

# Consideration of Issues and Directives

## Project 2010-02 – Connecting New Facilities to the Grid

Project 2010-02 – Connecting New Facilities to the Grid is implementing the recommendations that the FAC Five-Year Review Team (FYRT) made with respect to FAC-001-1 and FAC-002-1. The Standard Drafting Team (SDT) has proposed changes to add clarity, remove redundancy, retire requirements with no impact on the reliable operation of the Bulk Electric System, and bring compliance elements in accordance with NERC guidelines. Along with considering stakeholder comments as it proposed changes (see the Consideration of Comments form), the SDT considered Order No. 693 directives related to FAC-002-0, the recommendations of the Independent Experts Review Project, Phase 1 Paragraph 81 suggestions, and the recommendations of the Integration of Variable Generation Task Force

### FERC Directives

There are two outstanding directives from FERC Order No. 693<sup>1</sup> that apply to FAC-002-0. The first directs NERC to consider incorporating a reference to TPL-004-0 in FAC-002-0.<sup>2</sup> The SDT considered this suggestion and has found that this directive is outdated. FERC has approved TPL-001-4 and it will become enforceable on January 1, 2015. Further, the SDT has deleted any reference to the TPL Reliability Standards because the reference is redundant with the FAC-002-2, R1, Part 1.2 requirement to study adherence with all NERC Reliability Standards. To continue including a separate reference to the TPL Reliability Standards is redundant and could lead to multiple violations for the same action.

The second outstanding directive related to FAC-002-0 asked NERC to consider the comments of various entities asking for clarification of R1.<sup>3</sup> For ease of review, the Project 2010-02 SDT has summarized the comments of the various entities below, along with its response to those comments.

---

<sup>1</sup> FERC Order No. 693, which approved 83 Reliability Standards as mandatory and effective, is available here: <http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/ORDER%20693.pdf>.

<sup>2</sup> Order No. 693 at P 692 (“With respect to FirstEnergy’s suggestion to also include a reference to Reliability Standard TPL-004-0, we direct the ERO to consider it through the Reliability Standards development process.”).

<sup>3</sup> Order No. 693 at P 687.

**Project 2010-02 – Connecting New Facilities to the Grid**

| Issue or Directive   | Source                                     | Consideration of Issue or Directive  |
|--|--|--|
| <p>All of the above commenters request clarification of Requirement R1 in the Reliability Standard that states that various functional entities “shall each coordinate and cooperate on its assessments with its transmission planner and planning authority.” The Commission believes that all entities listed in the Applicability section have a stake in the performance of the system and should have the opportunity to provide input in the assessment under R1. The Commission believes that commenters have raised valid concerns that, if addressed, would make the Reliability Standard better. The wording would allow a number of organizational approaches to achieving the goal of performing an analysis. The Commission does not intend to limit which organizational approach is used by the entities, only to assure that a single competent and collaborative analysis is performed. Therefore, the Commission directs the ERO to address these concerns in the Reliability Standards development process.</p> | <p>FERC Order No. 693 at P 687</p>         | <p>The SDT has addressed the concerns through the standard development process and responses are included below.</p>   |
| <p>APPA requested that the Reliability Standard be clarified to state that the required assessment must be performed only by the Transmission Planner and the Planning Authority. Related, TAPS expressed concern that Load-Serving Entities are not equipped to perform assessments. California Cogeneration expressed a similar</p>  | <p>FERC Order No. 693 at P 683 and 685</p> | <p>The SDT is addressing these concerns by separating R1 into five requirements that better clarify the responsibilities of all entities involved. The new R1 focuses exclusively on the Transmission Planner and Planning Coordinator’s responsibility for conducting studies, and the new R2, R3, R4, and R5 separate out the requirement for Generator Owners, Transmission</p> |

**Project 2010-02 – Connecting New Facilities to the Grid**

| Issue or Directive  | Source                      | Consideration of Issue or Directive  |
|---|-----------------------------|--|
| concern about Generator Owners’ ability to perform an assessment.   |                             | Owners, Distribution Providers, Load-Serving Entities, and applicable Generator Owners to simply coordinate and cooperate on those studies.  |
| Xcel requested that the Commission clarify that only one required assessment needs to be done when new facilities are added, and that all the listed entities should participate in that single assessment. | FERC Order No. 693 at P 683 | The SDT agrees that it is possible that only one set of studies may be necessary, and in that case all entities could simply participate and sign on to the same set of studies, but in other cases, multiple sets of studies might be conducted and later coordinated.  |
| FirstEnergy requested that NERC clarify what is considered a new facility and asks if, for example, up-rates should be included as new facilities.  | FERC Order No. 693 at P 684 | The SDT believes the determination of whether an up-rate needs to be assessed the same way as a new Facility is up to the entity that is conducting the study, and that such decisions will vary by region. It has added language to the Guidelines and Technical Basis section of the standard clarifying that entities should have documentation to support the technical rationale for determining whether an existing interconnection was “materially modified.” |
| Six Cities requested that this Reliability Standard clarify that all applicable entities must make available data necessary for all other responsible entities to perform the required assessment.          | FERC Order No. 693 at P 685 | The SDT believes that the requirement to coordinate and cooperate requires the sharing of all data necessary for conducting a study. The SDT has modified the language of the proposed R2-R4 to add detail (“including but not limited to the provision of data”) to clarify.  |

