

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

| | | |
|-----------------------------------------|---|-------------------------------|
| Reliability Standards to Address |) | Docket No. RM22-12-000 |
| Inverter-Based Resources |) | |

REPLY COMMENTS OF ISO NEW ENGLAND INC.

ISO New England Inc. (“ISO-NE”) respectfully submits these reply comments in response to certain comments submitted by the ERO Enterprise,¹ the Trade Associations,² as well as American Clean Power Association (“ACP”) and the Solar Energy Industries Association (“SEIA”) in the above-referenced docket on February 6, 2023. The comments were submitted in response to the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) Notice of Proposed Rulemaking (“NOPR”) regarding Reliability Standards to Address Inverter-Based Resources (“IBRs”).³

In the NOPR, the Commission proposes to direct the North American Electric Reliability Corporation (“NERC”) to develop new or modified Reliability Standards that address the following four reliability “gaps” related to inverter-based resources (“IBR”): (i) data sharing; (ii) model validation; (iii) planning and operational studies; and (iv) performance requirements.⁴ The Commission also proposes to direct NERC to submit to the Commission a compliance filing within 90 days of the effective date of the final rule in this proceeding that includes a “detailed,

¹ NERC and the Registered Entities.

² Edison Electric Institute, the American Public Power Association, the Large Public Power Council, the National Rural Electric Cooperative Association, and the Transmission Access Policy Study Group.

³ *Reliability Standards to Address Inverter-Based Resources*, 181 FERC ¶ 61,125 (2022).

⁴ NOPR at P 1.

comprehensive standards development and implementation plan explaining how NERC will prioritize the development and implementation of new or modified Reliability Standards.”⁵

I. COMMENTS

A. ISO-NE Supports the Commission’s Proposal to Require the Use of Approved Industry (Standard Library) IBR models

In the NOPR, the Commission found that, without approved generator models that accurately reflect the generator behavior in steady state and dynamic conditions, planners and operators are unable to adequately predict IBR behavior and their subsequent impact on the Bulk-Power System (“BPS”). The Reliability Standards do not require the use of NERC’s approved component models, instead models are referred to generally in Reliability Standard MOD-032-1, Attachment 1.⁶ Accordingly, the Commission proposes to require that the new or modified Reliability Standards require the use of approved industry IBR models that accurately reflect the behavior of IBRs during both steady state and dynamic conditions. The Commission states that one way to do this would be to reference NERC’s approved model list in the Reliability Standards and require that only those models be used when developing planning, operational, and interconnection-wide models. The Commission further states that its proposed directives are consistent with the recommendations in NERC reports.⁷

In its comments, the ERO Enterprise stated that it would not support the Commission’s proposal for new or modified Reliability Standards to require the use of approved industry (standard library) IBR models. The Registered Entities propose the use of user-defined models (and perhaps developing a list of acceptable -or unacceptable- models).

⁵ NOPR at P 7.

⁶ *Id.* at P 86.

⁷ *Id.*

Currently, ISO-NE does not accept user-defined models (the only exception would be if there was no library model that could be used for a new technology). Typically, user-defined models are neither supported nor documented in the same manner as library models, and have been found to conflict with other user-defined models. User-defined models also tend to not be updated when new software releases come out (for PSSE), and, as such, they pose modeling and analysis obstacles to continued use in planning and operating the system. Thus, use of user-defined models should only be considered after recognizing and addressing these long-standing issues. Moreover, it is ISO-NE's understanding that developers have an ongoing obligation to obtain library models from the model provider. Accordingly, ISO-NE supports the Commission's proposal to require the use of approved industry (standard library) models, and respectfully requests that the Final Rule reflect that proposal. In the alternative, ISO-NE respectfully requests that the Final Rule not require the use of user-defined models and allow entities like ISO-NE to preclude their use.

B. Transmission Operators and Distribution Providers Should be Required to Collect and Share Data and Model Information supporting IBR-Distributed Energy Resources (DERs)

In the NOPR, the Commission found that planning coordinators and other entities need modeling data and parameters representing both unregistered IBRs as well as IBR-DERs in the aggregate to assure greater accuracy in modeling. For that reason, the Commission proposed to direct that the new or modified Reliability Standards addressing IBR data sharing require transmission owners to provide modeling data and parameters for unregistered IBRs in their transmission owner areas where the unregistered IBRs that individually or in the aggregate materially affect the reliable operation of the BPS. Similarly, where entities that own or operate IBR-DERs that, in the aggregate, materially affect the reliability of the BPS and are not subject

to compliance with Reliability Standards, the Commission proposed to direct that the new or modified Reliability Standards addressing IBR data sharing require that the distribution provider provide modeling data and parameters for IBR-DERs in the aggregate connected in its distribution provider area.⁸

