UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Review of Generator Interconnection Agreements and Procedures	)	Docket No. RM16-12-000
American Wind Energy Association	)	Docket No. RM15-21-000

OPENING COMMENTS OF TIM ALIFF, DIRECTOR OF RELIABILITY PLANNING, MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC.

I. Introduction

The Midcontinent Independent System Operator, Inc. (MISO) thanks the Commission for calling for this technical conference to discuss Generator Interconnection Procedures (GIP) and Agreements across the nation. Transmission Providers are faced with a rapidly changing generation fleet that includes increasing calls for renewable energy, new storage technology, and additional gas fired resources. It is imperative that each Transmission Provider ensure that its interconnection queue is running as efficiently as possible to enable resources to come online expeditiously. MISO has some of the highest total megawatt output of wind and renewable resources in the Eastern Interconnection. MISO proactively took steps to improve the bulk transmission infrastructure by identifying and proposing the Multi-Value Projects to facilitate integration of resources needed to meet state renewable policy goals. These projects are in various stages of construction and approvals. Additionally, MISO has repeatedly reformed its queue to address challenges facing the MISO region. MISO is currently working with stakeholders to incorporate guidance from the Commission in its recent order on our most recent queue reform proposal to develop new evolutions of the MISO queue to meet these emerging challenges.

MISO appreciates that there are opportunities to leverage best practices to help the industry integrate these new resources. This technical conference should help further explore the challenges and should help bring to light best practices. However, as the Commission considers next steps, we hope the Commission considers that each Transmission Provider is facing different needs and challenges. The Commission and other attendees will frequently hear about "regional differences" during this technical conference. It is crucial not to discount the value and significance of these differences. Regional differences between Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs) are driven by the diverse challenges each region faces. Each RTO and ISO responds to their unique challenges in unique ways.

What is an effective approach in one region may not be applicable in another. For example, what works in single state ISOs may not be feasible in the regions with multiple states in their footprint such as MISO. Within MISO, the states have differing views on renewable resources interconnecting within their state. It is also important to not favor a particular fuel type over others at the expense of, ultimately, the rate payers outside of established public policy goals in the transmission planning process. However, Transmission Providers can and do learn from one another. As the Commission and others are aware, MISO's queue faces significant challenges. Changes are required in order to ensure adequate resources are available to meet demand, and ensure the reliable, efficient operation of the transmission system.

MISO encourages the Commission to quickly determine and communicate any potential next steps or guidance following this technical conference so that MISO may incorporate that information into its own queue reform processes and filing to be made within the year. Uncertainty can slow progress that can be made in each region as Transmission Providers and

stakeholders will be hesitant to expend resources and effort on reforms that may be reversed or undone by a national rulemaking. The MISO region faces resource adequacy challenges and needs projects to move forward without unintended regulatory delays. Regulatory certainty minimizes business risk, provides certainty to project developers, and helps ensure projects that meet the nation's energy needs are built. MISO welcomes Commission guidance to allow MISO and its entire stakeholder community to efficiently and expeditiously move forward with needed reforms, but encourages the Commission to allow the regions to continue to evolve to meet their own unique needs rather than considering a one size fits all rulemaking process. This would likely result in delays to any needed reforms and likely not allow the Transmission Providers to develop the most effective solutions.

II. The Current State of Generator Interconnection Queues

While there may be several areas that queue processes might make incremental improvements in the MISO region, the largest issue in creating uncertainty and delaying the interconnection of new resources is the large number of restudies created by the current process. The restudies are primarily caused when a higher-queued project withdraws from the MISO queue triggering a restudy. A restudy often causes increased interconnection costs for lower-queued projects, which in turn may cause some of those projects to withdraw. This repeating cycle is referred to as "cascading restudies." MISO seeks to maximize the chances that projects entering its queue timely reach commercial operation. Projects that fail to timely reach commercial operation harm the public as well as other lower-queued projects that made commercial decisions in reliance on the higher-queued projects being built.

Each region in MISO's footprint has varying levels of challenge. Generally, the more constrained an area is, the more likely it is that withdrawing projects will have cascading impacts

on lower-queued projects. Unfortunately, the areas that have abundant wind are also those that are more remote and are transmission constrained. While MISO is addressing this issue with its Multi-Value Projects, this problem continues to exist until those new transmission lines come into service. In short, MISO sees a great number of wind projects queuing in areas without much available transmission capacity – which requires expensive network upgrades. MISO is working to determine the best practices that will encourage those projects that have a high likelihood of helping to meet the energy needs in MISO's footprint, while discouraging projects that have not planned well and want to interconnect in an area that doesn't support a reliable interconnection.

