

UNITED STATES OF AMERICA
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

NOTICE INVITING POST-TECHNICAL CONFERENCE COMMENTS

(June 3, 2016)

On May 13, 2016, Federal Energy Regulatory Commission (Commission) staff conducted a technical conference to discuss select issues related to the petition for rulemaking submitted by the American Wind Energy Association in Docket No. RM15-21-000 and other interconnection-related issues, including the interconnection of electric storage.

All interested persons are invited to file post-technical conference comments on any or all of the questions listed in the attachment to this Notice. We emphasize that commenters need not answer all of the questions. We encourage commenters to submit new or additional information in response to these questions rather than information that was previously submitted in Docket Nos. RM16-12-000 and/or RM15-21-000. Commenters should organize responses consistent with the numbering of the attached questions and identify to what extent their responses are generally applicable or pertain to a particular RTO/ISO. Commenters are also invited to reference material previously filed in this docket, including technical conference transcripts. These comments must be filed with the Commission no later than 5:00 PM Eastern Standard Time on June 20, 2016.

For more information about this Notice, please contact:

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Kimberly D. Bose,
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Post-Technical Conference Questions for Comment

1. Questions on Coordination/ Queue Management

- 1.1. During the technical conference panel on coordination, there was discussion as to how the different RTOs/ISOs vary in design and operations that necessitate the need for regional flexibility (*i.e.*, the independent entity variation standard or the regional differences standard) for generator interconnection procedures. Please explain in further detail how the varying market design and operations necessitate regional differences in the generator interconnection queue processes.
- 1.2. Should the interconnection process and the regional transmission planning process be coordinated to improve the efficiency of both? If so, how? Should the transmission planning process be used to identify transmission upgrades that would facilitate the interconnection process? How can this be accomplished?
- 1.3. Are more stringent requirements for interconnection customers to enter and progress through the generator interconnection queue an effective but nondiscriminatory way to deal with “unready” projects entering the queue? What are the advantages and disadvantages to setting more stringent requirements for progressing through the interconnection queue? If more stringent requirements are appropriate, what should these requirements be, and should they include non-financial requirements (site control, etc.)?
- 1.4. What financial requirement(s) are appropriate to reflect the cost of interconnection, or should financial requirements be related to other project features, such as project size? Are there factors other than network upgrade costs that are or should be reflected in a new financial requirement or milestone payment? What proportion of such cost(s) should be required prior to the interconnection customer signing its interconnection agreement, and why? Under what, if any, circumstances should financial payments be returned to the interconnection customer and on what basis?
- 1.5. Are there examples where region-specific generator interconnection processes have resulted in delays or cost increases for an interconnection customer or the failure of a project? If so, please provide examples.
- 1.6. Are there interconnection queue practices that could help address geographically concentrated queue backlogs that occur in some regions?
- 1.7. *Pro forma* Large Generator Interconnection Procedures section 13.4 and similar sections in regional tariffs allow for an interconnection customer to require a transmission provider to use third party consultants in place of transmission

provider staff if a transmission provider cannot complete a study within an agreed upon timeframe or the applicable time set for such a study. How frequently do interconnection customers call upon this provision and to what effect?

- 1.8. What are the challenges associated with affected system coordination? How can coordination of interconnection requests among affected systems be improved? Are there specific changes needed to the *pro forma* interconnection procedures, *pro forma* interconnection agreement, and/or other tariffs to help improve affected system coordination? Would common standards for modeling and assessing reliability across affected systems improve such coordination? Would more specific guidance in the *pro forma* interconnection procedures, *pro forma* interconnection agreement, and/or other tariffs on how and when affected systems should be involved in the interconnection process improve such coordination?
- 1.9. At the technical conference, there was a discussion about whether all the right stakeholders (*e.g.*, transmission owners, transmission providers, interconnection customers, etc.) to the interconnection process were involved in the appropriate manner and at the right times throughout the interconnection process. What challenges and barriers, if any, are there to including the right stakeholders at the appropriate times in the interconnection process? What mechanisms would help ensure that entities are involved at the appropriate times in the interconnection process?
- 1.10. Should interconnection procedures be more specific about what constitutes a material modification to a generator interconnection request? Is it clear to interconnection customers what types of modifications to their interconnection requests would and would not affect their place in the queue? Do transmission owners and RTO/ISOs exercise any level of discretion in determining whether a customer has made a material modification? What is the range and nature of that discretion? Please reference provisions in interconnection procedures, as applicable, in your answer.
- 1.11. Are tariffs and interconnection agreements sufficiently clear with regard to the circumstances under which an interconnection agreement could be terminated? Are the provisions for termination appropriate?
- 1.12. Are there specific technologies, tools, or administrative processes that could improve the accuracy of cost and time estimates, reduce the processing time, or increase the efficiency of the interconnection queue process?
- 1.13. Can technological advancements be incorporated into a project as it proceeds through the interconnection process (*e.g.*, an inverter technology improvement that provides efficiency in cost and performance, more efficient battery storage)

without presenting system reliability concerns and causing delays to the interconnection study process? If so, what changes to the interconnection procedures would allow the incorporation of technological advancements after the submission of an interconnection request?

