



reject these aspects of MISO’s compliance filing as described below and require an additional compliance filing to correct these deficiencies.

## **I. MOTION TO INTERVENE**

AWEA is a national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States. Clean Grid Alliance is a non-profit organization whose 40+ members include wind, solar and energy storage developers and manufacturers, non-profit environmental, public interest and clean energy advocacy organizations, farmer organizations, and other businesses that support renewable energy. The Solar Council is a group of companies participating in AWEA’s RTO Advisory Council that own, operate, develop, and finance solar projects and act, in coordination with AWEA, to advance joint goals before the Federal Energy Regulatory Commission and the nation’s regional transmission markets and independent system operators.

The Clean Energy Entities are committed to improving interconnection processes to facilitate deployment of clean energy, their interests in this proceeding cannot be represented by any other party, and their interventions are in the public interest.

## **II. GENERAL COMMENTS SUPPORTING COMPLIANCE WITH ORDER NO. 845 AND 845-A**

The Commission’s Orders No. 845 and 845-A revise the *pro forma* Large Generator Interconnection Procedures (“LGIP”) and *pro forma* Large Generator Interconnection Agreement (“LGIA”) to require changes that will improve certainty, promote more informed interconnection, and enhance interconnection processes.<sup>4</sup> The Clean Energy Entities support the Commission’s reforms and appreciate the opportunity to provide comments in various Regional Transmission Organization and Independent System Operator (collectively, “RTO”) dockets to

---

<sup>4</sup> Order No. 845 at ¶2.

help ensure that each compliance filing results in generator interconnection processes that are just and reasonable and not unduly discriminatory or preferential.

An evolution of the electricity mix is currently underway in the United States, and interconnection queues across the country are larger than ever. Low gas prices, plummeting costs for renewable resources, and new technologies such as energy storage are transforming the way in which electricity is generated. Moreover, the demand for clean energy has never been higher, with states, utilities, and corporations increasing their commitments to purchase renewable resources. A more efficient, transparent and functional interconnection process is critical for each of these types of entities to be successful in reaching their goals, which will bring the benefits of clean, low-cost energy to consumers. As detailed in the Appendix, the Clean Energy Entities believe that the reforms the Commission has required under Orders No. 845 and 845-A are a step in the right direction toward remedying some of the shortcomings in RTOs' existing interconnection processes.

The Clean Energy Entities believe that the Order No. 845 reforms will benefit interconnection customers through a more timely and cost-effective interconnection process, and will aid transmission providers by mitigating the potential for serial restudies associated with late-stage interconnection request withdrawals. Specifically, the provision of more timely, transparent, and accurate information will increase certainty for interconnection customers and assist them in earlier evaluation and faster development, and will assist in earlier, less disruptive withdrawals from the interconnection queue.<sup>5</sup> This in turn will result in fewer restudies and delays. Requirements for new types of interconnection service will allow for the most efficient

---

<sup>5</sup> Order No. 845 at ¶192 *et seq.*

use of the existing grid and provide interconnection customers flexibility in meeting the needs of their projects.

The Clean Energy Entities look forward to working with the Commission and jurisdictional utilities to implement the reforms in Order Nos. 845 and 845-A, and to promote further reforms that will help to address the high levels of delays and high costs of required interconnection upgrades that are stymying the development of new resources across the country today. For instance, the MISO interconnection queue has recently topped 100GW of interconnection requests, SPP has about 85 GW, and other regions' and individual utility queues are similarly overwhelmed with requests. Additionally, Orders 845 and 845-A do not specifically address the lack of policy regarding the interconnection and operation of hybrid resources, which is much needed in markets across the United States. We urge the Commission to continue to evaluate and address the many challenges that will still be affecting interconnection processes following Order 845 implementation.

Finally, while the Clean Energy Entities support many substantive aspects of MISO's proposal, we oppose MISO's proposed independent entity variations on Option to Build and Interconnection Study Reporting as discussed below. Additionally, we note that individual members of the Clean Energy Entities may choose to highlight further areas of support or concern regarding the compliance filing at issue in this proceeding.

