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

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| Reliability Standards for Frequency and Voltage Protection Settings and Ride-Through for Inverter-Based Resources | ) | Docket No. RM25-3-000 |

# COMMENTS OF THE EDISON ELECTRIC INSTITUTE

The Edison Electric Institute ("EEI") submits the following comments in response to the Notice of Proposed Rulemaking ("NOPR") issued by the Federal Energy Regulatory Commission ("FERC" or "Commission") on December 19, 2025, in the above-captioned docket.[1]

As discussed herein, EEI and its members support the reliability goals put forward to address frequency and voltage ride-through for Inverter-based Resources ("IBRs") and FERC's proposal to approve the term "Ride-through" in the NERC Glossary of Terms used in NERC Reliability Standards and the approval of proposed Reliability Standard PRC-024-4. That said, modifications are needed to PRC-029-1 to allow for exemption eligibility under Requirement R4 for any project with specific design related limitations and equipment already contracted for, delivered, and in some cases, partially deployed; consistent with what is provided to legacy IBRs. Also, EEI asks FERC to direct NERC to develop an open and transparent exemption process to support Requirement R4 NERC/ Compliance Enforcement Authority ("CEA") exemption assessments. EEI also supports the Commission's directive for Informational Filings for NERC but requests the NERC filing data requirements be enhanced to ensure it accurately

[1] *Reliability Standards for Frequency and Voltage Protection Settings and Ride-Through for Inverter-Based Resources*, Notice of Proposed Rulemaking, 189 FERC ¶ 61,212 (2024).

reflects the performance characteristics and reliability contributions of legacy resources for which Ride-through exemptions are sought and approved.

## I. IDENTIFICATION OF THE FILING PARTY

EEI is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity to more than 250 million Americans and operate in all 50 states and the District of Columbia. The electric power industry supports more than seven million jobs in communities across the United States. EEI members are investing $170 billion annually to make the energy grid more secure against all hazards, including cybersecurity threats. The EEI member companies' approach to cybersecurity is driven by factors unique to their operational environment—including (but not limited to) their operational safety; regulatory requirements; affordability; and threat-informed, risk-based analysis.

## II. COMMENTS

### A. FERC Should Revise the Proposed Exemption Cut-off Date in PRC-029-1 Requirement 4 to Address Long Lead Time Projects.

As currently proposed, the exemption process set out in PRC-029-1 Requirement R4 does not consider the impact on Generator Owners ("GOs") who have projects under development. In particular, the proposed exemption cut-off date fails to consider the time lag between settling on IBR design specifications and the placement of this equipment in service on large IBR projects, referenced throughout EEI's comments as "long lead time projects." In particular, the proposed effective date fails to consider that long lead time projects require GOs and project developers to make engineering decisions based on equipment design well before resources can be secured through contracts and subsequently built. And while EEI understands the desire to impose compliance deadlines on newly interconnecting resources, neither IEEE 2800-2022 nor PRC-029-1 existed when engineering decisions were made in relation to current long lead time

projects. Moreover, these projects and associated IBRs may be placed into service after the proposed effective date thereby disqualifying them from the exemption.

Typically, IBRs designed in support of these projects have lead times from design to completion that can exceed five years or more and, as noted, the design and procurement phase was completed long before PRC-029-1 was developed. While the IBRs purchased for those projects are on the whole newer models with greater capabilities than legacy in-service IBRs, they generally have no more ability to meet that standard than legacy in-service IBRs due to the date of their design and when they were manufactured. As such, the R4 exemption cut-off date should be modified to ensure these long lead time projects are afforded the same rights to declare an exemption as legacy resources regardless of when they go into commercial operation. If the PRC-029-1 exemption process is not modified to include long lead time projects with specific design related limitations and non-compliant equipment already delivered and in some cases partially deployed, billions of dollars of investment could be at risk while much needed capacity for the ever-increasing electric load within the three interconnections could also be placed in jeopardy. With multi-year development cycles for large projects that utilize IBR technologies, replacing an inverter and corresponding components to achieve full compliance with a NERC Reliability Standard at the end of a development cycle will likely lead to delays and possible abandonment of these important projects. For these reasons, EEI asks that FERC direct NERC to modify the R4 exemption process to include long-lead time IBR projects with specific design related limitations and equipment already contracted for, delivered, and in some cases, partially deployed be eligible for exemptions, consistent with what is provided to legacy IBRs.