III. Certainty in Cost Estimates and Construction Time

MISO balances the need for cost estimates early in the process against the need for those same estimates to be precise. MISO first provides construction cost estimates in the System Impact Study and MISO strives to be as accurate as possible at this early stage. Later in the interconnection process, MISO and its Transmission Owners conduct the more precise Facilities Study. MISO's current GIP has a provision that allows for Interconnection Customers to be refunded their M2 Milestone payment if the Facilities Study cost estimates are more than 25% higher than the System Impact Study results. MISO has rarely experienced early estimates that were ultimately off by more than 25%.

However, the System Impact Study and the Facilities Study have two different purposes. The purpose of a System Impact Study is to identify broad planning level estimates for required upgrades and mitigation. The System Impact Study, however, does not specifically examine the detailed engineering needed to provide a binding estimate. For example, a System Impact Study might identify a need for line re-conductoring, but no field investigation is performed (until the Facilities Study phase) to determine whether the existing poles and switches can accommodate

the new conductor. Thus, while a System Impact Study may only identify and estimate the cost of the line-reconductoring, the Facilities Study would identify and include an estimate for any new poles or switches needed.

When a project does withdraw from the MISO queue, MISO promptly performs restudies in order to determine which, if any, other projects will be impacted. Those impacts are communicated as soon as practical and unfortunately may lead to additional project withdrawals. MISO has heard that the key is to find methods to provide as much information as possible as early as possible so that projects can make appropriate business decisions and have the highest chances of reaching commercial operation. However, a balance between providing information and protecting confidential information and Critical Energy Infrastructure Information must be struck when providing requested information. The challenge is to find ways to keep highly speculative, commercially questionable projects from entering the queue when they have a high risk profile for withdrawing from the queue to the harm of others.

It is also important to ensure costs are not shifted to others as some have proposed via cost caps for studies and network upgrades. Costs should be controlled to ensure efficient interconnections of projects occur. At the same time, it cannot be the Transmission Providers', Transmission Owners', and ultimately rate payers' responsibility to bear the cost that would not be there but for the interconnecting project.

IV. Interconnection Queue Coordination and Management Issues

MISO sees a fundamental challenge in the trade-off between the differences in study approaches, planning assumptions, and study timelines from one system to the next, while appreciating the need for each region to manage its system in a manner that achieves our common goals of providing reliable, efficient operation of the bulk electric system. MISO has

seen issues arise when planning assumptions in one region differed from MISO's own methodology, which produced results differing from a project's expectations. There needs to be more awareness of the criteria and assumptions each region uses in its planning and analysis in order to help projects anticipate required upgrades both in their native system and in other affected systems. MISO has worked with some neighbors to improve the coordination efforts and is continually looking at ways to coordinate with other neighbors in a more efficient manner.

It is not surprising that oftentimes as a project gets nearer to construction it might seek to make changes to the project's plans. Broadly speaking, MISO would encourage allowing changes to a project so long as those changes don't negatively impact construction decisions that later-queued projects have already relied-upon in making their own decisions. For example, if a project is allowed to decrease its requested and studied size late in the process in order to avoid paying for costly upgrades, that might be a benefit to that lone project. However, failing to build upgrades lower-queued projects had relied on increases the odds that those projects will no longer be commercially feasible, at which point they would withdraw from the queue. Changes should be allowed when possible, but that needs to be balanced against the need to have predictable results and avoiding continual restudies that both slow down the overall process and have a propensity to shift costs among all projects, risking the viability of other projects.

V. Communications

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VI. Conclusion

MISO appreciates the Commission's interest in improving the interconnection process. MISO shares the interest in ensuring that needed resources are able to build and interconnect to the bulk electric system in a timely, efficient, and fair process. MISO's motivation is to help each region in its footprint plan for and meet its public policy goals while building a reliable and efficient transmission system best suited to serve the needs of stakeholders and ratepayers throughout the MISO footprint. MISO believes that changes to its existing interconnection queue, specifically tailored to meet the unique challenges of the MISO region, will best enable MISO to serve these needs. MISO welcomes Commission guidance to help move forward efficiently and expeditiously in this process.

Respectfully submitted,
/s/ Timothy Aliff
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