

Project 2010-02 – Connecting New Facilities to the Grid

Mapping Document

Proposed New Standards

- FAC-001-2 – Facility Interconnection Requirements
- FAC-002-2 – Facility Interconnection Studies

Proposed Retirements

- FAC-001-1 – Facility Connection Requirements
- FAC-002-1 – Coordination of Plans for New Generation, Transmission, and End-User Facilities

Background

Project 2010-02 Connecting New Facilities to the Grid is implementing the recommendations that the FAC Five-Year Review Team made with respect to FAC-001 and FAC-002. The changes are largely focused on adding clarity, removing redundancy, retiring requirements with no impact on the reliable operation of the Bulk Electric System, and bringing compliance elements in accordance with NERC guidelines.

Standard: FAC-001		
Requirement in Approved Standard (FAC-001-1)	Translation to New Standard or Other Action	Comments
R1. The Transmission Owner shall document, maintain, and publish Facility connection requirements to ensure compliance with NERC Reliability Standards and applicable Regional Entity, subregional, Power Pool, and individual Transmission Owner planning criteria and Facility connection requirements. The Transmission	FAC-001-2, R1	R1 was revised in under FAC-001-2 to remove elements that are redundant with FAC-002 and clarify the actions required.

Project YYYY-##.# - Project Name

Standard: FAC-001		
Requirement in Approved Standard (FAC-001-1)	Translation to New Standard or Other Action	Comments
<p>Owner’s Facility connection requirements shall address connection requirements for:</p> <p>R1.1. Generation Facilities, R1.2. Transmission Facilities, and R1.3. End-user Facilities</p>		
<p>R2. Each applicable Generator Owner shall, within 45 days of having an executed Agreement to evaluate the reliability impact of interconnecting a third party Facility to the Generator Owner’s existing Facility that is used to interconnect to the interconnected Transmission systems (under FAC-002-1), document and publish its Facility connection requirements to ensure compliance with NERC Reliability Standards and applicable Regional Entity, subregional, Power Pool, and individual Transmission Owner planning criteria and Facility connection requirements.</p>	FAC-001-2, R2	R2 was revised in under FAC-001-2 to remove elements that are redundant with FAC-002 and clarify the actions required.
<p>R3. Each Transmission Owner and each applicable Generator Owner (in accordance with Requirement R2) shall address the following items in its Facility connection requirements:</p> <p>R3.1. Provide a written summary of its plans to achieve the required system performance as</p>	R3, R3.1.1, and R3.1.2 have been retained in R3 of FAC-001-2. The remaining subparts have been	The SDT wants to provide entities with the flexibility to determine the Facility interconnection requirements that are technically appropriate for their respective Facilities. Including them as subparts of R3 was deemed too prescriptive, as frequently some items in the list will not apply to all applicable entities – and some applicable

Project YYYY-##.# - Project Name

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<p>described in Requirements R1 or R2 throughout the planning horizon:</p> <ul style="list-style-type: none"> R3.1.1. Procedures for coordinated joint studies of new Facilities and their impacts on the interconnected Transmission systems. R3.1.2. Procedures for notification of new or modified Facilities to others (those responsible for the reliability of the interconnected Transmission systems) as soon as feasible. R3.1.3. Voltage level and MW and MVAR capacity or demand at point of connection. R3.1.4. Breaker duty and surge protection. R3.1.5. System protection and coordination. R3.1.6. Metering and telecommunications. R3.1.7. Grounding and safety issues. 	<p>transferred to the Guidelines and Technical Basis section of FAC-001-2.</p>	<p>entities will have requirements that expand upon the list. The Guidelines should be used as a starting point for each Transmission Owner and applicable Generator Owner to consider in the development of Facility interconnection requirements.</p>

