred capacity investments.<sup>10</sup>

2. **Economics:** Even during normal weather conditions, interregional transmission can enhance optimal power exchanges. As the aforementioned Grid Strategies analysis illustrated, enhanced interregional transmission between MISO and PJM can save up to \$1.7 billion in annual interregional congestion costs.<sup>11</sup> A 2022 GE analysis found \$3-4 billion/year in total interregional savings across the Eastern Interconnect under normal weather conditions from enhanced interregional transmission due to production cost savings. This figure increases to \$12 billion in net benefits when taking into consideration multiple other benefits, including during extreme weather events, such as deferred capacity investments and reduced loss of load.<sup>12</sup>
3. **Public Policy:** Increasingly more states along the PJM-MISO seam have relevant policies that could benefit significantly from enhanced interregional transmission. These include Illinois's commitment in 2021 to 100% clean energy by 2050 through the Climate and Equitable Jobs Act and Michigan's recent commitment to 100% clean energy by 2040 through Senate Bill 271. In total, 16 of the 25 states/jurisdictions in MISO and/or PJM have clean energy commitments or goals.<sup>13</sup> Meeting these policies through balkanized regional planning alone has been shown through several studies to increase costs for consumers and result in a less efficient outcome.<sup>14</sup>

Despite the continued demonstration of need for enhanced interregional transmission between PJM and MISO, total buildout of interregional transmission continues to lag this demonstrated need.<sup>15</sup> As RMI noted in its comments last year, there are several reasons for

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<sup>9</sup> Michael Goggin and Zach Zimmermann, "The Value of Transmission During Winter Storm Elliott," Grid Strategies, prepared for the American Council on Renewable Energy (ACORE), February 2023, <https://acore.org/wp-content/uploads/2023/02/The-Value-of-Transmission-During-Winter-Storm-Elliott-ACORE.pdf>

<sup>10</sup> Michael Goggin and Zach Zimmermann, "Billions in Benefits: A Path for Expanding Transmission Between PJM and MISO," Grid Strategies, prepared for the American Council on Renewable Energy (ACORE), October 2023, <https://acore.org/wp-content/uploads/2023/11/ACORE-Billions-in-Benefits-A-Path-for-Expanding-Transmission-Between-MISO-and-PJM.pdf>

<sup>11</sup> Ibid.

<sup>12</sup> Manz, S.T., et al. (see note 8)

<sup>13</sup> These include Iowa, Minnesota, Wisconsin, Michigan, Illinois, Missouri, Indiana, Ohio, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, Texas, and the District of Columbia. See "U.S. State Renewables Portfolio & Clean Electricity Standards: 2023 Status Update," Lawrence Berkeley National Laboratory, June 2023, <https://emp.lbl.gov/publications/us-state-renewables-portfolio-clean>

<sup>14</sup> Xu, Q., Patankar, N., Lau, M., Zhang, C., and Jenkins, J.D., *Cleaner, Faster, Cheaper: Impacts of the Inflation Reduction Act and a Blueprint for Rapid Decarbonization in the PJM Interconnection*, Princeton University ZERO Lab, December 2022, <https://doi.org/10.5281/zenodo.7429042>, slide 33; Larson, E., Greig, C., Jenkins, J., Mayfield, E., Pascale, A., Zhang, C., Drossman, J., Williams, R., Pacala, S., Socolow, R., Baik, E., Birdsey, R., Duke, R., Jones, R., Haley, B., Leslie, E., Paustian, K., and Swan, A., *Net-Zero America: Potential Pathways, Infrastructure, and Impacts*, Princeton University, October 2021, <https://www.dropbox.com/s/ptp92f65lgds5n2/Princeton%20NZA%20FINAL%20REPORT%20%2829Oct2021%29.pdf?dl=0>, slides 109-112, 123-126, 130-133, 137-140, 144-147.

<sup>15</sup> Goggin and Zimmermann, "Billions in Benefits" (see note 10)

this, including the backward-looking (historical) lens used to plan interregional projects, rather than a proactive, forward-looking one; a lack of alignment across RTOs on standard benefits metrics; and the siloed approach to planning that fails to assess the multiple categories of transmission needs and benefits that interregional transmission delivers on in a holistic manner.<sup>16</sup> Taken together, these barriers to interregional planning result in minimal transmission buildout, higher costs for consumers, and a less reliable and resilient grid.