The Trade Associations ask the Commission to refrain from issuing a directive calling for distribution providers and transmission owners to collect and share data and model information supporting IBR-Distributed Energy Resources (“DERs”) that they cannot reasonably obtain. In the alternative, the Trade Associations ask that the Commission limit the obligations to be shouldered by distribution providers and transmission owners to what is feasible.⁹

The Trade Associations specifically argue that:

A registered entity cannot provide data that the registered entity itself does not have and has no ability to collect. In particular, it would be unrealistic to expect a transmission owner or distribution provider to have information about unregistered IBRs and IBR-DERs at the same level of detail and accuracy that registered generator owners can provide about their own facilities. In most if not all cases, the transmission owner or distribution provider has only the information provided to it during the interconnection approval process. Interconnection agreements may not require the IBRs to provide modeling data, and transmission owners and distribution providers may not have the contractual right to add such requirements unilaterally and retroactively. Furthermore, some IBR-DERs on the distribution system interconnect under utility retail tariffs without a separate interconnection agreement. To the extent a transmission owner or distribution provider does not have data that a standard may require, and the unregistered IBR owner does not or cannot provide the information, the transmission owner or distribution provider cannot be held responsible. Nor can the transmission owner or distribution provider be held responsible for errors in the data received from an unregistered IBR owner. Any directives regarding unregistered IBR and IBR-DER data sharing and model validation should recognize this limitation on the information that distribution providers and transmission owners can be required to provide.¹⁰

⁸ NOPR at P 79.

⁹ Trade Associations Comments at 2.

¹⁰ *Id.* at 10-11.

The Trade Associations further argue that the practical limitations that transmission owners and distribution providers have to collect and model data regarding unregistered IBRs and IBR-DERs are unlikely to have a significant adverse impact on BPS reliability.¹¹ Similarly, AEP argues that “during development of the standards, NERC must be mindful of whether Transmission Owners and Distribution Providers have access to underlying IBR data when considering what new obligations would be appropriate.”¹²

ISO-NE disagrees with the premise underlying the Trade Associations and AEP’s arguments. In order to interconnect to either the transmission system or the distribution system, IBR owners must provide sufficient modeling and data for such an interconnection request to be evaluated and approved. The amount and type of data may differ based on the size of a given IBR-DER. In the case of smaller IBR DERs that may be behind-the meter (“BTM”) resources, distribution providers are in the best position to provide aggregate models that include such BTM resources. Therefore, distribution providers and transmission owners are necessarily the entities that should be in a position to provide modeling and other data to reliability coordinators and other entities. Further, while individual IBR-DERs may not have significant impacts on BPS reliability, when viewed in aggregate, the inability of reliability coordinators and other entities to fully understand the behavior of these resources under all conditions can lead to voltage and other reliability impacts. Therefore, to the extent state laws and regulations allow the release of customer-generator information, the new or modified Reliability Standards should require that such data be provided to reliability coordinators and other entities so that they can continue to ensure the reliability of the BPS as IBR-DERs proliferate. ISO-NE has already begun to observe load power factor issues and adverse

¹¹ Trade Associations Comments at 11.

¹² AEP Comments at 2-3.

impacts on loss of source violations caused by the performance of IBR-DERs under light load situations in limited areas of the New England system and expects more widespread concerns as IBR-DERs continue to be developed. Requiring this type of data sharing in the new or modified Reliability Standards will serve as a necessary step in addressing these and other types of issues.

C. Resources Should not be Excluded from NERC Registration and Standards

ACP and SEIA request that resources that in aggregate will not have a material impact on reliability should be excluded from NERC registration and Standards.¹³ ISO-NE respectfully submits that, while some resources may not have an impact on reliability today, at a minimum, modeling information from those resources is needed to ensure that there is no reliability impact as the system evolves. Accordingly, resources should not be excluded from NERC registration or the requirements of the new or modified Reliability Standards.

II. CONCLUSION

ISO-NE requests that the Commission consider these reply comments as part of this proceeding.

Respectfully submitted,

By: /s/ Margoth R. Caley
Margoth R. Caley, Esq.
Chief Regulatory Compliance Counsel
ISO New England Inc.
One Sullivan Road
Holyoke, MA 01040-2841
(413) 535-4045

Dated: March 6, 2023

¹³ ACP/SEIA Comments at 16-17.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Holyoke, Massachusetts, this 6th day of March, 2023.

/s/ Julie Horgan

Julie Horgan
eTariff Coordinator
ISO New England Inc.