### B. FERC Should Direct NERC to Develop a Transparent Exemption Process in support of PRC-029-1 Requirement R4 to Address Industry Clarity and NERC and Regional Entity Consistency.

A clear and transparent exemption process is needed to support PRC-029-1 Requirement R4. EEI and its members are concerned that without this, utilities will face multiple challenges meeting the R4 exemption process. GOs likely will face significant challenges in obtaining information needed to process an exemption request within the 12-month exemption window. For example, identifying compliance issues for older legacy IBRs to the level of detail required in PRC-029-1 may prove difficult or in some cases impossible. This is supported by comments from OEMs during the technical conference indicating that the identification of specific pieces of hardware may not be possible. Also, the OEM could be out of business or no longer supporting the IBR model type or specific equipment embedded in a legacy resource.

In addition, the GO may not have a service contract requiring the OEM to provide information. GOs typically enter into contracts while a unit is under construction or even for a period after the unit is placed in service, but contracts for continued customer support for legacy resources vary widely. Further, an OEM may be unable (or unwilling) to respond to a utility's request for information within the specified timeframe. It is also important to remember that renewable resource OEMs are global suppliers and their willingness to support industry demands may overwhelm their ability or interest in supplying such support. This would be exacerbated if several GOs requested information from the same OEMs.

Furthermore, GOs have no ability to obligate or otherwise compel OEMs to provide support because OEMs have no regulatory obligation to do so and may have business reasons for not providing support even through contracts, which also take time to execute. OEM work backlogs may cause unintended delays interfering with a GOs ability to meet the 12-month deadline contained in Requirement R4. IBR GOs may also require the support of third-party

engineering consultants to assist in in the analysis of IBR and IBR plant capability, even where OEMs are providing support. Given the industry has limited engineering resources capable of conducting such analysis, these resources may also be equally strained. Noting that the number of impacted resources is large and even where software mitigations are possible, these efforts will take a significant amount of time to complete.

At the end of the day, there are no NERC requirements that compel the OEM to provide the GO with the required information. A GO's inability to obtain the necessary technical information from a third-party could prevent the GO from obtaining justified exemptions. EEI and its members remain concerned that proposed Reliability Standards continue to require responsible entities to obtain information from other entities that are not under FERC's jurisdiction and not subject to NERC Reliability Standards.[2] As a result, responsible entities will be required to collect and provide such information, recognizing at the onset that they may be unable to comply with the Reliability Standards, due to no fault of their own, and risk potential violations and fines. EEI recommends that PRC-029-1 be clarified to allow GOs to submit an internal engineering analysis for older legacy IBR(s) in situations where they no longer have the ability to secure support from the OEM, or the OEM is no longer in business. Additionally in these situations, the GO should be afforded the ability to provide an attestation stating the identification of specific hardware limiting the resource is no longer possible.

We further note that, as a result of a lack of any identified evaluation process supporting Requirement R4, it is unclear to GOs how NERC/CEA will assess, accept, or reject entity-declared exemptions or how they will address situations where the GO is experiencing problems

[2] *See* Comments of the Edison Electric Institute, Electric Power Supply Association, and National Rural Electric Cooperative Association, *Supply Chain Risk Management Reliability Standards Revisions,* Docket No. RM24-4-000 (Dec. 2, 2024).

meeting all of the submission requirements. For example, if the GO is unable to secure the support of the OEM or the OEM out of business and cannot identify the specific piece of hardware, will the GO be deemed out of compliance? Or, if the only information the GO has, and is able to obtain, is the capability as provided when the IBR was installed; what will be the outcome? Moreover, will the GO be out of compliance because they do not know and cannot definitively identify what the resource can do beyond the original specification that the resource was designed to? And in these cases, is it even practical to expect that the GO will be able to identify the specific hardware limitation?

A process document would help to ensure consistency across NERC and the Regional Entities for evaluating the exemptions. Accordingly, EEI and its members request that the Commission direct NERC to develop an associated Exemption Process Document for industry review and comment so that reporting entities can better understand the process(es) NERC will employ when assessing and adjudicating exemption requests. EEI and its members request clarity through the development of a formalized process document that addresses how exemption requests will be assessed when NERC is presented with various factors that reporting entities may experience in fulfilling their R4 exemption obligations, including the need for obtaining extension requests and other concerns identified in our comments.