### **III. COMMENTS ON MISO'S FILING**

#### **a. MISO's Proposed Compliance on Surplus Interconnection Service is Exemplary in Meeting the Intent and Purpose of Order 845**

The Clean Energy Entities strongly support MISO's proposed compliance on Surplus Interconnection Service which was filed separately from the other requirements of Order 845

Compliance under Docket number ER19-1823-001. MISO's proposal for Surplus Interconnection Service received broad stakeholder support among diverse stakeholders and Sectors within MISO. The proposed revisions are practical and useful in meeting Interconnection Customers' need for a process outside of the MISO Definitive Planning Phase studies to allow for more efficient utilization of previously granted Interconnection Service, when no material modifications to the existing interconnection rights are present.

**b. MISO's Proposed Compliance on Interconnection Customers' Option to Build in Regard to Transmission Owners' Right to Self-Fund is Not Just or Reasonable, Nor Does It Meet the Intent and Purpose of Order 845**

MISO has requested an independent entity variation with regard to its compliance with Order 845's required changes to the Interconnection Customer's Option to Build for the purpose of applying the Transmission Owner Option to Self-Fund to such facilities. Under the "independent entity standard" a RTO must demonstrate that its proposed variations are just and reasonable and not unduly discriminatory, and that they would accomplish the purposes of the underlying rulemaking.<sup>6</sup>

MISO has proposed to adapt the Interconnection Customer's Option to Build such that, after an Interconnection Customer pays for and builds a Stand Alone Network Upgrade, including the oversight costs charged by the Transmission Owner to the Interconnection Customer permitted in Order 845-A, the Transmission Owner can then exercise the Option to Self-Fund.<sup>7</sup> This would force a loan onto the Interconnection Customer who had already taken on the financial and construction liability risks required to initiate and complete construction of the Upgrade. This would largely, if not completely, negate all the savings received by the

---

<sup>6</sup> See MISO's footnote 13 regarding PJM Interconnection in 2015 in its 845 Compliance filing. [need to fix this cite]

<sup>7</sup> We note that including oversight costs will drive up the basis for Self-Funding even more.

Interconnection Customer from exercising the Option to Build. The Commission adopted this new measure specifically *because* of the opportunity for cost savings.

In addition, MISO's proposal negates the intent and purpose of Order 845 by significantly and unnecessarily driving up interconnection costs, rather than reducing them. The Transmission Owner Option to Self-Fund can place a cost adder of as much as 60-70% on a Network Upgrade project.<sup>8</sup> The Commission expanded the Option to Build in Order 845. MISO's proposal will bring the opposite result. Such a huge cost adder from Transmission Owner Self-Funding will shut down the use of the Option to Build, and the Interconnection Customer incentive the Commission adopted in Order No. 845 will vanish. This too demonstrates why MISO's proposal should be rejected by the Commission.

Finally, MISO attempts to justify its proposed entity variation, claiming that the Transmission Owner must pay maintenance fees on the new Network Upgrade. The Commission should give no weight to this claim. Once a Stand Alone Network Upgrade is completed and integrated into the grid, it is used to provide transmission service locally and for the region. Transmission Owners have not had to pay for maintenance as if such cost affects its profit and ability to continue to provide service. The cost of maintenance has been collected from transmission customers, as it should, who are using the Upgrade. Transmission Owners have been made whole in this respect since Order No. 2003. Indeed, long ago the Commission specifically ruled that Transmission Owners could not recover maintenance on Network Upgrades from the Interconnection Customer, because the facility is integrated with the grid; in these circumstances all transmission customers – rather than a single Interconnection Customer –

---

<sup>8</sup> See Affidavit of Sandeep Nimmagadda in the Appendix of Apex Clean Energy Management's Request for Rehearing in Dockets EL15-68-003, EL15-36-003, ER16-696-004.

