

## 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 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 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. This directive is outdated. FERC has approved TPL-001-4 and it will become enforceable on January 1, 2015. Further, the SDT has proposed deleted any reference to TPL standards because it is redundant with the FAC-002-2, R1.2 requirement to evaluate compliance with all NERC Reliability Standards. To continue including a separate reference to TPL Reliability Standards is redundant and could lead to double jeopardy.

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

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<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>.

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<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 concern about Generator Owners’ ability to perform an assessment.</p>	<p>FERC Order 693 Comment</p>	<p>The SDT is addressing these concerns by separating R1 into four requirements that better clarify the responsibilities of all entities involved. The new R1 focuses exclusively on the Transmission Planner and Planning Authority’s responsibility for conducting studies, and the new R2, R3, and R4 separate out the requirement for Generator Owners, Transmission Owners, Distribution Providers, Load-Serving Entities, and applicable Generator Owners to simply coordinate and cooperate on those studies.</p>
<p>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.</p>	<p>FERC Order 693 Comment</p>	<p>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.</p>
<p>FirstEnergy requested that NERC clarify what is considered a new facility and asks if, for example, up-rates should be included as new facilities.</p>	<p>FERC Order 693 Comment</p>	<p>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.</p>
<p>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.</p>	<p>FERC Order 693 Comment</p>	<p>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.</p>

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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 693 Comment	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 Authority 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 693 Comment	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>2</sup> and Requirements Scoring Spreadsheet<sup>3</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>2</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>3</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).

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<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 written 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, R1.2 requires that studies of the impact of integrating new or materially modified Facilities evaluate compliance 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 subparts except R3.1.1 and R3.1.2 are too prescriptive to include in a standard and has recommended retaining the subparts 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 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 subparts of R1. The SDT has proposed modifications to R1.1-R1.5 for consistency and added clarity. The SDT recommends the original R1.3 be deleted and R1.5 modified to focus less on documentation and more on the content of the assessment. The SDT has also removed the

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		reference to TPL standards because it was redundant with the reference to all NERC Reliability Standards in R1.2.
<p><b>FAC-002-1, R1:</b> “...applicable Regional requirements” language is not clear</p>	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.
<p><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?</p>	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.

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<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 this 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 connection 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 four 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>4</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."

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<sup>4</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).