To address our concerns, EEI suggests FERC direct NERC to modify the exemption process to remove subjectivity in the review and approval of PRC-029-1 R4 exemptions, through the following:

1. Default approval, subject to verification, for GO Exemption submissions that contain OEM analysis and documentation specifying IBR exemption(s) including the identification of the hardware or system causing the exemption.

2. Default approval, subject to verification, for GOs who submit Engineering analysis by a Third-Party consulting firm identifying specific IBR or plant exemptions including the specific hardware or system causing the exemption.
3. Default approval, subject to verification, for GOs who submit an internal engineering analysis for older legacy IBR(s) that no longer has the support from the OEM, or the OEM is no longer in business or supporting the IBR Model with analysis and documentation detailing the known capability to the legacy resource in relation to PRC-029-1 (including an attestation that states the identification of specific hardware limiting the resource is no longer possible).
4. Provisions within the Process to enable entities to Request a Filing Extension including reasonable justifications:
    a. OEM or Third Party Consultant needs more time to complete their analysis, and
    b. Difficulties obtaining engineering support needed due to OEM or Third-Party Consultant backlogs, etc.
5. Provisions for appealing an Exemption denial including:
    a. Reasonable time for GO to review the denial and submit an appeal,
    b. Process that the GO is to follow in the submission of an appeal or to seek clarifications for the denial, and
    c. Timeframe provided to the GO to correct and resubmit an Exemption Declaration.

6. Provisions within the Process to Ensure that Exemption Approvals and Denials are conducted consistently across all Regions, including the documentation required to obtain Approval for an Exemption.

### C. FERC Should Modify the Proposed NERC Compliance Reporting Requirements to Provide an Accurate Reflection of the Performance Characteristics and Reliability Contributions of Legacy and Long Lead Time IBRs.

The Commission proposes to direct NERC to develop and submit two informational filings 12 months and 24 months after the conclusion of NERC's proposed 12-month exemption request period for legacy IBRs. According to the NOPR, the Commission seeks to understand the volume of exemptions, the circumstances in which entities have invoked the exemption provision, and to understand what if any effect the exemption provision has on the efficacy of Reliability Standard PRC-029-1.

EEI and its members are concerned that these proposed informational filings may not provide an accurate picture of GOs' efforts to align their resources as closely as possible to the PRC-029-1 Requirements. While all future IBRs will be built to PRC-029-1 specifications, legacy IBRs and IBRs provided through long lead time projects were never designed or built to meet PRC-029-1 Requirements. However, these resources are integral to the reliability of the Bulk Power System ("BPS"). Accordingly, it is important that GOs' efforts to align their IBRs as closely as possible to PRC-029-1 Requirements are understood. For this reason, the proposed compliance reporting requirements should accurately reflect the performance characteristics and reliability contributions of legacy resources for which Ride-through exemptions are sought and approved, including enhancing the data captured and reported in these proposed compliance reporting requirements for legacy IBRs, as well as those provided under the long lead time projects. EEI recommends the following changes as a minimum:

- Requiring NERC to report on the number of IBRs and their net MW capacity that can meet the Ride-through requirement and are compliant, not solely the exemption numbers;

- Requiring NERC to report on the specific numbers of IBRs and their net MW capacities that can meet the proposed voltage and ride Ride-through requirements both as specified in PRC-029-1 and in part (i.e., partial compliance). Efforts to transform IBR performance through partial compliance will have positive impacts in the overall reliability of the BPS and failure to report those efforts will mask the improvement achieved by those efforts.

- Requiring NERC to report IBR GO plans to remedy hardware limitations and estimated dates for completion as required in proposed Requirement R4, Subpart 4.1.5; and

- Requiring NERC to develop a report that provides a prospective analysis/forecast of expected IBR performance improvements over the next three to five years. The development of such a report would allow consideration of factors such as OEM technology improvements, IBR penetration and replacement (percentage of newer vintages versus old), and others.

The proposed changes will provide FERC, NERC, and industry with a better understanding of the actual reliability impacts of the legacy IBRs.

## III. CONCLUSION

EEI and its members appreciate the opportunity to submit comments on the proposals provided in this NOPR. For the reasons stated herein, we respectfully request that the Commission (i) accept these comments and (ii) adopt in the forthcoming final rule the recommendations provided herein.

Respectfully submitted,

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