

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 19-0856-RULE

Proposed revisions to Vermont Public Utility Commission Rule 5.500	
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Order entered: 06/22/2021

REQUESTS FOR INFORMATION

This case concerns the Vermont Public Utility Commission's ("Commission") investigation into proposed revisions to Commission Rule 5.500, Interconnection Procedures for Proposed Electric Generation Resources.

On April 19, 2021, Commission staff hosted a workshop where several presentations were given by stakeholders. As the Commission continues to work through procedural and technical details in the rule, it seeks additional information from the participants in the April 19 workshop. Any other stakeholder or member of the public is welcome to file information and comments in response to this request in this case.

All participants who wish to do so are requested to provide information responding to the following requests on or before July 30, 2021. Reply comments should be submitted by August 23, 2021.

1. **Scope.** The Commission is considering the scope of this proceeding. There are several issues that require resolution in the near-term, (e.g. treatment of interconnection in the net-metering program and implementation of IEEE 1547 and the ISO-NE Source Requirements Document). There are also many forward-looking issues that likely should be addressed in the long-term to ensure continued stability and reliability of the grid (e.g. requirements for cluster studies, pooling upgrade costs, communications protocols, and distributed energy resources ("DER") aggregations).
 - a. Please describe how the Commission should weigh the two competing goals of issuing a rule to address urgent issues in a timely fashion and developing a comprehensive and forward-looking rule.
 - b. Which issues are most urgent for the Commission to address?

2. **Frequent updates.** The electrical industry is rapidly transforming, and some of the technical and procedural requirements for interconnection will need to be updated frequently. The Commission is considering which, if any, of the technical and procedural requirements could be articulated through either an order or utility interconnection tariffs which could be updated more rapidly than Rule 5.500 as the industry evolves.¹
 - a. Please comment on whether the Commission should use an order or tariff to outline some interconnection requirements. Should the Commission use a model tariff or interconnection guidelines approach similar to Massachusetts?²
 - b. Please identify which technical and procedural requirements should be implemented by order or tariff and which ones (if any) should remain in a formal rule.
 - c. Please identify any concerns with order- or tariff- based requirements.
3. **Cluster studies.** Some areas of the grid may benefit from “cluster studies” to assess the impact that several projects may have to the distribution grid, and potentially the transmission grid. Cluster studies may also facilitate sharing costs for system upgrades among interconnecting projects. The Department recommended that the Commission consider requiring cluster studies for congested areas.
 - a. How would areas that require a cluster study be identified on an ongoing basis?
 - b. How could interconnecting utilities manage their queues to identify projects proposed in congested areas and group them for study?
 - c. Does the Department propose any specific process or group which could identify areas or projects which would require cluster studies, particularly for areas effecting the transmission grid?
 - d. Are there model rules or other jurisdictions that the Commission could look to when creating requirements around cluster studies?
 - e. Could curtailment be used as a tool to either reduce interconnection costs or manage power quality on certain circuits? If so, how could this be accomplished

¹ Commission Rules are subject to 3 V.S.A. Chapter 25 and the Secretary of State’s Rule on Rulemaking.

² See <https://www.mass.gov/info-details/interconnection-filings-and-tariffs>

given that some utilities have real-time insight into distribution grid conditions, and others do not?

4. **Incorporation of storage resources.** On or before March 15, 2022, the Public Utility Commission shall propose an updated interconnection rule that: (1) incorporates energy storage facilities with a capacity of 1 MW or more; and (2) incorporates a simplified process for energy storage facilities with a capacity of between 100 kW and 1 MW.
 - a. Are there any unique characteristics of storage that require different processes or technical requirements than generators?
 - b. How do utilities consider storage differently when reviewing interconnection given that storage is both load and an exporting resource?
 - c. When determining the capacity of a storage facility paired with a generator (e.g. solar + storage), should the Commission require the consideration of the maximum possible export capacity of the system or the *intended* operational regime of that system? How can the Commission best incorporate this flexible operational aspects of paired systems into the interconnection process?
 - d. How should the interconnection process be simplified for energy storage facilities with capacities of more than 100 kW and less than 1 MW.
5. **Non-exporting/limited-export systems.** Some storage systems, or generator+storage systems which are tied to the grid can have system stability and reliability impacts although they do not intend to export to the grid.
 - a. What specific procedural and technical requirements should the Commission adopt to deal effectively with non-exporting, or limited-export systems?
 - b. How can the Commission best deal with non-exporting or limited export systems?
6. **Review of small systems.** Green Mountain Power Corporation's April 19, 2021, workshop presentation indicated that distributed energy resources with a capacity of 15 kW-or-less ("small DERs") do not require an interconnection study. While there may be no formal review for these systems, some level of review is occurring because utilities frequently notify the Commission that proposed small DERs raise interconnection issues. Commission staff wants to identify what review should occur for small DERs so that Rule 5.500 can reflect the standards that such systems should meet, the timeframes

appropriate to review these systems, and what information interconnection applicants need to provide to the utility.

- a. Please describe what criteria utilities should use to determine whether a small DER raises interconnection issues like the need for installing a new distribution transformer or using specific inverter settings. Please describe all criteria or screens that should apply during the review of small DERs.
 - b. Please identify all technical standards that small DERs should be required to demonstrate compliance with.
 - c. Is there any information that is not already collected on the net-metering registration form that needs to be collected to demonstrate compliance with the criteria and standards referenced in a and b, above?
 - d. How long does a utility need to review applications for small DERs?
 - e. If the Rule 5.500 interconnection process is separated from the Rule 5.100 process, how will the utility notify the applicant of necessary system upgrades or modifications of the proposed small DER?
 - f. Is it possible that small DERs could require a formal study? If so, please describe the circumstances that would necessitate a formal study?
 - g. Should small DERs be required to provide “as-built” information to the utility so that the utility has a record of what is installed on their system.
7. **Smart inverters.** ISO-NE presented on current regional standards for smart inverters, including certain inverters settings which can coordinate the response of DERs to fluctuations in voltage and other grid conditions.
- a. How can the PUC best require and implement the use of region-specific inverter settings including compliance with the ISO-NE Source Requirements Document?
 - b. Do utilities have any commissioning or review process for small systems to ensure that Project equipment and settings comply with interconnection requirements of Rule 5.500 or utility requirements? If so, please describe.
 - c. At the end of an inverter’s useful life, should the Commission require replacement with an inverter compliant with IEEE 1547? How would this be accomplished

given that Project owners are not required to notify the Commission or local utility of the replacement of equipment with similar equipment?

8. Communications protocols.

- a. What technical requirements for communications protocols should interconnected DER systems be required to meet, and how should those requirements be reflected in this iteration of the Rule? (e.g. IEEE 2030).
- b. Is there anything else specific the Commission should include in the interconnection rule to facilitate greater communications and visibility into real-time DER behavior?

SO ORDERED.

Dated at Montpelier, Vermont, this 22nd day of June, 2021.



Joan White
Hearing Officer



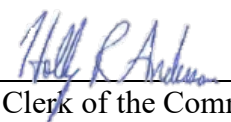
Mary Jo Krolewski
Hearing Officer



Jake Marren, Esq.
Hearing Officer

OFFICE OF THE CLERK

Filed: June 22, 2021

Attest: 

Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

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