PJM and MISO do not need to wait for further federal guidance on interregional planning from FERC to take action. Order 1000 clearly established the abilities for RTOs to perform interregional planning as a result of the mandated interregional coordination processes. As an example, MISO and SPP have proactively established the Seams Liaison Committee (SLC) and recently received Department of Energy (DOE) funding for their Joint Targeted Interconnection Queue (JTIQ) effort.<sup>17</sup>

Given the demonstrated, and accelerating, need for more interregional transmission between PJM and MISO, we request that the IPSAC initiate a more proactive, comprehensive interregional transmission planning process than what is currently done today. Such a process would:

- Utilize a planning approach that considers multiple types of transmission needs at once rather than the current siloed planning approach, i.e., identify potential transmission projects to *simultaneously* meet all three categories of drivers under Order 1000 (reliability, economic, and public policy) and quantify associated benefits in a comprehensive manner using a list of common benefits metrics agreed upon by both MISO and PJM
- Conduct a single modeling process agreed upon by both MISO and PJM rather than conducting separate modeling.
- Incorporate all utility future resource plans and state policy mandates and goals as modeling inputs, as well as data gathered from each RTO's interconnection queue
- Employ scenario-based planning, with scenarios designed to address credible ranges of uncertain future conditions, including but not limited to:
  - o Renewable energy generation and energy storage growth
  - o Anticipated generator retirements

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<sup>16</sup> Pfeifenberger et al., "A Roadmap to Improved Interregional Transmission Planning," November 30, 2021, [https://www.brattle.com/wp-content/uploads/2021/11/A-Roadmap-to-Improved-Interregional-Transmission-Planning\\_V4.pdf](https://www.brattle.com/wp-content/uploads/2021/11/A-Roadmap-to-Improved-Interregional-Transmission-Planning_V4.pdf)

<sup>17</sup> MISO-SPP Joint Targeted Interconnection Queue Study, <https://www.misoenergy.org/stakeholder-engagement/committees/miso-spp-joint-targeted-interconnection-queue-study/> While we generally support the JTIQ effort, we do note that interregional planning focused on meeting interconnection needs alone will be insufficient to cost effectively address the range of interregional transmission needs.

- Anticipated (not just historic) load growth, including but not limited to new manufacturing or data center sites and load growth from electrification<sup>18</sup>
  - System stress conditions such as extreme weather events
  - Other future risks such as fuel price volatility
- Given how long it takes to develop multi-state transmission, use a planning horizon of 15-20 years.
  - Incorporate consideration of grid-enhancing technologies into the planning process. Such technologies include, at a minimum, advanced conductors, dynamic line ratings, power flow controllers, dynamic transformer ratings, and topology optimization.

While we recognize making these reforms will take time, we believe they are necessary to establish a shared planning methodology between the RTOs, harmonize inputs from stakeholders, and identify long lead time transmission projects. MISO’s and PJM’s ongoing efforts to expand proactive regional planning (LRTP in MISO and LTRTP in PJM) could serve as valuable inputs to design this interregional process.

In the coming months, we urge the IPSAC as a first step to initiate a series of stakeholder conversations or a working group between MISO and PJM to begin designing this more proactive, unified, multi-value interregional planning process. The outcome of these conversations should be a timeline for drafting and finalizing the first iteration of a proactive interregional plan which comprehensively identifies solutions required across both RTOs, e.g., through a targeted study to be done over the coming 1-2 years. Failure to do so will continue to commit ratepayers in PJM and MISO to overpaying for inefficient, balkanized regional solutions that do not take into consideration the billions of dollars in benefits from enhancing interregional transmission between the two RTOs.

Respectfully submitted,

Advanced Energy United	MAREC Action
Americans for a Clean Energy Grid	Natural Resources Defense Council*
Clean Grid Alliance*	RMI
Clean Wisconsin*	Sierra Club*
Earthjustice	Southern Renewable Energy Association*
Environmental Law and Policy Center*	Union of Concerned Scientists*
Fresh Energy*	

\*Denotes members of the MISO Environmental Sector

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<sup>18</sup> John Wilson and Zach Zimmerman, *The Era of Flat Power Demand is Over*, Grid Strategies, December 2023, <https://gridstrategiesllc.com/wp-content/uploads/2023/12/National-Load-Growth-Report-2023.pdf>