**Project 2010-02 – Connecting New Facilities to the Grid**

| Issue or Directive  | Source                      | Consideration of Issue or Directive  |
|---|-----------------------------|--|
| Six Cities also suggested that the transmission operator be added as an entity to which this Reliability Standard is applicable, at least from the perspective that it make necessary data available to all other entities responsible for assessment.  | FERC Order No. 693 at P 685 | The SDT believes that data from the Transmission Owner would account for the necessary data from the transmission side. It would be the responsibility of the Transmission Planner or Planning Coordinator to include any relevant operations data.  |
| FirstEnergy stated that both MISO and PJM already have Large Generator Interconnection Procedures (LGIP) in place that provide a formal process that meets the requirements listed under R1, and asks that the Commission state that complying with the interconnection agreement and/or OATT satisfies this requirement. | FERC Order No. 693 at P 686 | The SDT points out that regardless of what is covered in a tariff, requirements for interconnecting new Facilities still need to be addressed in NERC’s Reliability Standards. The requirement for Open Access Transmission Tariffs varies from region to region. FERC handles market-related documents like tariffs differently from reliability-related documents like standards, and reliability standards should not rely upon market-related documents to address reliability issues. |

**Independent Expert Review Project Recommendations**

In the Final Report<sup>4</sup> and Requirements Scoring Spreadsheet<sup>5</sup>, the Standards Independent Experts Review Project (IERP) continued to support the reliability need for both FAC-001 and FAC-002. The SDT implemented the majority of the IERP’s recommendations, but is proposing some changes that are different from the IERP recommendations in some cases where industry expertise and consensus suggested a different solution.

<sup>4</sup> The Standards Independent Experts Review Project – Final Report is available here:

[http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards\\_Independent\\_Experts\\_Review\\_Project\\_Report.pdf](http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards_Independent_Experts_Review_Project_Report.pdf).

<sup>5</sup> The Standards Independent Experts Review Project – Requirements Scoring Spreadsheet is available here:

[http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards\\_IERP\\_Requirements\\_Spreadsheet\\_August\\_29\\_2013.xls](http://www.nerc.com/pa/Stand/Standards%20Development%20Plan%20Library/Standards_IERP_Requirements_Spreadsheet_August_29_2013.xls).

Project 2010-02 – Connecting New Facilities to the Grid

| Issue or Directive   | Source | Consideration of Issue or Directive  |
|--|--------|--|
| <b>FAC-001-1, R1:</b> Word published is not clear  | IERP   | The SDT has changed requirement to “publish” be changed to “make available upon request.”  |
| <b>FAC-001-1, R1 and R2:</b> Team had long discussion on the fact that FAC-001 requires the TO to publish the Facility connection requirements, but it does not put a requirement on anyone wanting to interconnect to meet the requirements in the Facility connection requirements. NERC should work with industry to see if an enforcement on entities wanting to interconnect should be added to the NERC standards. | IERP   | The SDT does not believe such a change is necessary. FAC-002-1, R1 Part 1.2 requires that studies of the impact of interconnecting new Facilities or materially modifying existing interconnections include consideration of adherence with NERC Reliability Standards; applicable regional and Transmission Owner planning criteria; and <i>Facility interconnection requirements</i> .                                 |
| <b>FAC-001-1, R3: R3:</b> Streamline the items in 3.1 by removing- 3.1.1, 3.1.2, 3.1.3, 3.1.9, 3.1.11, 3.1.13, 3.1.15, 3.1.16  | IERP   | The SDT believes that all Parts except R3, Part 3.1.1 and R3, Part 3.1.2 are too prescriptive to include in a standard and has recommended retaining the Parts but moving them to a Guidelines and Technical Basis section.  |
| <b>FAC-001-1, R4:</b> Administrative; should be deleted  | IERP   | The SDT agrees and has proposed deleting the original R4.  |
| <b>FAC-002-1, R1:</b> Merge 1.1 and 1.4; retire 1.2, 1.3 and 1.5. The new 1.1 and 1.4 should say 'the assessment shall address requirements as identified in the FCR and the performance requirements as identified in the TPL stds.'interconnection agreement and/or OATT satisfies this requirement.   | IERP   | Though the SDT does not agree with the specific recommendations of the IERP, the team agrees that there is room for improvement in the Parts of R1. The SDT has proposed modifications to the original R1, Parts 1.1-R1.5 for consistency and added clarity. The SDT recommends the original R1, Part 1.3 be deleted and R1, Part 1.5 modified to focus less on documentation and more on the content of the assessment. |

