

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information			
SAR Title:	PRC-002-2 Disturbance Monitoring and Reporting Requirements		
Date Submitted:	April 8, 2021		
SAR Requester			
Name:	Terry Volkman		
Organization:	Glencoe Light and Power NCR11444		
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SAR Type (Check as many as apply)			
<input type="checkbox"/> New Standard <input checked="" type="checkbox"/> Revision to Existing Standard <input type="checkbox"/> Add, Modify or Retire a Glossary Term <input type="checkbox"/> Withdraw/retire an Existing Standard		<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10) <input type="checkbox"/> Variance development or revision <input type="checkbox"/> Other (Please specify)	
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input type="checkbox"/> Regulatory Initiation <input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified <input type="checkbox"/> Reliability Standard Development Plan		<input type="checkbox"/> NERC Standing Committee Identified <input type="checkbox"/> Enhanced Periodic Review Initiated <input checked="" type="checkbox"/> Industry Stakeholder Identified	
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
The purpose of PRC-002-2 ¹ is to have adequate sequence of events recording (SER) and fault recording (FR) data available to facilitate analysis of Bulk Electric System ² (BES) disturbances.			

¹ NERC Reliability Standard PRC-002-2 Disturbance Monitoring and Reporting Requirements

(<https://www.nerc.com/ layouts/15/PrintStandard.aspx?standardnumber=PRC-002-2&title=Disturbance%20Monitoring%20and%20Reporting%20Requirements&Jurisdiction=United%20States>)

² See Glossary of Terms Used in NERC Reliability Standards (https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf)

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Requirement R1, Part 1.2 infers that the notified BES Element owner is required to have FR data without regard to the identified BES bus owner having a connected BES Element for which FR data would be required for an applicable transformer or transmission line. By virtue of this notification, the transformer or transmission line BES Element owner is burdened with an obligation to have FR data and implicitly obligates these transformer or transmission line BES Element owners to either:

1. work with other BES Element (i.e., circuit breaker) owners to provide the data and data recording specification for which the transformer or transmission line owners must rely on for compliance, or
2. the transformer or transmission line BES Element owner must install its own equipment that is duplicative to the identified BES Bus recording equipment.

Below is Requirement R1 for reference:

R1. Each Transmission Owner shall: [Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]

- 1.1.** Identify BES buses for which sequence of events recording (SER) and fault recording (FR) data is required by using the methodology in PRC-002-2, Attachment 1.
- 1.2.** Notify other owners of BES Elements connected to those BES buses, if any, within 90-calendar days of completion of Part 1.1, that those BES Elements **require** SER data and/or FR data.
- 1.3.** Re-evaluate all BES buses at least once every five calendar years in accordance with Part 1.1 and notify other owners, if any, in accordance with Part 1.2, and implement the re-evaluated list of BES buses as per the Implementation Plan.

Notifications for FR data are being sent to BES Element owners that extend well beyond the BES bus boundary described in PRC-002-2 Attachment 1 as “a single BES bus includes physical buses with breakers connected at the same voltage level within the same physical location sharing a common ground grid.” Notifying BES Element owners beyond this boundary unnecessarily obligates the BES Element (i.e., transformer or transmission line) owner to Requirement R3, including joint owners.

Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):

The goal of the proposed project is to clarify the necessary notifications in Requirement R1, Part 1.2 relative to FR data, and clearly identify the BES Element owners that need to have FR data for transformers and transmission lines with the associated identified bus.

Project Scope (Define the parameters of the proposed project):

The scope should include modifying Requirement R1, Part 1.2 to clarify notifications, which may include but is not limited to separating the SER data and/or FR data regarding notification. Additionally, Requirement R3 should be modified so that it is abundantly clear to the applicable Transmission Owner

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and Generator Owner when their BES Element must have FR data for an applicable transformer or transmission line.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification³ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

The Transmission Owner (TO) applying the method in Attachment 1 who identifies a BES bus is in the ideal position to know which BES Elements (i.e., circuit breakers, transformer and transmission line) are connected to a single BES bus that includes physical buses with breakers connected at the same voltage level within the same physical location sharing a common ground grid. Additionally, the identified BES bus owner should know who owns the particular BES Element (i.e., circuit breaker) that need FR data to capture disturbances on generators, transformers and transmission lines as identified in Requirement R3. Owners of BES Elements beyond the physical buses with breakers connected at the same voltage level within the same physical location sharing a common ground grid should not be notified, unless their FR data is needed to complete the identified BES bus FR data.

Requirement R1, Part 1.1 uses a method and BES bus definition⁴ outlined in Attachment 1 to identify BES buses that require SER data and/or FR data. Part 1.2 requires the notification of other BES Element owners connected to the identified BES bus under Requirement R1, Part 1.1. As currently written, a notification is required regardless of whether the identified BES bus owner has FR data for the intended BES Element (i.e., transformer or transmission line) or owns the BES Elements directly connected to the identified BES bus. Requirement R1, Part 1.2 should be modified such that only the directly connected BES Element owner to the identified BES bus at the same voltage level within the same physical location sharing a common ground grid of the identified BES bus shall have FR data.