should rightly fund maintenance expenses. Accordingly, the recovery of maintenance fees is a red herring on MISO's part, and is not a basis to allow for a variation on the Option to Build.<sup>9</sup> The Interconnection Customer's Option to Build and the Transmission Owner's Option to Self-Fund must exist mutually, and exclusively of one another, to ensure just and reasonable treatment of the Interconnection Customer. Failure to properly implement these elements will thwart the intent and purpose of Order 845's Option to Build requirement - to be able to lower costs. The Clean Energy Entities request that the Commission deny MISO's request for an independent entity variation in regard to MISO's proposed "reconciliation/integration of the Interconnection Customer Option to Build with the Transmission Owner Option to Self-Fund."<sup>10</sup>

**c. MISO's Proposed Compliance on Interconnection Study Reporting Will Result in Inaccurate Information**

MISO has proposed that the beginning of the metrics period for a study be at the study kick-off meeting. This proposal will not account for the delays that occur between the point when an Interconnection Customer completes all requirements to be part of a cluster and when the study actually moves forward. This period of time can be up to several years in some regions of MISO. Not accounting for this delay would result in an inaccurate representation of the time it takes for an Interconnection Customer to proceed through the queue, that is, from the time it signs the study agreement and meets all other milestones and obligations to enter the queue, to the time it receives a final and fully executed GIA. The Clean Energy Entities therefore request

---

<sup>9</sup> The need for maintenance fees is questionable. AWEA's rehearing application in Dockets EL15-68-003, EL15-36-003, ER16-696-004 presents legal arguments on the limited historic use of self-funding in MISO, the Transmission Owner's election to forgo rate-based cost recovery in exchange for the Interconnection Customer funding the capital cost of the asset, and it brings to question whether the TO's are in need of this revenue as their financial positions continue to be strong.

<sup>10</sup> Midcontinent Independent System Operator, Inc. Compliance Filing for Order No. 845 Reform of Generator Interconnection Procedures and Agreements, Docket No. ER19-1960. [NEED PAGE CITE]

that the Commission deny MISO's proposed entity variance on Interconnection Study Reporting and require full compliance.

#### IV. CONCLUSION

WHEREFORE, the Clean Energy Entities respectfully submit these comments for the Commission's consideration and urge the Commission to:

- i. reject MISO's requested independent entity variances with respect to its proposals to combine the Interconnection Customer's Option to Build with the Transmission Owner's Option to Self-Fund and Metrics Reporting; and
- ii. accept MISO's proposed compliance in regard to Surplus Interconnection Service.

Respectfully submitted,

Gabe Tabak  
Counsel  
American Wind Energy Association  
1501 M St NW  
Washington, DC 20005  
(202) 383-2500  
[gtabak@awea.org](mailto:gtabak@awea.org)

Natalie McIntire  
Technical and Policy Consultant  
Clean Grid Alliance  
570 Asbury St., Suite 201  
St. Paul, MN 55104  
(651) 644-3400 [natalie.mcintire@gmail.com](mailto:natalie.mcintire@gmail.com)

Rhonda Peters  
Principal  
InterTran Energy Consulting  
1610 S Valentine Way  
Lakewood CO 80228  
720-319-1860  
[intertranec@gmail.com](mailto:intertranec@gmail.com)

Dated: June 26, 2019

## **APPENDIX**

The Clean Energy Entities offer the following general comments in support of MISO's compliance filing on Orders No. 845 and 845-A, including several aspects of other compliance filings that we believe constitute best practices.

### **A. Improving Certainty for Interconnection Customers**

The Clean Energy Entities support aspects of the Commission's Order intended to provide interconnection customers with more predictability regarding costs and the timing of interconnection to the grid. Increased certainty for interconnection customers, especially cost certainty, is a vital improvement to the generator interconnection process.

#### **1. The Interconnection Customer's Option to Build**

The Commission's removal of the limitation on when an interconnection customer can exercise the option to build will allow an interconnection customer to opt to build when it believes doing so will reduce costs or improve the timeline for construction of the project and required upgrades, and will help provide more certainty during the design and construction phase of the interconnection process. MISO's proposed implementation of this provision of Order 845 does not meet the intent of the Order, as described above and should be rejected.

