

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-001-4 Applicability of the DP for Facility Ratings | | |
| Date Submitted: | March 22, 2023 | | |
| SAR Requester | | | |
| Name: | Shayan Rizvi, NPCC (NERC SPIDERWG Chair) John Schmall, ERCOT (NERC SPIDERWG Vice-Chair) | | |
| Organization: | The NERC System Planning Impacts of the DER Working Group (SPIDERWG) | | |
| Telephone: | Shayan – 212-840-1070 John – 512-248-4243 | Email: | Shayan – srizvi@nppc.org John – john.schmall@ercot.com |
| 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 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 checked="" 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?): | | | |
| To “avoid adverse impacts on the reliability of the Bulk Electric System,” Distribution Providers (DPs) “must document and make [f]acility interconnection requirements available” ¹ . Documentation and availability of DP generation interconnection requirements allow for necessary coordination across the transmission–distribution interface (T-D interface) to maintain BES reliability. | | | |
| Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?): | | | |

¹ Text taken from Purpose of FAC-001-4: <https://www.nerc.com/pa/Stand/Reliability%20Standards/FAC-001-4.pdf>

Requested information

The purpose of this SAR is to revise FAC-001-4 to include DP in the “Applicability” section and update the requirements to require DPs to make available their interconnection procedures for Distributed Energy Resources (DERs). This project’s goal is to ensure that the procedures for interconnection of distribution-connected generation for a DP are made available and that those documents include procedures for studies that make a “qualified change” to their system such that the transmission–distribution interface would be impacted. The project, as discussed in the “Detailed Description” below should include language that addresses applicability for specified aggregate levels of generation.

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

Revise the standard to include the DP in the “Applicability” section and update the Reliability Standard Requirements to include DP Interconnection Requirements for Distributed Energy Resources (DERs). Interconnection requirements for load are not part of this proposed project, solely the distribution-connected generation (i.e., DERs) on the DPs system.

Further, as some distribution facilities do not have an associated DP, the project scope includes flexibility to address instances where the T-D interface does not have an associated DP and address any resultant reliability gap.

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 justification² that 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 the development of the Standard or definition):

The following is taken from the SPIDERWG white paper *NERC Reliability Standards Review*³, which houses the industry consensus for technical changes to FAC-001-4. A revision is needed to address the impact of DERs on the BES, and the SPIDERWG recommends the DP be included in FAC-001 to have interconnection requirements made available for its system that address “qualified changes” to the transmission to distribution interface. This standard was recently modified to allow the PC to address what a “qualified change” is for each applicable GO. Similarly, the SPIDERWG identified that the DP should have these procedures available for “qualified change” to transmission to distribution interfaces. The DP should be included in the “Applicability” section. Requirements should be modified to include the DP, with SPIDERWG proposing the following requirement revisions⁴ to be in scope for consideration:

- R1, for aggregate generation in the DPs system
- R2, for aggregate DER installations, to trigger a reliability impact study of affected the system; and

² 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.

³ Available here: https://www.nerc.com/comm/RSTC_Reliability_Guidelines/Whitepaper_SPIDERWG_Standards_Review.pdf

⁴ The scope of the project also allows flexibility to draft new requirements rather than alter existing requirements to include T-D Interfaces.

Requested information

- R3 or R4, to ensure appropriate coordination studies be performed and what a “qualified change” is on the DP system reflected in the T-D interface.

A discussion of the impact of DERs on the BES could be added as a separate item in the list of supplemental material that is presented at the end of the document and linked to Requirement #3. In all cases, some technical guidance (e.g., compliance implementation guideline or a reliability guideline) will be needed for use by DPs in coordination with TOs.

It has been noted by SPIDERWG members and current Standards Projects that not every T-D interface is covered with a single registered Distribution Provider on the distribution end of the T-D interface. The SDT should ensure that the language for posting interconnection requirements for distribution systems that do not have a single registered DP is covered or be able to provide a pathway for notification of a “qualified change” being made such that the TP can initiate the study procedures tied in with FAC-002.

Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):

The exact costs are unknown. However, this SAR is requesting that interconnection requirements of the DP system be made available and specify the procedural way generation components are interconnected to the distribution system. As this is focused on documentation and availability of the documentation, such changes are anticipated to be lower in comparison to hard investments to Registered Entities. It is anticipated that clearly documented and available interconnection procedures assist in optimizing the transmission–distribution interface, potentially reducing costs.

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. The SAR will impact DPs and their equipment by adding it to the standard. Further, the PC may need to alter what a “qualifying change” is in their procedures. All of these are not BES facilities nor does this SAR propose DERs to become BES facilities.

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):

Addition of: Distribution Provider (DP)
Potentially impacted: Transmission Owner (TO), Generator Owner (GO), and Planning Coordinator (PC)

| Requested information |
|--|
| <p>Do you know of any consensus-building activities⁵ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus-building activity.</p> |
| <p>This SAR has been submitted through the RSTC and has been vetted by the SPIDERWG membership. The SPIDERWG membership includes BAs, RCs, TOs, TPs, TOPs, PCs, and DPs. The SPIDERWG recommended this standard be revised in <i>White Paper: SPIDERWG NERC Reliability Standards Review</i>.</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-002 requires specific entities to study impacts based on the requirements of FAC-001. SPIDERWG has a separate SAR to document its FAC-002 findings from the above-mentioned white paper. Project 2020-05 recently updated FAC-002, and this SAR proposes scope on top of those changes.</p> |
| <p>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.</p> |
| <p>The SPIDERWG considered Standards revisions alongside compliance implementation guidance and reliability guidelines. Neither compliance implementation guidance nor reliability guidelines were determined to be sufficient by SPIDERWG in their consensus-based white paper above.</p> |

| Reliability Principles | |
|--|---|
| <p>Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.</p> | |
| <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 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 an 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, and qualified, and have the responsibility and authority to implement actions. |

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"/> | 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 |
| None | None |

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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 a 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 |

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|---|-------------------|-----------------------------|--|
| 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 |