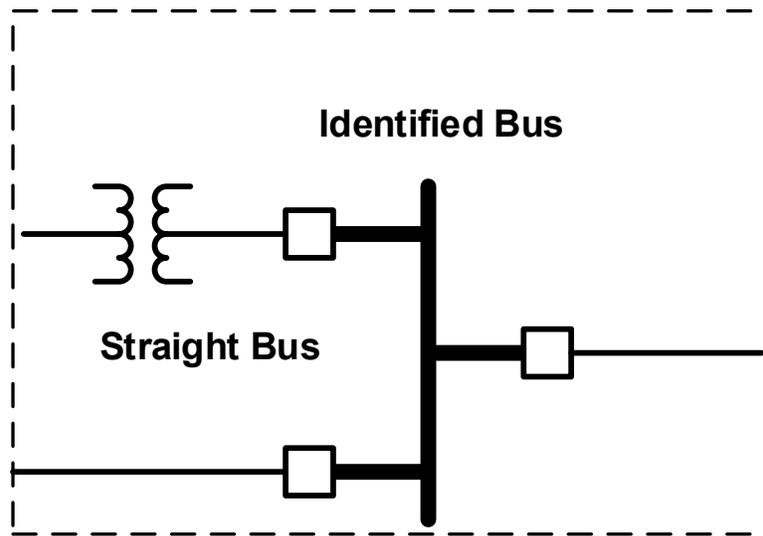
This will eliminate unnecessary notifications and obligations transformer and transmission line owners to compel other entities to have FR data when there is no authority to do so. In these cases, the other BES Element owner(s) have to rely on FR data from another entity that does not have the obligation under the standard

Additionally, clarifying the BES Element for which FR data is required will reduce auditing needs resulting from notifying BES Element owner who should not be responsible to have FR data as well as reducing the cost burden of meeting the reliability need for FR data.

³ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

⁴ Attachment 1, Step 1: Determine a complete list of BES buses that it owns. For the purposes of this standard, a single **BES bus** includes physical buses with breakers connected at the same voltage level within the same physical location sharing a common ground grid. These buses may be modeled or represented by a single node in fault studies. For example, ring bus or breaker-and-a-half bus configurations are considered to be a single bus.

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The above figure of a straight bus is the simplest BES bus configuration contained within a common ground grid. Only the BES circuit breakers are connected to the identified BES bus. In this case it is clear concerning SER data in Requirement R2 because the circuit breaker is “directly connected.”

However, to achieve the need for FR data in Requirement R3, the identified BES bus owner notifies the transformer and transmission line owners under Requirement R, Part 1.2 thus obligating them to have FR data where the circuit breaker is directly connected and the logical BES Element to record FR data.

Under the current Requirement R3, the notified GO or TO transformer or line owner will need to contact the circuit breaker owner in hope of obtaining FR Data or install their own equipment. The GO or TO cannot compel the circuit breaker owner to have FR data. Additionally, relying on another entity that has no reliability responsibility for complying with PRC-002-2 places the transformer or transmission line owner at risk if the other entity fails to have the necessary and adequate FR data. The intent of the standard in Requirement R3 is to have FR data associated with all applicable BES Elements at a single BES bus that includes physical buses with breakers connected at the same voltage level within the same physical location sharing a common ground grid of the identified BES bus. Requirement R1, Part 1.2 should only require notification to the BES Element (i.e., circuit breaker) owner directly connected with the identified BES bus.

Having the appropriate BES Elements identified at the same voltage level within the same physical location sharing a common ground grid that require SER and/or FR data will help facilitate obtaining data by only having to seek the data from those entities directly connected to the identified BES bus. However, the current standard could be interpreted that generation, transformer and transmission line owners could have FR data that is recorded at a location remote to the identified BES bus. As such, any modifications should consider alternative approaches that will achieve the intent of the standard while reducing associated cost and compliance burdens.

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Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):	None, the proposed modification above eliminates the unnecessary cost of being required to have FR data due to expanded notifications and the administrative burden to transformer and transmission line owners when these entities generally do not own the BES Elements that actually record the FR data.
Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):	None.
To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):	Transmission Owner and Generation Owner
Do you know of any consensus building activities ⁵ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.	None.
Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?	A SAR was submitted by the NERC Inverter-based Resource Performance Task Force (IRPTF) to address potential gaps and improvements based on the work and findings of the IRPTF was authorized for posting by the NERC Standards Committee on January 20, 2021.
Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.	Standard Implementation Guide or Practice Guide could provide the necessary clarity; however, these documents cannot change the strict language of the PRC-002-2 Reliability Standard. Nothing is being considered at the present time.

Reliability Principles	
Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.	
<input type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

⁵ Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Reliability Principles	
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
<i>None</i>	

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SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff <input type="checkbox"/> Draft SAR presented to SC for acceptance <input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> Final SAR endorsed by the SC <input type="checkbox"/> SAR assigned a Standards Project by NERC

	<input type="checkbox"/> SAR denied or proposed as Guidance document
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Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk
4	February 25, 2020	Standards Information Staff	Updated template footer