

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Project 2006-02: TPL-001-1 Assess Transmission Future Needs

John Odom
Drafting Team Chair
June 30, 2009

to ensure
the reliability of the
bulk power system

1. NERC Antitrust Compliance Guidelines
2. Opening Remarks and Introductions
3. Webinar Objectives
4. High Level Overview of Comments Received
5. Overview of Changes from Previous Draft
6. Comment Form
7. Q & A
8. Wrap - up

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws.



Introduction



- John Odom, FRCC (Chair)
- Bob Millard, RFC
(Vice Chair)
- Darrin Church, TVA
- Bill Harm, PJM
- Doug Hohlbaugh,
FirstEnergy
- Julius Horvath, LCRA
- Bob Jones, Southern
- Brian Keel, SRP
- Ron Mazur, Manitoba Hydro
- Tom Mielnik, MidAmerican
- Bernie Pasternack, AEP
- Bob Pierce, Duke
- Chifong Thomas, PG&E
- Jim Useldinger, KCPL
- Dana Walters, National Grid
- Active observers
- NERC Staff Coordinator –
Ed Dobrowolski

1. Update industry on Standard Drafting Team (SDT) efforts.
2. Highlight areas where SDT made:
 - a. Changes from 2nd posting
 - b. Additions since 2nd posting
3. Q & A to clarify the intent of SDT

Background – Drafting Team Objectives

Create a new standard that:

1. Has clear, enforceable requirements
2. Is not a Least Common Denominator standard
3. Addresses the issues raised in the SAR and issues raised by FERC and others

Update on Standard Drafting Team Activities

- The response to the first 2 postings has been very good. Between the two postings, the SDT has carefully considered:
 - More than 180 sets of comments
 - From over 250 different people
 - Representing over 100 companies & 9 of the 10 Industry Segments
- 20 face-to-face meetings & 28 full team conference calls & many more sub-team conference calls
- 3rd draft posted on May 26 – Comments due July 09

High Level Overview of Comments

- Draft standard still not as clear as it could be
- Many commenters agreed with general approach
- Most significant disagreements were based on:
 1. Lack of clarity in the draft standard
 2. Disagreed with a specific requirement, often based on cost to implement
 3. Thought that standard caused too much study work

Areas Where Drafting Team Made Changes

- Definitions
- Requirement Text
- Performance Table
- Violation Risk Factors and Time Horizon
- Measures and Data Retention
- Violation Severity Levels
- Implementation Plan

Areas Where Drafting Team Made Changes

- Definitions
 - ~~Generating Unit Stability Study~~
 - ~~System Stability Study~~
 - Bus-tie Breaker
 - Year One
 - Consequential Load Loss

- **Definitions (continued)**
 - **Non-Consequential Load Loss**
 - **Load Reduction** - Load that is still connected to the System, but is reduced due to lower voltage conditions following a Planning or Extreme Event.
 - **Supplemental Load Loss** - Load that is disconnected from the network by end-user equipment responding to post-Contingency System conditions.

Areas Where Drafting Team Made Changes

- R1 - Modeling
 - Includes all modeling/data issues to reduce overlap with requirements in the MOD standards
 - Eliminates the need for requirements R9 – R14

- R2 – Prepare Planning Assessment
 - Minor changes in main requirement
 - R2.1 – Revised explanation of sensitivities, removed requirement to explain rationale for those not run and added language to address spare equipment strategy
 - R2.3 – Added detail to short circuit analysis section

- R2 – Planning Assessment (continued)
 - R2.4 – Clarified that aggregate dynamic models are permitted and made conforming changes from R2.1 concerning the sensitivities
 - R2.5 (old) – Removed Generator Stability sub-requirement
 - R2.5 – Clarified requirement and added examples of material changes

- R2 – Planning Assessment (continued)
 - R2.6 – Corrective Action Plan
 - Created bulleted list of examples
 - Eliminated the requirement to explain why changes were made (or not made) based on sensitivities
 - Added a new requirement that requires documentation when Non-Consequential Load is dropped under circumstances beyond the control of the TP or PC

- R2 – Planning Assessment (continued)
 - R2.7 – New requirement to develop corrective action plans for deficiencies from short circuit analysis
 - R2.8 – Requirement to document the largest Consequential Load for single contingencies – moved from R2.3.2
 - R2.9 – New requirement to document the largest Non-Consequential Load

- R3 – Steady State Analysis
 - Main requirement changed to require utilization of models from R1
 - R3.1 and R3.2 spells out requirements for Planning and Extreme Events
 - R3.3 was reformatted for clarity and added requirement to simulate the expected operation of steady state control devices

- R3 – Steady State Analysis (continued)
 - R3.4 changed to require the creation of a list of Planning Event contingencies and an explanation of why the remaining contingencies will be less severe
 - R3.5 changed to require the creation of a list of Extreme Event contingencies and an explanation of why the remaining contingencies will be less severe

