

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard is adopted by the NERC Board of Trustees (Board).

Description of Current Draft

PRC-030-1 is posted for a 25-day formal comment period with initial ballot.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	January 25, 2023
SAR posted for comment	February 22, 2023 – March 23, 2023

Anticipated Actions	Date
25-day formal comment period with initial ballot	March 25 – April 18, 2024
15-day formal or informal comment period with additional ballot	TBD
05-day final ballot	TBD
Board adoption	August 14 - 15, 2024

New or Modified Term(s) Used in NERC Reliability Standards

This section includes all new or modified terms used in the proposed standard that will be included in the *Glossary of Terms Used in NERC Reliability Standards* upon applicable regulatory approval. Terms used in the proposed standard that are already defined and are not being modified can be found in the *Glossary of Terms Used in NERC Reliability Standards*. The new or revised terms listed below will be presented for approval with the proposed standard. Upon Board adoption, this section will be removed.

Term(s):

None

A. Introduction

1. **Title:** Unexpected Inverter-Based Resource Event Mitigation
2. **Number:** PRC-030-1
3. **Purpose:** Identify, analyze, and mitigate unexpected Inverter-Based Resource change of power output.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Generator Owner
 - 4.2. **Facilities:**
 - 4.2.1. Bulk Power System (BPS) Inverter-Based Resources (IBR)
5. **Effective Date:** See Implementation Plan for PRC-030-1

B. Requirements and Measures

- R1.** Each applicable Generator Owner shall have a documented process to identify unexpected changes¹ in power output occurring within a two-second period and is the greater of either 20% of the plant's gross nameplate rating, or 20 MVA. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*
- M1.** Each applicable Generator Owner shall have evidence which may include but is not limited to: (1) a documented process for detecting unexpected changes in output as described in Requirement R1, (2) actual data recordings, and (3) identification of gross nameplate rating.
- R2.** Each applicable Generator Owner shall implement its process established in Requirement R1 to identify unexpected changes in power output. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*
- M2.** Acceptable evidence of implementation may include, but is not limited to, dated electronic or hard copy documentation to demonstrate that the applicable Generator Owner implemented its process established in Requirement R1.
- R3.** Each applicable Generator Owner shall provide data when requested from its Balancing Authority, Reliability Coordinator, or Transmission Operator regarding IBR responses during an identified system level event within 30 calendar days of the receipt of the request. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*
- M3.** Each applicable Generator Owner shall have evidence as specified in Requirement R3 which may include, but is not limited to, dated documentation (electronic or hardcopy format): emails, facsimiles, or transmittals.
- R4.** Each applicable Generator Owner shall analyze its IBRs performance within 45 calendar days of either the event identified pursuant to Requirement R2 or receipt of a request pursuant to Requirement R3. The analysis shall include all of the following: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*
- 4.1.** The cause(s) of unexpected change(s) in power output;
 - 4.2.** The applicability to its other IBR facilities that could be affected by the same cause of unexpected change(s) in power output; and
 - 4.3.** Notification to each applicable Balancing Authority, Reliability Coordinator, or Transmission Operator of the analysis results.

¹ Unexpected changes in power output includes any change of generation that is not attributed to factors such as weather patterns, change of wind, change in irradiance, curtailment, ramping, planned outage, planned testing, or the loss of a Transmission Line connecting the IBR generators.

- M4.** Each applicable Generator Owner shall have dated analysis documentation, developed in accordance with Requirements R4. Evidence may include, but is not limited to: (1) an analysis report, (2) actual data recordings or derivations, (3) documents describing the device specification and device configuration or settings, and (4) plant configuration.

- R5.** Each applicable Generator Owner shall, within 45 days of completing the analysis in Requirement R4, develop one of the following and provide it to each applicable Reliability Coordinator: [*Violation Risk Factor: Medium*] [*Time Horizon: Operations Planning*]

 - 5.1.** A Corrective Action Plan (CAP) for the identified Inverter Based Resource(s), including other applicable facilities owned by the Generator Owner as identified in Requirement R4 Part 4.2; or
 - 5.2.** A technical justification that addresses why corrective actions will not be applied nor implemented.

