

## 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:	FAC-008 Facility Ratings		
Date Submitted:	07-14-2021 <u>(Revised on August 16, 2022)</u>		
SAR Requester			
Name:	Ryan Walter <u>(Revised by Project 2021-08 SAR Drafting Team)</u>		
Organization:	Tri-State Generation and Transmission Association, Inc.		
Telephone:	303-254-3722	Email:	rwalter@tristategt.org
SAR Type (Check as many as apply)			
<input type="checkbox"/>	New Standard	<input type="checkbox"/>	Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/>	Revision to Existing Standard	<input type="checkbox"/>	Variance development or revision
<input checked="" type="checkbox"/>	Add, Modify or Retire a Glossary Term	<input type="checkbox"/>	Other (Please specify)
<input type="checkbox"/>	Withdraw/retire an Existing Standard		
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input type="checkbox"/>	Regulatory Initiation	<input type="checkbox"/>	NERC Standing Committee Identified
<input type="checkbox"/>	Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/>	Enhanced Periodic Review Initiated
<input type="checkbox"/>	Reliability Standard Development Plan	<input checked="" type="checkbox"/>	Industry Stakeholder Identified
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
Produce Generator Owner Facility Ratings that accurately reflect the real power capability of the facility and are therefore useful for reliability-related activities (such as in contingency analysis, SOL determination, etc).			
Additionally, provide clarification around the phrase "jointly owned" and the level of individual component ratings that are required to be shared with the other entity. This will ensure clear expectations are set such that there are no gaps or conflicts between interconnecting entities.			
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):			
<del>As currently written, the FAC-008 Reliability Standard and associated defined terms "Facility" and "Element" have been interpreted by some to mean that only electrical components may be considered when developing Generator Facility Ratings under R1. This could lead to planning and operational entities being provided Generator Facility Ratings that are higher than the actual output the plant is</del>			

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~~capable of, which could be detrimental to reliability during actual system emergencies. Explicitly allowing the inclusion of mechanical elements in the development of Facility Ratings will ensure Generators are rated to their most limiting element.~~

The Standard Drafting Team will review Requirement 1 and determine changes, if any, which are necessary to ensure reliability while removing redundancy and administrative burdens from the standard.

~~Further, the term “jointly owned” as used in FAC-008-3.5 non formal use of the term “jointly owned” is ambiguous when compared with the industry legacy use of “jointly owned” as a purely financial and contractual obligation. This lack of clarity of intent of the standard could cause risk of facility rating gaps, misunderstanding of rating overlap requirements or gaps in facility rating coordination that could be resolved by clearly defining the technical expectations of the term “jointly owned”. allows for inconsistent application across the ERO. The Standard Drafting team should examine the appropriate level of data sharing between entities to support consistent Facility Ratings and support the development of System Operating Limits.~~

Ensure that Requirement R6 is reviewed as a risk-based Requirement.

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

The scope of this project would be to modify FAC-008 and any associated defined terms to address the following:

1. Clarify the term “jointly owned” as it applies to FAC-008, and what information is required to be shared with neighboring entities.
2. ~~Permit inclusion of non-electrical equipment in the determination of GO Facility Ratings (R1).~~ Examine the appropriateness and effectiveness of Requirement 1 for the development of Facility Ratings information for Generation Facilities.
3. Ensure that Requirement R6 is reviewed as a risk-based Requirement.

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 justification<sup>1</sup> 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):

~~Requirement R1 of the FAC-008 Standard will be modified to allow Generator Owners the flexibility to include all applicable equipment at their facilities when determining their Facility Ratings. As currently written, some have interpreted requirement R1 to restrict Facility Ratings to only include electrical~~

<sup>1</sup> 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.

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~~components. Generation facilities are often mechanically restricted by the performance capabilities of the turbines installed. By not allowing non-electrical equipment to be included, the GO may be developing and sharing Facility Ratings that are higher than the facility is actually capable. One possible solution to remedy this in the requirement is to add language permitting the inclusion of mechanical limitations, so long as the most limiting electrical component is not exceeded.~~ examined to determine its continued effectiveness. Since the development of FAC-008 there have been several additional Reliability Standards developed which request similar or redundant information as FAC-008 Requirement 1. The additional standards that can be considered are IRO-010, MOD-025, MOD-032, TOP-003, and possibly others. The Standard Development Team will review Requirement 1 and determine changes, if any, which are necessary to provide to ensure reliability while removing redundancy and administrative burdens from the standard.

Generator Facility Ratings and capability information must be accurate to establish maximum capabilities for RC, TOP, and BA network models, resource adequacy studies, operational and contingency studies, outage reporting, and emergency response, as is reflected in FERC Order Approving Reliability Standard FAC-008-3 (Docket RD11-10-000 ), paragraph 10, “NERC states that the standard drafting team interpreted this directive to allow reliability entities to take rating information and prepare operating plans or planning assessments prior to real-time, which could allow for better situational awareness and improved reliability of the bulk electric system.”

