

## NERC Facility Design, Connections, and Maintenance (FAC) Assessment Plan Review Criteria

May 11, 2011

The November 30, 2010 letter from Gerry Cauley provided guidance and information to Alert Recommendation recipients for performing the FAC assessments, including guidance and information regarding the prioritization of Transmission and Generation Owner's (Owners) facilities. This Assessment Plan Review Criteria is used to provide guidance to Regional Entity (RE) staff in review of assessment plans, provide further assistance to the Owners in meeting the intent of the Recommendation, and to respond to those issues NERC stated it would provide further guidance for in its Question and Answer (Q&A) publication dated January 14, 2011.

The majority of assessment plans reviewed so far are good examples of what NERC considers to be the appropriate level of content and detail. For example, those plans:

1. Provided detailed rationale for why its facilities were categorized as high, medium, or low.
2. Provided specific information on the type of assessment technology being used.
3. Included a timeline for completing the assessments which met the Recommendation's intent.

RE staff will contact those Owners that have already filed assessment plans with the appropriate content and level of detail to inform them of that determination. For those owners, this document is for informational purposes only.

For a portion of the assessment plans reviewed, Regional Entity staff has determined that assessment plans are not adequate to verify that the actual conditions conform to the Owner's design tolerances in accordance with its Facility Ratings Methodology or, that more information is required to make a determination. For example, some plans:

1. did not prioritize facilities into high, medium, and low categories;
2. provided no rationale for facility prioritization;
3. did not provide details on how "as-built" construction conforms to the FAC ratings methodology; and
4. did not conform to the timelines given in the Recommendation

Regions will continue to review Owners' assessment plans, and where the RE believes the plans lack detail or are deficient, they will contact those Owners so that appropriate revisions can be made to the assessment plan. If any Owner believes its plan could be improved with the additional guidance, that Owner is encouraged to provide the RE with the appropriate revisions.

**Note:** *The prioritization categories below should not replace regular operational communication between Owners and the Transmission Operator (TOP) and Reliability Coordinator (RC) regarding imminent threats to reliable operation of the BES.*

**A. Recommended prioritization of Facilities Impacting Reliability**

For Owners who have submitted a deficient plan, the following criteria are being offered to advise an Owner regarding how to produce a sufficient plan. NERC recognizes that these criteria may not be appropriate for all entities and that individual plans should be developed (and evaluated by the RE) based on the characteristics and requirements of each individual system. Should an Owner determine that its prioritization of its transmission lines does not resemble the priority categories outlined below, but has an equally technical and defensible risk-based prioritization approach, the Owner should consult with its RE and provide documentation to support its prioritization plan.

1) For **Transmission Owners**, recommendations for assessing BES transmission lines are as follows:

**High** (to be completed by end of 2011)

- *Transmission facilities that are components of an identified IROL or key transfer paths*
- *Transmission Facilities identified by the Owner as critical to reliability*
- *Heavily loaded Transmission lines and/or 500 kV and above in the Eastern and Western Interconnections*
- *Within NPCC, transmission lines defined as Bulk Power Supply (BPS) elements in accordance with NPCC Document A-10, "Classification of Bulk Power System Elements"*
- *Transmission lines of 345 kV in the ERCOT Region*

**Medium** (to be completed by end of 2012)

- *Transmission lines 230 kV – 499 kV in the Eastern and Western Interconnections*

- *Within NPCC, transmission lines 230 kV and higher which are not defined as BPS elements*
- *For the ERCOT Region, transmission lines 138 kV originating from stations containing 345/138 kV auto transformers or generation facilities with a name plate rating exceeding 450 MW*

**Low** (to be completed by end of 2013)

- *Transmission lines below 230 kV in the Eastern and Western Interconnections*
- *Within NPCC, transmission lines 115 kV and higher which are not defined as BPS elements*
- *For the ERCOT Region, transmission lines 138 kV or lower not meeting the “medium” criteria listed above*

2) For **Generator Owners** , recommendations for assessing generator tie-lines are as follows:

**High** (to be completed by end of 2011)

- *Units specified as “must run” for reliability or for BES voltage support*
- *Units specifically designated as part of a Special Protection System/Remedial Action Scheme for automated runback or ramp-up*
- *Units specifically identified as part of a documented plan for mitigating an IROL violation*
- *Blackstart Resources identified in the Transmission Operator's restoration plan*

**B. It is recommended that each Assessment performed by the Owner be detailed enough to confirm the following applicable information:**

- *Conductor-to-conductor and conductor distance to objects (including ground clearance) occupying rights-of-way meet minimum clearance requirements of design*
- *Considered ambient conditions*
- *Considered operating limitations*

**C. Owner Update Spreadsheet**

NERC is requesting each Owner provide semi-annual updates on the work performed to complete their assessment plans. The updates for their high priority transmission lines are due to the RE by July 15, 2011 and January 15, 2012. The updates for the medium priority transmission lines are due July 15, 2012 and

January 15, 2013. Finally, for the low priority transmission lines, the updates are due July 15, 2013 and January 14, 2014.

**D. What an Owner is recommended to do when a discrepancy is discovered**

If an Owner identifies a discrepancy (note below), NERC recommends that the Owner report the discrepancy to its Reliability Coordinator (RC), Transmission Operator (TOP), and the Planning Authority (PA) at the time that it is identified. NERC recommends that the Owner include the details of the condition causing the discrepancy (ies) in its next semi-annual Owner update. Should the Owner determine at a later date that another condition is causing a discrepancy, the Owner should report that discrepancy to its RC, TOP, and the PA at the time that it is identified with details in the next semi-annual update.

**Note:** A Discrepancy is when the Owner's assessment is not adequate to verify that the actual conditions conform to the Owner's design tolerances in accordance with its Facility Ratings Methodology and results in a derating of the line.

**E. Level of detail NERC recommends for inspection dates and identifiers**

NERC recommends that the Owner record the dates when inspections are being performed and be able to identify each transmission line and generator tie-line by a unique identifier, such as the NERC SDX common name. When a discrepancy does occur and is reported to its RC, TOP and the PA, NERC recommends that the Owner refer to the facility using the unique identifier in both the report and in the next Owner Update.

**F. Recommended Technologies**

Each Owner is recommended to use technologies that adequately address the Recommendation to confirm that any differences observed between design and actual field conditions are within design tolerances as defined by the Owner's Facility Ratings Methodology. While Light Detection and Ranging (LIDAR) with Power Line Systems – Computer Aided Design and Drafting (PLS-CADD) technology are appropriate and acceptable, these particular technologies are not required. Other alternative technologies can be utilized to confirm that design and actual field conditions are within each Owner's design tolerances such as:

- PS Guard Wide Area Monitoring System
- Sagometer
- Thermal Line Monitor
- Dynamic Line Rating System
- Power Line Sensor