- M5.** Each applicable Generator Owner shall have dated evidence (electronic or hardcopy format) that demonstrates it developed a CAP or a technical justification, and evidence of transmittal to the Reliability Coordinator in accordance with Requirement R5.

- R6.** Each applicable Generator Owner shall, for each of its CAPs developed pursuant to Requirement R5: [*Violation Risk Factor: Medium*] [*Time Horizon: Operations Planning, Long-term Planning*]

 - 6.1.** Implement the CAP;
 - 6.2.** Update the CAP if actions or timetables change; and
 - 6.3.** Notify each applicable Reliability Coordinator if CAP actions or timetables change and when the CAP is completed.

- M6.** Acceptable evidence may include, but is not limited to, dated documentation such as CAPs, project or work management program records, settings sheets, work orders, maintenance records, communication with equipment manufacturers, and communication with each applicable Reliability Coordinator that documents the implementation, updating, or completion of a CAP in accordance with Requirement R5.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Generator Owner shall keep data or evidence of Requirement R1, R2, and R3, Measure M1, M2, and M3 for 12 calendar months following the completion of each Requirement.
- The Generator Owner shall retain evidence of Requirement R4, Measure M4, including any supporting analysis per Requirements R2 and R3, for a minimum of 12 calendar months following completion of each CAP, completion of each evaluation, and completion of each declaration.
- The Generator Owner shall retain evidence of Requirement R6, Measure M6 for a minimum of 12 calendar months following completion of each CAP.

1.3. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The responsible entity failed to have a documented process to identify unexpected changes in power output in accordance with Requirement R1.
R2.	N/A	N/A	N/A	The responsible entity failed to implement the process established in accordance with Requirement R1.
R3.	N/A	N/A	N/A	The responsible entity failed to provide data when requested from its Balancing Authority, Reliability Coordinator, or Transmission Operator.
R4.	The responsible entity performed an analysis in accordance with Requirement R4, but in more than 45 calendar days but less than 60 calendar days of first identifying an event or receiving a request.	The responsible entity performed an analysis in accordance with Requirement R4, but in 60 or more calendar days but less than 90 calendar days of first identifying an event or receiving a request.	The responsible entity performed an analysis in accordance with Requirement R4, but in 90 or more calendar days but less than 120 calendar days of first identifying an event or receiving a request. OR The responsible entity performed the analysis in	The responsible entity developed an evaluation in accordance with Requirement R4, but in 120 calendar days or more of first identifying an event or receiving a request. OR The responsible entity performed the analysis in Requirement R4, but failed to

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
			Requirement R4, but failed to address one of the Parts 4.1 through Parts 4.3.	address two or more of the Parts 4.1 through Parts 4.3 OR The responsible entity failed to develop an evaluation in accordance with Requirement R4.
R5.	The responsible entity failed to develop a CAP or provide a technical justification why no corrective actions will be implemented within 45 days, but provided within 60 days.	The responsible entity failed to develop a CAP or provide a technical justification why no corrective actions will be implemented within 60 days, but provided within 90 days.	The responsible entity failed to develop a CAP or provide a technical justification why no corrective actions will be implemented within 90 days, but provided within 120 days OR The developed CAP did not include corrective actions for other facilities owned by the GO as identified in R4.2, if necessary. OR The developed CAP or technical justification was not provided to the applicable RC.	The responsible entity developed a CAP or provide a technical justification why no corrective actions will be implemented, but in 120 calendar days or more. OR The responsible entity failed to develop a CAP or provide a technical justification why no corrective actions will be implemented.
R6.	The responsible entity implemented, but failed to update a CAP, when actions or	N/A	N/A	The responsible entity failed to implement a CAP in

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
	timetables changed, in accordance with Requirement R6.			accordance with Requirement R6.

D. Regional Variances

None.

E. Associated Documents

Implementation Plan.

Version History

Version	Date	Action	Change Tracking
Initial Draft	02/06/2024	Draft	