#### **2. ISO/RTO Dispute Resolution**

Disputes periodically arise between interconnection customers and transmission providers and owners about a number of issues, including study assumptions, costs, construction schedules, and the design of interconnection facilities and network upgrades. The Clean Energy Entities support the Commission's requirement that RTOs/ISOs eliminate the requirement of

“mutual agreement of the Parties” for a party to pursue a streamlined dispute resolution process. Revising the standard LGIA to allow any disputing party to unilaterally exercise a right to pursue non-binding dispute resolution will ensure that interconnection customers can avail themselves of this potentially more efficient method of addressing disputes, as compared to the option of filing a complaint with the Commission. It is important that this process is non-binding and that, as required in Order No. 845, at the close of the dispute resolution process the interconnection customer can still pursue arbitration or submit a complaint to the Commission under Section 206 of the Federal Power Act.

## **B. Promoting More Informed Interconnection**

Improved transparency regarding the interconnection process is vital because such transparency will help make the development process more efficient and reduce uncertainty, and will ensure that the interconnection process is just and reasonable and not unduly discriminatory or preferential. The Clean Energy Entities support the Commission’s requirements in Orders No. 845 and 845-A that seek to increase the information that is made available to all participants of the interconnection process.

### **1. Identification and Definition of Contingent Facilities**

For many interconnection customers, a serious challenge has been the lack of transparency related to transmission providers’ identification of contingent facilities, or interconnection facilities and network upgrades that must be developed as a condition of granting service to an interconnection customer. The Clean Energy Entities support the Commission’s requirement that transmission providers include, both in their *pro forma* generator interconnection process and interconnection agreements the transmission provider's method for identifying contingent facilities. The list of Contingent Facilities must

be provided to the interconnection customer at the end of the System Impact Study. And the transmission provider must provide the interconnection customer with the estimated cost and in-service dates of these facilities when requested. Interconnection customers depend on the detailed list of contingent facilities that are included in studies and interconnection agreements in order to assess future risk of any increased cost of network upgrades. The Clean Energy Entities also support the Commission's requirement for transmission providers to include in the *pro forma* LGIP the method they will use to determine the list of contingent facilities in evaluating an interconnection request with sufficient detail to determine why a specific contingent facility was included in that list.

MISO offers a good example of a clear and consistent process by which Contingent Facilities are identified for each IC. MISO modified its methodology to study an Interconnection Customer's project's impact on MISO Transmission Expansion Plan ("MTEP") Appendix A projects and higher-queued generators and their required network upgrades under base case and N-1 conditions. Those facilities that have a 5% or greater distribution factor impact from the Interconnection Customer were listed as contingent facilities in the GIA. This method is both clear and predictable, and not arbitrary. All Transmission Providers should be required to publish a detailed and objective methodology, which focuses on identifying only those contingent facilities that will be electrically impacted by a new interconnecting generator.

## **2. Transparency Regarding Study Models and Assumptions**

The Commission correctly determined that increasing the transparency of the network models and underlying assumptions used for interconnection studies, including shift factors and dispatch information, is a key improvement to the interconnection process.<sup>11</sup> The Clean Energy

---

<sup>11</sup> Cite needed

Entities appreciate the Order No. 845 requirement that transmission providers offer access (with appropriate security provisions) to all the network models and underlying assumptions used for interconnection studies in their pro forma LGIPs. Interconnection customers will benefit from access to this information in order to make an informed decision as to whether to enter the queue. This information will benefit both interconnection customers in the queue as well as those developing interconnection requests by potentially helping them avoid entering the queue with interconnection requests that will result in upgrades that are too costly, thus making a project non-viable.

### **3. Definition of “Generating Facility”**

The Clean Energy Entities appreciate that the Commission has required that the definition of generating facility must explicitly include energy storage, as storage resources are a growing new technology that have a variety of beneficial uses for the electricity system. We reiterate here that the current orders did not contemplate the unique requirements of another very fast-growing emerging resource – hybrid energy systems, which are single facilities comprised of different types of units – any combination of wind, solar, storage, or even natural gas. We hope that following this, the Commission will consider addressing the need for policies addressing hybrid resource interconnection and operation.