Project YYYY-##.# - Project Name

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<p>R3.1.8. Insulation and insulation coordination.</p> <p>R3.1.9. Voltage, Reactive Power, and power factor control.</p> <p>R3.1.10. Power quality impacts.</p> <p>R3.1.11. Equipment Ratings.</p> <p>R3.1.12. Synchronizing of Facilities.</p> <p>R3.1.13. Maintenance coordination.</p> <p>R3.1.14. Operational issues (abnormal frequency and voltages).</p> <p>R3.1.15. Inspection requirements for existing or new Facilities.</p> <p>R3.1.16. Communications and procedures during normal and emergency operating conditions.</p>		
<p>R4. The Transmission Owner shall maintain and update its Facility connection requirements as required. The Transmission Owner shall make documentation of these requirements available to the users of the transmission system, the Regional Entity, and ERO on request (five business days).</p>	Retired	The requirement to maintain and update Facility connection requirements in Requirement R4 is contained in Requirement R1’s proposed new language to “document, update as needed, and make available upon request.” The second sentence of the current Requirement R4, which requires Transmission Owners to make documentation available, is redundant with the

Project YYYY-##.# - Project Name

Standard: FAC-001		
Requirement in Approved Standard (FAC-001-1)	Translation to New Standard or Other Action	Comments
		recommended changes to R1 and R2 under FAC-001-2. Further, requests to share data or information to Regional Entities and the ERO upon request are already addressed in Section 1600 of NERC’s Rules of Procedure.

Standard: FAC-002		
Requirement in Approved Standard (FAC-002-1)	Translation to New Standard or Other Action	Comments
<p>R1. The Generator Owner, Transmission Owner, Distribution Provider, and Load-Serving Entity seeking to integrate generation facilities, transmission facilities, and electricity end-user facilities shall each coordinate and cooperate on its assessments with its Transmission Planner and Planning Authority. The assessment shall include:</p> <ul style="list-style-type: none"> R1.1. Evaluation of the reliability impact of the new facilities and their connections on the interconnected transmission systems. R1.2. Ensurance of compliance with NERC Reliability Standards and applicable Regional, 	FAC-002-2 R1, R2, R3, and R4	R1 was separated into four requirements to add clarity and better distinguish the actions required of the applicable entities and revised the subparts to remove elements that are more appropriate for Measures, resulting in four subparts in FAC-002-2 rather than five. FAC-002-1 R1.1, R1.2, R1.4, and R1.5 have largely been retained in FAC-002-2 R1.1, R1.2, R1.3, and R1.4. The first sentence of FAC-002-1 R1.3 was deleted, and the second sentence was merged with the content of the new FAC-002-2 R1.4.

Project YYYY-##.# - Project Name

Standard: FAC-002		
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<p>subregional, Power Pool, and individual system planning criteria and facility connection requirements.</p> <p>R1.3. Evidence that the parties involved in the assessment have coordinated and cooperated on the assessment of the reliability impacts of new facilities on the interconnected transmission systems. While these studies may be performed independently, the results shall be jointly evaluated and coordinated by the entities involved.</p> <p>R1.4. Evidence that the assessment included steady-state, short-circuit, and dynamics studies as necessary to evaluate system performance under both normal and contingency conditions in accordance with Reliability Standards TPL-001-0, TPL-002-0, and TPL-003-0.</p> <p>R1.5. Documentation that the assessment included study assumptions, system performance, alternatives considered, and jointly coordinated recommendations.</p>		

Project YYYY-##.# - Project Name

Standard: FAC-002		
Requirement in Approved Standard (FAC-002-1)	Translation to New Standard or Other Action	Comments
<p>R2. The Planning Authority, Transmission Planner, Generator Owner, Transmission Owner, Load-Serving Entity, and Distribution Provider shall each retain its documentation (of its evaluation of the reliability impact of the new facilities and their connections on the interconnected transmission systems) for three years and shall provide the documentation to the Regional Reliability Organization(s) and NERC on request (within 30 calendar days). (Retirement approved by FERC effective January 21, 2014.)</p>	Retired	FAC-002-1, R2 has been deleted in the current version of FAC-002 because it was approved by FERC for retirement effective January 21, 2014.