

Please **DO NOT** use this form to submit comments. Please use the [electronic form](#) located at the site below to submit comments on the 3rd draft of the TPL-001-1 standard for Assess Transmission Future Needs (Project 2006-02). This comment form must be completed by **July 9, 2009**.

<http://www.nerc.com/filez/standards/Assess-Transmission-Future-Needs.html>

If you have questions please contact Ed Dobrowolski at ed.dobrowolski@nerc.net or by telephone at 609-947-3673.

Background Information

TPL-001-1 Transmission System Planning Performance Requirements

Comments on the second draft of the TPL-001-1 Transmission System Planning Performance Requirements standard were received from the industry through September 29, 2008. The Drafting Team sought and received feedback to 15 questions, and the team appreciates the tremendous industry participation that generated over 500 pages of comments from over 100 organizations. Below is a brief overview of the 3rd draft of the standard highlighting areas where the SDT made changes based on stakeholder feedback from the second posting. The SDT is presenting several new questions to seek the industry's position related to the changes made and to obtain clarifying data that will provide further direction for improvements. The team's objectives remain unchanged - to create a single Transmission planning standard: 1) with clear, concise requirements set at an appropriate level to ensure reliability, and 2) that fully addresses all issues raised by FERC Orders 693 and 890, and industry inputs, including the SAR scope document.

3rd Draft Overview:

1. At first glance the third draft of the standard seems to have been substantially changed; however, this is not the case as the SDT has maintained its vision throughout the process and the changes shown are primarily clarifying in nature.
2. The flow and organization of the standard remain similar to the 2nd draft. Some changes are noteworthy:
 - a. Several definitions were revised or deleted based on industry feedback.
 - b. Requirement R1 has been re-constituted to include all modeling/data issues needed for the assessment of Transmission System performance issues within this single Requirement. This change eliminates the need for Requirements R9 through R14.
 - c. Assessment of spare equipment strategy has been clarified and merged into Requirement R2.
 - d. The short circuit analysis has been moved back into Requirement R2.
 - e. The use of an aggregate system Load model has been clarified in Requirement R2.4.1.
 - f. How sensitivity studies fit into the overall assessment has been clarified in Requirement R2.4.3.
 - g. The separate requirements for generating plant and System Stability have been consolidated into one Stability section.

- h. Qualifications for “past” studies have been further refined.
 - i. Requirement R2.6.4 has been added to address situations beyond the control of the planner.
 - j. Performance Tables – In response to industry comments, there is now one consolidated Table.
3. Violation Risk Factors (VRF) and Time Horizons were added to the requirements.
 4. Measures have been added.
 5. Data retention requirements have been added.
 6. Violation Severity Levels (VSLs) have been added.
 7. An Implementation Plan has been provided.

To facilitate the ability of industry respondents to comment in an orderly fashion and to ease the coordination burden on the SDT in responding to comments, the SDT is asking an all encompassing question for each requirement. This question solicits comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and the VSL associated with the requirement. Please note the numbering below refers to the clean copy of the third posting.

1. Requirement R1 — Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: N/A

2. Requirement R2 — Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: MRO NSRS proposes the following comments for R2:

Modify R2.6.2 to remove the obligation to include the project initiation date. The inclusion of this date would add unnecessary work that is not needed to assure adequate BES reliability. In addition, it is not clear whether "initiation" refers to the commencement of engineering, design, construction, etc.

Augment R2.6.5 to include annual verification of the continued validity of the Corrective Action Plan because the value of implementation status is dependent on the status of continued validity. MRO NSRS suggests this text: "Be reviewed in subsequent annual Planning Assessments for continued validity and implementation status . . ."

Augment R2.7.2 to include annual verification of the continued validity of the Corrective Action Plan because the value of implementation status is dependent on the status of continued validity. MRO NSRS suggests this text that is similar to R2.6.5: "Be reviewed in subsequent annual Planning Assessments for continued validity and implementation status."

Remove R2.8., MRO NSRS does not know of any reason why the investigation and inclusion of the largest Consequential Load Loss caused by any P1 or any P2 events is needed to assure adequate BES reliability. In addition, all events involving Consequential Load Loss are studied, not just the largest load loss (see R3.3.1).

3. Requirement R3 – Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: MRO NSRS proposes the following comments for R3.

Revise the R3.3.2 text to clarify that subsequent analysis is performed on generators whose voltages are expected to fall below the minimum voltage limits. MRO NSRS suggests this text: "Consider the minimum steady state voltage limitations of all generators and identify how generators with bus voltages below its minimum voltage limits are analyzed in the subsequent steady state simulations."

Revise the R3.3.3 text to more clearly relate to the specific requirements in PRC-023. MRO NSRS suggests this text: "Incorporate relay loadability per PRC-023 and identify how relay loadability is analyzed in the steady state simulation."

