

Order 754

The study of Single Point of Failure

December 6-7, 2011

RELIABILITY | ACCOUNTABILITY



- **NERC Antitrust Guidelines**

- 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. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition. It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

- **NERC Disclaimer**

- Participants are reminded that this meeting is public. Notice of the meeting was posted on the NERC website and widely distributed. Participants should keep in mind that the audience may include members of the press and representatives of various governmental authorities, in addition to the expected participation by industry stakeholders.

- Review background and concern
 - Summary of FERC Order 754
 - Overview of October 24-25 FERC Technical Conference
- NERC Section 1600 data request
 - Review and discuss draft data request
- Interpretation of relevant NERC Reliability Standards
 - Review and discuss draft interpretation request
 - Interpretation sponsorship
- Consensus and next steps

- Order 754¹
 - Commission's approval of Project Interpretation of TPL-002-0b — PacifiCorp (Project 2009-14²)
 - Commission has a concern
 - Study of a single point of failure on protection systems (P19)
 - Commission issued a directive (P20)
 - FERC staff to meet with NERC and appropriate SMEs
 - Explore the reliability concern
 - NERC to make an informational filing in six months (3/15/12)
 - What forum to address the issue
 - What priority based on current initiatives

¹ <http://www.ferc.gov/whats-new/comm-meet/2011/091511/E-4.pdf>

² <http://www.nerc.com/filez/standards/Project2009-14 Interpretation TPL-002-0 PacifiCorp.html>

- FERC Technical Meeting (October 24-25, 2011)
 - Well attended by industry
 - 8 presentations were made by NERC staff and SMEs
 - Discussions were open and helpful
 - Successful
 - Outcomes
 - 4 Consensus Points
 - Problem Statement
 - 3 potential approaches for addressing the issue

- Performance based issue, not full redundancy issue.
- Existing approved standards address requirements to assess single point of failure.
- Assessments of single point of failure of non-redundant primary protection (including backup) systems need to be sufficiently comprehensive.
- Lack of sufficiently comprehensive assessments of non-redundant primary protection systems is a reliability concern.

- *“The group perceives a reliability concern regarding the comprehensive assessment of potential protection system failures by registered entities. The group agrees on the need to study if a gap exists regarding the study and resolution of a single point of failure on protection systems.”*

- Data Request - A small group should develop a proposal to the joint SPCS/TIS committees Dec 6-7, 2011.
- Interpretation Request - A small group should develop a proposal to be presented to the joint SPCS/TIS committees Dec 6-7, 2011.
- Project 2009-07 - To be considered later after the review of the first two bullets above.

- Determines number of single points of failure
- Industry prefers NERC to request data through Rules of Procedure, [Section 1600](#)²
 - Industry has an opportunity to comment
 - Board of Trustees for approval March 2012
- Base request around TPL-003-0a and TPL-004-0
 - Done in a manner NOT to create a compliance issue
 - Helps entities address the issue using existing standard
- NERC staff will sponsor the Data Request

² [http://www.nerc.com/files/NERC Rules of Procedure EFFECTIVE 20111117.pdf](http://www.nerc.com/files/NERC_Rules_of_Procedure_EFFECTIVE_20111117.pdf)

- Responsible Entities
- Voltage threshold
- Study of TPL-003-0a (Cat C) and TPL-004-0 (Cat D)
 - Use Category D contingency with a 3 \emptyset fault
 - Use Category C performance measures
- System protection components
 - Protective Relays
 - Communication Systems
 - AC Current and Voltage Inputs
 - Station DC Supply
 - DC Control Circuitry

- See: Data Request Outline

- *Review* — Commission agreed in Order 754 that TPL-002-0b, R1.3.10 did not apply in this case
 - Not a redundancy issue
 - Concerns the non-operation of non-redundant protection systems
 - Directive: The study of single point of failure on protection systems.
- The Interpretation Request
 - Another process option for consideration
 - To clarify the study of single point of failure on protection systems

- Team needed to narrow the scope of requirements
- An informal survey revealed (10 responders)
 - Does not apply to TPL-002-0b
 - Does require study and simulation in TPL-003-0a
 - Does require study and simulation in TPL-004-0
- Must stay within the four corners of a standard
 - Cannot expand or add to requirements
 - Cannot modify the intent of the standard
- Development revealed additional suggestions
- Requires Sponsorship

- See: Interpretation Request document.

- Jump to the suggestion document.

- Consensus from the SPCS/TIS on best approach(s)
 - Data Request and/or Interpretation?
 - Data Request (Next Steps/Path)
 - Industry Comment
 - Notice to FERC
 - Submit for March BOT approval
 - Issue to applicable entities (tentatively before April 2012)
 - Interpretation (Next Steps/Path)
 - Sponsor submittal to NERC
 - NERC to process for Standards Committee for action January 2012
 - Other - [Project 2007-09](#)³, Reliability of Protection Systems (Redundancy Standard)

- See Suggestion Form document