### **4. Interconnection Study Reporting Requirements**

Under the current LGIP, transmission providers must use "reasonable efforts" to complete interconnection studies on a timely basis. Yet, many transmission providers continue to have significant delays in completing interconnection studies, some delays even years long. The Commission’s revision to the LGIP to require transmission providers to post interconnection study metrics online (to their OASIS websites), to file information reports

with the Commission, and to provide explanations for why delays are occurring will increase transparency of interconnection study timelines, thereby enabling interconnection customers and the Commission to determine if the transmission provider is satisfying the "reasonable efforts" standard. As detailed in our comments above, MISO's tariff language on study metrics must be modified in order to accurately represent delays and the actual time it takes an interconnection customer to proceed through the interconnection process.

### **C. Enhancing the Interconnection Process**

#### **1. Material Modification and Incorporation of Advanced Technologies**

The Clean Energy Entities support the Commission's requirement that transmission providers establish a clear procedure to determine whether a request for technology changes necessarily results in a material modification for the interconnection request. Rapid technology improvements combined with lengthy and delayed interconnection processes can mean that by the time an IC moves through the interconnection process to receive an interconnection agreement, the manufacturer of their generating technology may have made improvements that were not contemplated at the time of the original interconnection requests. These ICs should not be forced to return to the beginning of the interconnection queue with a new request, and the Commission's requirement reasonably provides for a process to evaluate whether a technology change such as this actually results in a materially electrical impact on the grid. Such an evaluation should be done reasonably quickly but need not be unrealistically limited. This process for evaluation should also be clear regarding the criteria that will be used to determine when a technology change has a significant negative impact.

## **2. Provisional Interconnection Service**

Provisional Interconnection Service has been offered on a voluntary basis by a few transmission providers. This service now required by the Commission offers developers the ability to interconnect a project quickly before all interconnection studies are complete or before all the required transmission upgrades are complete. Thus, this service, subject to appropriate operating restrictions until studies and network upgrades are completed, will benefit developers who need to get their projects online sooner than otherwise possible.

## **3. Surplus Interconnection Service**

The Commission's requirement that Transmission Providers offer Surplus Interconnection Service under Order No. 845 is one of the more contentious aspects of the order. We support this aspect of the Orders, as it has the potential to help make the most efficient use of interconnection capacity at a time when interconnection queues across the country are overwhelmed with requests and study timelines are both lengthy and experiencing significant delays. Surplus Interconnection Service is especially appropriate as wind and solar resources have come down in price and energy storage resources are becoming more cost effective. These newer entrants into the electricity markets are intended to operate with different daily and seasonal profiles than typical thermal plants, and they can both pair well with each other and with gas plants that can operate flexibly to fill in when renewable resources are not producing.

There is variability in the compliance proposals across the country with regard to Surplus Interconnection Service, but we highlight MISO's as a best practice among those filings. MISO has for a number of years had a provision called Net Zero Interconnection Service similar to Surplus Interconnection Service. The Commission's Surplus Interconnection Service requirements are an improvement on MISO's starting point, but MISO's process for studying the

potential impact of adding an Surplus Interconnection Service generator to an existing interconnection in parallel with the existing interconnection queue, and using criteria similar to its material modification criteria will ensure that requests for Surplus Interconnection Service are treated efficiently though comparably to other parties in the queue.

#### **D. Service Below Capacity**

New technologies such as energy storage that can chose to operate below their full capacity in order to extend the period of time they can deliver power to the grid, and renewable resources that do not operate at their full capacity much of the time, create a situation where it may be beneficial to an interconnection customer to choose interconnection service below their full rated capacity. The Commission's provision for interconnection service below the capacity of a resource will provide flexibility to ICs to make the most cost-effective choice for their project and can also support efficient use of the grid's existing interconnection capacity at a time when that is a diminishing resource.