- 1.14. There was discussion during the technical conference about the challenges of getting technical and modeling information from turbine and equipment manufacturers due to concerns about sharing proprietary business information on the technologies. What have been the challenges with getting turbine and other manufacturers to provide necessary technical information and models to transmission providers for interconnection studies? How does this information disclosure challenge affect the study of interconnection requests and what should be done to facilitate a better information exchange between manufacturers and those performing interconnection studies?

2. Transparency and Timing in the Generator Interconnection Study Process

- 2.1. Are interconnection study delays and their causes communicated to interconnection customers with an appropriate amount of detail and within appropriate timeframes? Should standardized content and communication procedures be established to provide interconnection customers information and status updates on their requests?
- 2.2. Are interconnection procedures sufficiently clear with regard to the "triggers" that could necessitate restudy? Should interconnection procedures include a comprehensive list of triggers for restudy?
- 2.3. Are the triggers that cause restudies appropriate to the risk of reliability concerns or reflective of likely cost allocation shifts due to changes in circumstances? Are there triggers that should be included and, conversely, are there existing triggers that should be removed? What specific changes, if any, should be made to restudy provisions or practices?
- 2.4. For interconnection requests that require restudy, would studying this group of requests together on a specified schedule (*e.g.*, an annual restudy group) create efficiencies in the interconnection process? If yes, please explain why. If not, please explain why not.
- 2.5. What specific historical information, not currently provided by transmission providers, would assist interconnection customers early in the interconnection process in making siting decisions?
- 2.6. Are there ways to incorporate standardized assumptions or modeling approaches to resolve reliability and congestion modeling associated with interconnection

requests near seams between regions? If yes, please provide examples of such models and/or assumptions.

- 2.7. How can the use of non-disclosure agreements help reduce delays in the interconnection study process? Would the utilization of generic models by transmission providers and transmission owners reduce delays in interconnection study processes? Are specific changes to interconnection processes needed to better address challenges related to data acquisition?

3. Certainty in Cost Estimates and Construction Time

- 3.1. What information from the facility study could be included with the system impact study phase to provide more accurate configuration information to the interconnection customer and what would the effect be on time required for the system impact phase?
- 3.2. In situations where transmission providers use per unit cost guides to develop cost estimates, should additional information and benchmarking of these cost guides be required? What would the process, timing and study cost effects be of developing detailed project specific estimates rather than estimates based on per unit costs?
- 3.3. What is the process for determining whether a facility is a “contingent facility”? What are the challenges in identifying and listing a contingent facility?
- 3.4. How and when is information provided to an interconnection customer about contingent facilities that may affect its project? Is the information provided sufficient to allow an interconnection customer to understand why and how an identified project may affect its project?
- 3.5. Section 5.1.3 of the *pro forma* Large Generator Interconnection Agreement and similar sections in RTO/ISO interconnection agreements give interconnection customers the option to build interconnection facilities and stand-alone network upgrades¹ if they are unable to agree on the in-service date, initial synchronization date, and commercial operation date with the transmission

¹ Stand Alone Network Upgrades are “Network Upgrades that an Interconnection Customer may construct without affecting day-to-day operations of the Transmission System during their construction. Both the Transmission Provider and the Interconnection Customer must agree as to what constitutes Stand Alone Network Upgrades and identify them in Appendix A to the Standard Large Generator Interconnection Agreement.” *Pro forma* LGIA Art. I.

provider. Under what circumstances, if any, should interconnection customers have the opportunity to construct interconnection facilities and stand-alone upgrades?

- 3.6. Does the current process to resolve disputes between interconnection customers, transmission providers, and transmission owners work effectively? Are changes needed to the process to effectively resolve most disputes in a timely manner? Should transmission providers play a role in mediating such disputes between interconnection customers and transmission owners?

4. Interconnection of Electric Storage Resources

- 4.1. Are changes to the *pro forma* Small Generator Interconnection Procedures or *pro forma* Large Generator Interconnection Procedures necessary to facilitate the interconnection of electric storage resources? Similarly, are changes to the *pro forma* Small Generator Interconnection Agreement or *pro forma* Large Generator Interconnection Agreement necessary? If so, please describe those changes and explain how the changes should be prioritized.
- 4.2. What is the appropriate process to interconnect an electric storage resource as transmission equipment: the generator interconnection process, the transmission planning process, or some other process? Why? If some other process is appropriate, please describe how that process would interact with existing processes.
- 4.3. Do current interconnection studies adequately account for the operational characteristics of electric storage resources? If not, what could the Commission do to improve interconnection studies for electric storage resources?
- 4.4. Should an interconnection customer be allowed to limit the requested level of interconnection service at a point of interconnection that includes multiple energy production devices, which may include electric storage resources, to a level that is lower than the cumulative rated capacity of all the resources at that point of interconnection? What is the best way for an interconnection customer and a transmission provider and/or owner to establish the operational limit? What safeguards, if any, are needed to ensure that the interconnection customer does not exceed the level of interconnection service in its interconnection agreement?
- 4.5. Are there potential ways to streamline the interconnection process for the addition of electric storage resources to existing facilities when (a) the electric storage resource will be using existing interconnection service; and (b) the electric storage resource will be requesting new interconnection service?

- 4.6. What are the primary obstacles for interconnecting standalone or aggregated distribution-level electric storage resources that want to participate in the RTO and ISO markets, and what are some potential solutions that address these obstacles?