Project 2010-02 – Connecting New Facilities to the Grid

| Issue or Directive   | Source | Consideration of Issue or Directive   |
|--|--------|---|
|  |        | The SDT has also removed the reference to TPL standards because it was redundant with the reference to all NERC Reliability Standards in R1, Part 1.2.  |
| <b>FAC-002-1, R1:</b> “...applicable Regional requirements” language is not clear  | IERP   | The SDT believes that the list of standards and criteria that studies must consider catalogs some of the elements that must be considered in studies of a new interconnection. Some regions have specific requirements that may inform Facility interconnection requirements, and those should be considered. |
| <b>FAC-001-1 and FAC-002-1:</b> The IERP suggested a new construct be adopted by the ERO for NERC Reliability Standards. Under this construct, FAC-001 and FAC-002 would be combined with TPL-001, MOD-010, MOD-012, MOD-025, MOD-026, and MOD-027 to “Assess Transmission Future Needs and Develop Transmission Expansion Plans - Not Operational Planning.” Has the Five Year Review Team considered this construct? | IERP   | While the SDT supports this general direction, transition to this new framework is premature and would need to be carefully coordinated across a variety of projects.   |

**Paragraph 81 Phase 1 Recommendations**

During Phase 1 of the Paragraph 81 (P81) process, stakeholder were asked to make suggestions about future candidates for P81 retirement. Below, the standard drafting team (SDT) addresses the stakeholder suggestions from P81 Phase 1 that related to FAC-001 and FAC-002. Note that duplicate suggestions have been consolidated.

Project 2010-02 – Connecting New Facilities to the Grid

| Issue or Directive  | Source     | Consideration of Issue or Directive  |
|---|------------|--|
| <p><b>FAC-001-0, R1 and R2:</b> Retire R1 and R2; they relate to documentation</p>    | <p>P81</p> | <p>While the SDT agrees that many documentation requirements are not related to reliability, the team believes that FAC-001 is about more than documentation; it requires the <i>establishment</i> of Facility interconnection requirements. The development and documentation of these Facility interconnection requirements facilitates the studies that take place in FAC-002.</p> <p>Although Facility interconnection requirements for public utilities are typically covered in Open Access Transmission Tariffs (OATTs) under Sections 205 and 206 of the Federal Power Act, this leaves out electric utilities such as municipalities, cooperatives, and federal entities (e.g., the Bonneville Power Administration and the Tennessee Valley Authority), which are addressed under Section 215 of the Federal Power Act. OATTs also would not apply to non-jurisdictional entities that fall in NERC’s footprint (e.g., Canadian entities). Ultimately, the SDT agreed that Facility interconnection requirements are necessary for reliability and should continue to be explicitly addressed in NERC standards.</p> |
| <p><b>FAC-002-1, R1:</b> R1 assigns responsibility to the wrong functional entity</p> | <p>P81</p> | <p>The SDT believes this concern is addressed by separating R1 into five requirements that better clarify the responsibilities of all entities involved.</p>   |

### **Integration of Variable Generation Task Force Recommendations**

The Integration of Variable Generation Task Force (IVGTF), a task force under the Planning Committee, was asked to make recommendations for how NERC interconnection procedures and standards should be enhanced to address voltage and frequency ride-through, reactive and real power control, and frequency/inertial response criteria in light of the evolving range of technical characteristics and physical capabilities of variable generation equipment. The *2012 Special Assessment: Interconnection Requirements for Variable Generation*<sup>6</sup> includes several recommendations related to FAC-001.

The recommendations suggested adding additional detail to FAC-001, largely to account for the integration of variable generation, and they are generally inconsistent with the less-prescriptive direction of the SDT. Facility interconnection requirements are inherently inconsistent, and the proposed FAC-001-2 acknowledges that, while offering guidance (in the Guidelines and Technical Basis section) on the elements that should be considered for inclusion in Facility interconnection requirements. A Facility interconnection requirement standard cannot be too prescriptive about what must be included in a requirement because each Facility is different, and each Facility is subject to different regional and Transmission Owner Planning criteria. The SDT did accept the IVGTF's suggestion to add "including specifications for minimum static and dynamic reactive power requirements" to better describe the Reactive Power requirements in the "Voltage, Reactive Power, and power factor control bullet."

---

<sup>6</sup> The *2012 Special Assessment: Interconnection Requirements for Variable Generation* is available here: [http://www.nerc.com/files/2012\\_IVGTF\\_Task\\_1-3.pdf](http://www.nerc.com/files/2012_IVGTF_Task_1-3.pdf).