4. Requirement R4 – Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: MRO NSRS proposes the following comments for R4:

Add R4.3.3 text include relay loadability in the R4 (Stability) requirements to parallel R3.3.3 in the R3 (Steady State) requirement which would more clearly relate to the specific requirements in PRC-023. MRO NSRS suggests this text: "Incorporate relay loadability per PRC-023 and identify how relay loadability is analyzed in the dynamic simulation."

In R4.3.4, MRO NSRS proposes limiting the scope to automatic devices and adding the notion of "including but not limited to". MRO NSRS suggests R4.3.4 text of: "Simulate the expected automatic operation of existing and planned control devices including but not limited to generation exciter control and power system stabilizers, static VAR compensators, power flow controllers, and DC Transmission controllers."

5. Requirement R5 – Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: MRO NSRS proposes specifying that the proxy documentation be included in the Planning Assessment and add the rationale for the proxy. MRO NSRS suggests this text: "Each Transmission Planner and Planning Coordinator shall document within the Planning Assessment any proxies used in the analysis to identify System instability for conditions such as cascading outages, voltage instability, or uncontrolled islanding. The documentation will consist of the definition of each proxy used and the rationale for the proxies."

6. Requirement R6 – Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: MRO NSRS is not clear if:

1) Each Transmission Planner is to meet all the requirements including doing all the studies and all Planning coordinators are to meet the requirements including doing all the studies.

Or

2) If the Transmission Planner and Planning Coordinator are to work as a team to meet all the requirements including doing all the studies. Either one of them could do various parts of the required studies. For example, maybe the PC could do the stability

part so all TP's would not necessarily have to buy that software if they did not need it for other planning purposes.

In the first read of this standard, it appears that the intention was number 1, which sounds awfully duplicative. But then take a look at Requirement 6.

R6. Each Transmission Planner and Planning Coordinator shall determine and identify individual and joint responsibilities for performing the required studies for the Planning Assessment. [Violation Risk Factor: Low] [Time Horizon: Long-term Planning]

After reading R6, it appears that number 2 was intended. Perhaps R6 should be the very first requirement in the standard. The MRO NSRS requests that the NERC SDT clarify the responsibility of the requirements of this standard.

7. Requirement R7 – Please provide any specific comments on the requirement text, VRF, Time Horizon, measure associated with the requirement, data retention associated with the requirement, and/or the VSL associated with the requirement.

Comments: MRO NSRS proposes expanding the scope of entities to consider, limit it to those entities that indicate a reliability need for coordination, and eliminate the direct reference to Order 890. MRO NSRS suggests this text: "Each Planning Coordinator shall establish a list of adjacent Planning Coordinators and any functional entity who has indicated a reliability need, distribute its Planning Assessment results to the listed entities and consider comments on the assumptions and results through an open and transparent peer review process."

The SDT is posing several other questions for industry consideration not related to the specific requirement questions above.

8. The SDT changed several definitions in response to industry comments to the second posting. Do you agree with these changes? If not, please clearly indicate which definition you disagree with and provide specific comments.

Yes

No

Comments: MRO NSRS suggests the following comments:

Add a Consequential Generation Loss definition because both load and generation loss can be considered, but there is only Consequential Load Loss definition. MRO NSRS suggests text of: "**Consequential Generation Loss:** All Generation that is no longer delivered to any Transmission Facilities as a result of the Transmission Facilities removal from service by the operation of the installed Protection Systems designed to isolate fault conditions or otherwise protect the Transmission Facilities from abnormal operating conditions."

Expand the Consequential Load Loss definition to include protection for abnormal operating conditions. MRO NSRS suggests text of: "**Consequential Load Loss:** All Load that is no longer served by any Transmission Facilities as a result of the Transmission Facilities removal from service by the operation of the installed Protection Systems

designed to isolate fault conditions or otherwise protect the Transmission Facilities from abnormal operating conditions.”

Expand the Load Reduction definition to include consideration of TOP judgment and established protection schemes. MRO NSRS suggests text of: “**Load Reduction:** The reduction of Load that is still connected to the System, but in the judgment of the Transmission Operator or through the previous established Special Protection Systems, Under-Frequency Load Shedding programs, Over-Frequency Load Shedding program, should be reduced to overcome to lower voltage conditions following a Planning or Extreme Event.”

Modify the Planning Assessment definition to more explicitly apply to the BES and the TPL-001 requirements. MRO NSRS suggests text of: “**Planning Assessment:** Documented evaluation of future Transmission System performance and Corrective Action Plans to remedy identified deficiencies in the BES from the steady state and stability performance requirements set forth in the TPL-001 standard.”

Modify the Planning Events definition more explicitly apply to the TPL-001 requirements. MRO NSRS suggests text of: “**Planning Events:** Events that are identified in the steady state and stability performance requirements set forth in the TPL-001 standard.”

Expand the Year One definition to include the PC, refer to the Planning Assessment, and refer to the current calendar year. MRO NSRS suggests text of: “**Year One:** The first year that each Transmission Planner and Planning Coordinator is responsible for conducting a Planning Assessment. This is further defined as the planning window that begins 12-18 months from the current calendar year.”