The burden of Facility Rating documentation is unclear in ‘jointly-owned’ facilities. The ERO Enterprise CMEP Practice Guide interprets this burden as each owner maintaining all the equipment ratings of their own equipment and the Most Limiting Series Element of the ‘jointly-owned’ owner. This burden has been inconsistently understood. The SDT should examine the appropriate level of data sharing between entities to support consistent Facility Ratings and support the development of System Operating Limits. If the SDT determines that Facility Ratings data is required to be shared between owners, the SAR DT suggests that the applicable entity should be required to provide the most limiting equipment rating for its jointly owned facilities.

For Generation Owners specifically, Requirement 2 obligates GOs to obtain Facility Rating information from the interconnecting Owners of jointly owned Facilities. However, the requirement R8 does not provide the Generator Owner with the authority to request Facility Rating information from other entities. Per the requirement, Facility owners only need to provide request Facility Rating information to the following entities: Reliability Coordinator(s), Planning Coordinator(s), Transmission Planner(s), Transmission Owner(s) and Transmission Operator(s). Without modifications, Generator Owners are placing in a situation where they are required to have data that they may not be able to obtain. Additionally, Requiring Generator Owners to obtain rating information from interconnecting Transmission Owners of jointly owned Facilities provides no additional benefit to reliability and is an administrative burden that can be eliminated. Generator Owners do not develop SOLs and should only be obligated to provide data for the equipment they own.

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The use of the term “consistent” in Requirement R6 can be interpreted that all inconsistencies in Facility Ratings pose an equal risk to the BES. The SAR team suggests data errors not affecting the overall Facility Rating does not produce a risk to the BES nor is it inconsistent with the statement that ‘a Facility Rating shall respect the most limiting applicable Equipment Rating of the individual equipment that comprises that facility.’ The SDT shall consider additional wording/guidance to ensure the standard is focused on BES reliability rather than data collection.

The objectives of this SAR could be addressed in various ways. Here are a few ideas:

1. Alter, modify, or eliminate the language within FAC-008, R1 to provide information necessary for the development of appropriate planning models and system operating limits. explicitly allow the inclusion of non-electrical components in Generator Facility Ratings documentation.
2. ~~Generate a new NERC Defined term “Generation Facility” This term would include the current NERC Glossary Term for “Facility”, but amend that definition to include the mechanical components of the generating plants.~~
  - a. ~~R1 would then need to be modified to include this new definition where it currently utilizes the current definition of Facility.~~
3. ~~Alter/expand the current definition of “Facility” to include components beyond “electrical components” as currently stated.~~
4. ~~For “jointly owned” facilities, the following are potential solutions:~~
  - a. ~~Add the term “electrically joined facilities” to the TO requirements, as it has been done in PRC-027-1. Here is an example:  
“R3. Each Transmission Owner shall have a documented methodology for determining Facility Ratings (Facility Ratings methodology) of its solely owned, jointly owned, and electrically joined Facilities (except for those generating unit Facilities addressed in R1 and R2) that contains all of the following:”~~
  - b. ~~Better define what “jointly owned” means by adding an applicable Facilities section, or a Standard Only Definition section, to the standard. For instance, the new Section could read: Jointly Owned Facilities a set of Element(s) at a single physical location where more than one Registered Entities are financially responsible for the repair, replacement, or installation of equipment at that site.~~
2. Better define what “jointly owned” means by creating implementation compliance guidance similar to the “CIP-002-5.1a R1 Shared Ownership of BES Facilities (CIPC)” implementation guidance. The SDT will review the use of the term “jointly owned” and clarify, modify, or eliminate its use from the FAC-008 Reliability Standard.

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<p><u>3. Review the language of Requirements 1, 2, 3, 6, and 8, and the “Compliance Assessment Approach” section of the RSAW. Determine if additional guidance or modifications are required to ensure R6 is risk based in nature.</u></p>
<p>Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):</p>
<p>Cost impacts for these changes should be minimal.</p> <p>Entities would potentially need to reevaluate Generator Facility Ratings and associated Facility Rating documentation. <del>to include mechanical limitations.</del></p> <p><del>Depending upon an entity’s current state and understanding of “jointly owned”, as it pertains to Transmission Facilities, additional resources could be required to perform facility ratings calculations and methodology changes consistent with the determined language from item 4 above.</del></p>
<p>Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):</p>
<p><del>Generators, unlike the Transmission system of the electric grid, can be limited by both electrical and mechanical components. To correctly plan and operate the Bulk Electric System, Planning and Transmission Operations personnel need to be apprised of a generator’s actual limitations regardless of limiting factor.</del></p> <p><del>Coordination of Facility Ratings for formally defined “jointly owned” or “electrically joined” equipment could take time and require new coordination efforts between adjacent entities. None identified at this time.</del></p>
<p>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):</p>
<p>Transmission Owner, Generator Owner</p>
<p>Do you know of any consensus building activities<sup>2</sup> in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.</p>
<p>No</p>
<p>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)?</p>
<p>FAC-008-5, <del>FAC-008-3</del></p> <p>If any of the defined terms are modified, all other standards that utilize those terms will need to be assessed for compatibility.</p>

<sup>2</sup> 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.

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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.

An ERO Practice Guide, Compliance Guidance, [Implementation Guidance](#), or Interpretation could be helpful to address these issues.

### 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 checked="" 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.
<input checked="" 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 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>e.g.</i> , NPCC	

**For Use by NERC Only**

SAR Status Tracking (Check off as appropriate).

<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

**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