Areas Where Drafting Team Made Changes

- R3 – Steady State Analysis (continued)
 - Eliminate R3.5 (old) since it was not a requirement
- R4 (old) – Short Circuit
 - Deleted requirement and moved details to R2.3.4

Areas Where Drafting Team Made Changes

- R4 – Stability Analysis
 - Parallel changes from R3 (Steady State)
 - Deleted generator unit stability requirement
- R5 – Proxies
 - Minor changes for clarity
- R6 – Define responsibilities (unchanged)

Areas Where Drafting Team Made Changes

- R7 – Distribution of Assessments
 - Deleted “neighboring systems” and replaced with “adjacent Planning Coordinators and any functional entity who has indicated a reliability need”.

- R9, R10, R11, R12, R13 & R14
 - Deleted

- Table 1 – Performance Requirements
 - Combined into a single table
 - Top Note b
 - Added supplemental load loss and load reduction
 - Clarified that load loss is not allowed for P0
 - Added restriction that supplemental load loss cannot be utilized to meet steady state performance requirements

- Table 1 (continued)
 - Top Note e – re-wording of note f to clarify that operator actions must be able to be completed within the time duration allowed for the specific rating being utilized
 - Top Note g – added to state that P0 is only applicable to steady state conditions

Areas Where Drafting Team Made Changes

- Table 1 (continued)
 - Top note i – changed language to Transient Voltage Response instead of Dynamic Voltage
 - Top note i (old) – Moved “Simulate Normal Clearing” to Footnote 3

- Table 1 (continued)
 - P0 – changed to “No Contingency”
 - P1, P3 & P6 – Changed Single Pole of DC line to SLG fault type
 - P1 & P3 – Changed requirements to treat AC lines and DC lines the same
 - P3 & P6 – Eliminated SLG fault from fault type column

Areas Where Drafting Team Made Changes

- Table 1 (continued)
 - P2 – Clarified language to include “Opening of breaker without a fault”
 - P5 – Changed language to clarify that the event is a single Protection System failure

Areas Where Drafting Team Made Changes

- Table 1 (continued)
 - Extreme Events portion of table
 - Added shunt devices to the contingency
 - Changed “single component failure” to “failure of a single protection system”

- Table 1 (continued)
 - Footnote 1 – Added Reserve Sharing Group to definition of Angular Stability
 - Footnote 3 – Simulate Normal Clearing, except where noted and added a note that if 3Ø performance is acceptable, then 1Ø performance is acceptable
 - Footnote 4 – Added to simplify the table by defining EHV and HV

- Table 1 (continued)
 - Footnote 5 – Added to clarify that Conditional Firm Transmission Service can be curtailed under the basis granted
 - Footnote 6 – Changed to clarify that step-up transformers are covered under the requirements of this standard
 - Footnote 7 – Added “that are connected to ground”

Areas Where Drafting Team Made Changes

- Table 1 (continued)
 - Footnote 8 – Added to clarify the intent of description of event P2.1
 - Footnote 10 – Added to allow for curtailment of firm transfers (to be consistent with Footnote b in existing TPL standards) and describe allowed circumstances

Areas Where Drafting Team Made Changes

- Table 1 (continued)
 - Footnote 11 – Removed definitions for Normal Clearing and Delayed Clearing
 - Footnote 12 – Added to be consistent with Footnote e in existing TPL standard and define short distances as 1 mile or less

Additions since 2nd Posting

- Violation Risk Factors (VRFs)
- Time Horizons
- Measures
- Data Retention
- Violation Severity Levels (VSLs)
- Implementation Plan

- Effective Dates
 - R1 (Modeling) – 12 months
 - R7 (Define Responsibilities) – 12 months
 - Remaining requirements – 24 months
(Excludes “raise the bar” issues)
 - “Raise the bar” requirements – 60 months

- “Raise the bar” requirements
 - P2-1
 - P2-2 (above 300 kV)
 - P2-3 (above 300 kV)
 - P3-1 through P3-5
 - P4-1 through P4-5 (above 300 kV)
 - P5 (above 300 kV)

- “Raise the bar” requirements
 - For the 60 month time period, Non-Consequential Load Loss and curtailment of Firm Transmission Service is permitted, as long as all other requirements are met

- “Raise the bar” requirements
 - If entity cannot meet the performance requirements without Non-Consequential Load Loss and/or curtailing Firm Transmission Service by the end of the 60 months, a mitigation plan is required
 - The plan will be submitted to the Regional Entity and NERC for approval.

- One question for each requirement
 - Asks about the requirement text, VRF, Time Horizon, measure, data retention and VSL
- Definitions
- Performance Table
- Footnotes 5 & 10
- Implementation Plan



Question & Answer



Team plans to continue monthly meetings with conference calls every two weeks

Please provide written comments by July 9, 2009

Plan to post 4th draft later this year