MRO NSRS would like to delete the definition of “Year One”. This is already being done and adding a planning window opens entities to noncompliance for conditions i.e. Model building outside of entities control.

9. Do you agree with the changes in the performance elements and notes in Table 1? If not, please provide specific comments by note number, note alpha character, or performance category. Please note that footnotes 5 and 10 are handled separately in question 10.

Yes

No

Comments: MRO NSRS suggests the following changes:

MRO NSRS believes reference to the use of Load Reduction to meet steady state performance requirement was omitted in Planning Events, Steady State and Stability, Item b. MRO NSRS suggests modifying the last sentence in Item b: “However, Supplemental Load Loss and Load Reduction associated with an event shall not be used to meet steady state performance requirements.”

MRO NSRS proposes limiting the scope to automatic devices in Planning Events, Steady State and Stability, Item c. MRO NSRS suggests text of: “c. Simulate the removal of all

elements that Protection Systems and other Controls are expected to disconnect automatically for each Contingency”.

Modify the P3 Category performance criteria to apply only to the loss of two generators because probability of the loss of two base load generators is an order of magnitude higher than the loss of a generator and any other transmission element. MRO NSRS suggests the listing of: the loss of transmission circuit, transformer, shunt device, and single pole of DC line be removed from the P3 Events column. The corresponding events be moved to the P6 Category by “1. Generator” to the listing in the Initial System Condition (Loss of . . .) column.

Limit the scope of the simulations in Item 1 of the Extreme Events, Steady State and Stability section to automatic systems and controls. MRO NSRS suggests this text: “1. Simulate the removal of all elements that Protection Systems and controls are expected to disconnect automatically for each Contingency.”

Clarify the meaning of the loss of multiple circuits in Item 2.a of the Extreme Events, Steady State section by using wording similar to P7. MRO NSRS suggests this text: “a. Loss of three or more circuits that share a common structure.”

Clarify the reference to actual, historical operating experience in Item 3.b of the Extreme Events, Steady State section. MRO NSRS suggests this text: “b. Other events based upon actual operating experience that may result in wide area disturbances.”

Clarify the reference to actual, historical operating experience in Item 2.i of the Extreme Events, Stability State section. MRO NSRS suggests this text that is similar to Steady State, Item 3.b: “i. Other events based upon actual operating experience that may result in wide area disturbances.”

Further clarify the applicable shunt devices in Footnote 7 with this suggested text: “7. Requirements which are applicable to shunt devices, also apply to FACTS devices that are connected to ground, but not instrument voltage transformers or surge arresters.”

10. The changes to the Table include the addition/revision of footnotes 5 and 10 that address curtailment of Firm Transmission Service and conditional Firm Transmission Service. Do you agree with the footnotes? If not, please provide specific comments.

Yes

No

Comments:

11. The SDT has provided an Implementation Plan as part of this posting. The plan includes the retirement of TPL-005-0 and TPL-006-0. Do you agree with the elements of the Plan? If not, please provide specific comments.

Yes

No

Comments: MRO NSRS offers the following comments.

The last paragraph should be removed from the Effective Date section. This paragraph contains requirements and describes compliance procedures, rather than stating effective date details. If any requirements regarding Corrective Action Plans are included, then they should be placed in the R2 section. If descriptions of compliance procedures related to Corrective Action Plan implementation are deemed to be necessary, then they should be placed in NERC procedure documents.

This standard should not contain any requirements regarding the implementation of Corrective Action Plans. The implementation of transmission system action plans depends on the actions (e.g. financing, regulatory approval, legal services, engineering, construction, commissioning) of many different entities, other than PCs or TPs. So, PCs and TPs should not be held responsible for the implementation of action plans since they have little or no control over the activities related to implementation.

The standard could include requirements that obligate PCs and TPs to develop Corrective Action Plans that are executable (i.e. plans that are based on lead times that provide reasonable assurance that the planned facilities can be placed in service by the time that they are needed) or devise revised Corrective Action Plans when they learn that the actions plans are not expected to be implemented by the intended in-service date. The standard could also include requirements that obligate PCs and TPs to establish and apply project implementation lead time assumptions that are derived from historical experience and the implementation lead time projections from the applicable TOs, GOs, and DPs.

Remove or modify the 60 month effective date statement because it's impractical and unreasonable. The effective date for performing analyses and developing subsequent Corrective Action Plans is 24 months. This leaves only 36 months to expect that the more stringent Corrective Action Plans would be implemented. It is improbable that all action plans related to BES facilities, especially above 300 kV could be implemented. Some EHV projects can take 5 to 10 years to implement depending on the size, complexity, and controversial nature of the project. MRO NSRS suggests that the effective date be stated in a more "implementation dependent" rather than a "fixed timeframe" manner. Consider wording such as "tripping of Non-Consequential Load or curtailment of Firm Transmission Service (in accordance with Requirement R2.6.4) is allowed until Corrective Action Plans based on TPL-001-1 analyses are implemented".