

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Industry Webinar

Project 2015-10 Single Points of Failure

August 23, 2018

RELIABILITY | ACCOUNTABILITY



- Presenters
 - Standard Drafting Team
 - Chair, Jonathan Hayes, SPP
 - Vice Chair, Delyn Kilpack, LGE-KU
 - NERC Staff
 - Latrice Harkness
- Administrative Items
- Project 2015-10 Status
- FERC Order No. 754 and Order No. 786
- Implementation Plan
- Next Steps
- Questions and Answers

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- **For the official record**
 - This presentation is not a part of the official project record
 - Comments must be submitted during the formal posting

Name	Organization/ Company
Jonathan Hayes (Chair)	Southwest Power Pool
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Ruth Kloecker	ITC Holdings
Latrice Harkness	North American Reliability Corporation
Lauren Perotti, Counsel	North American Reliability Corporation

- Project 2015-10 - TPL-001-5 – Single Points of Failure (SPF)
- This is the fourth posting
 - One informal posting
 - Two formal postings
- TPL-001-5 addresses:
 - FERC Order 754 (SPF)
 - FERC Order 786 (Maintenance Outages in the Near-Term Transmission Planning Horizon; stability analysis for loss of long lead time equipment)
- Separate ballot for standard and implementation plan

- Changes to TPL-001-5:
 - “Revision to Table 1 – Steady State and Stability Performance Planning Events”
 - Modified Category P5 event to include SPF
 - Footnote 13 – describes the non-redundant Protection System components considered for Category P5

Footnote 13. For purposes of this standard, non-redundant components of a Protection System to consider are as follows:

- a. A single protective relay which responds to electrical quantities, without an alternative (which may or may not respond to electrical quantities) that provides comparable Normal Clearing times;
- b. A single communications system associated with protective functions, necessary for correct operation of a communication-aided protection scheme required for Normal Clearing (except a single communication system that is both ~~which is not~~ monitored ~~or not~~ and reported at a Control Center shall not be considered non-redundant);
- c. A single station dc supply associated with protective functions required for Normal Clearing, ~~and that~~ (except a single station dc supply that is ~~not~~ both monitored ~~or not~~ and reported at a Control Center for both low voltage and open circuit shall not be considered non-redundant);
- d. A single control circuitry (including auxiliary relays and lockout relays) associated with protective functions, from the dc supply through and including the trip coil(s) of the circuit breakers or other interrupting devices required for Normal Clearing (except a single trip coil that is both monitored and reported at a Control Center shall not be considered non-redundant).

- Moved known outages selection to Requirement R2
- Change to Requirement R2 is not a prescriptive, continent-wide procedure
- Entity must have a process and procedure that conform with a technical rationale which must be made available
 - Consistent with other requirements in TPL-001-4, such as Voltage Criteria, Low Voltage Ride Through, etc.
- Removed the six-month time horizon for significant outages occurring within the period of the Near-Term Assessment studies (Year 1 or 2 and Year 5)
- Proposed revisions to Requirement R2 also include stability studies for long lead equipment without a spare equipment strategy

Governmental Authorities
approve TPL-001-5 &
Implementation Plan.

TPL-001-5 becomes effective.

- Changes to R1, R2, R4, and Table 1 enforceable.
- Requirement R2, Part 2.7 not enforceable for non-redundant components of a Protection System identified in Table 1 Category P5, footnote 13, items b, c, and d.
- R3, R5, R6, R7, R8 unchanged.
- *The first annual Planning Assessment shall be completed in accordance with TPL-001-5, but without CAPs for revised P5, by this date.*



CAPs required for all failures to meet Table 1 performance requirements, but the planned System is not required to meet the performance requirements in Table 1 for category P5 events only.

- *All Planning Assessment(s) completed after this date shall include CAPs for failures to meet Table 1 performance requirements for the revised P5, when identified.*

TPL-001-5 fully
enforceable.

- The implementation plan is being balloted separately
- The relief provided in TPL-001-4 is not portable to TPL-001-5
 - 84-month is not portable

- The failure to meet system performance requirements presented during dynamic simulations of Category P5 events is more difficult to mitigate.
- The solution to a relay issue is often to add a redundant relay.
 - *“For CAPs developed to address failures to meet Table 1 performance requirements for P5 events only, Transmission Planners and Planning Coordinators shall not be required to comply with the section of Requirement R2, Part 2.7 that states: ‘Revisions to the Corrective Action Plan(s) are allowed in subsequent Planning Assessments but the planned System shall continue to meet the performance requirements in Table 1,’ until 96 months after the effective date of Reliability Standard TPL-001-5.”*

- Comment period
 - [Project 2015-10 page](#)
 - 45 Days – July 30–September 14, 2018
 - Ballot – September 5–September 14, 2018
- Respond to Comments
 - October 2018
- Point of contact
 - Latrice Harkness, Senior Standards Developer
 - Latrice.Harkness@nerc.net or call 404-446-9728
- Webinar posting
 - 48-72 hours
 - Standards Bulletin

- Informal discussion
 - Via the Q&A feature
 - Chat only goes to the host, not panelists
 - Respond to stakeholder questions
- Other
 - Some questions may require future team consideration
 - Please reference slide number, standard section, etc., if applicable
 - Team will address as many questions as possible
 - Webinar and chat comments are not a part of the official project record



Questions and Answers

A stylized map of North America is centered on the slide. The map is divided into three horizontal color bands: a light purple band at the top covering Canada, a dark blue band in the middle covering the United States, and a light grey band at the bottom covering Mexico. The text 'Webinar has ended - Thank you' is overlaid on the dark blue band.

Webinar has ended - Thank you