

Project 2007-06.2

Phase 2 of System Protection Coordination
(Approach to revising PRC-001-1.1)

Industry Webinar
March 11, 2015

RELIABILITY | ACCOUNTABILITY



Member	Entity
Mark Peterson, Chair	Great River Energy
Michael Cruz-Montes, Vice Chair	CenterPoint Energy Houston Electric, LLC
Po Bun Ear	Hydro-Québec TransÉnergie
Scott Hayes	Pacific Gas & Electric
Mark Kuras	PJM Interconnection, LLC
Sam Mannan	Los Angeles Dept. of Water and Power (LADWP)
Yubaraj Sharma	Luminant Generation Company, LLC
Rui Da Shu	Northeast Power Coordinating Council
Scott Watts	Duke Energy Carolinas

- Standard Drafting Team (SDT)
 - Mark Peterson, Chair
 - Michael Cruz-Montes, Vice Chair
- NERC staff
 - Scott Barfield-McGinnis, Standards Developer

- Administrative Items
 - Antitrust and Disclaimers
 - Objectives
- PRC-001
 - Project(s) History
 - Requirements
 - Approach
- Closing Remarks
 - Going Forward
 - Commenting
 - Questions & Answers Session
 - Conclusion



Administrative Items

- 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

- Participants are reminded that this meeting is public. Notice of the meeting was 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.

- Webinar is intended to
 - Communicate the drafting team approach
 - Determine level of consensus to approach
 - Obtain stakeholder feedback
- Informal Question and Answer (Q&A)
 - Multiple Q&A and polls will be held during webinar
 - Submit questions and comments via the chat feature
 - Some questions may require future team consideration
 - Please reference slide number, standard and section, etc.
 - Presenters will attempt to address as many questions as possible
 - Webinar and chat comments are not a part of the official project record
 - Webinar slides and audio will be posted within 24-48 hours

BA – Balancing Authority	PRC – Protection and Control
BOT – Board of Trustees	RAS – Remedial Action Scheme
FERC – Federal Energy Regulatory Commission	SBS – Standards Balloting System
GO – Generator Owner	SDT – Standard Drafting Team
GOP – Generator Operator	SPS – Special Protection System (replaced by RAS)
NOPR – Notice of Proposed Rulemaking	TO – Transmission Owner
	TOP – Transmission Operator



PRC-001

- FERC Order No. 693 directives (P1449)
- System Protection and Control Task Force recommendations
- Standards Authorization Request

- Phase 1 (2007-06)
 - Addressing Requirements R3 and R4
 - Planning time horizon
 - Focused on GO and TO
 - Includes the creation of PRC-027
 - Technical aspects of Protection System coordination
- Phase 2 (2007-06.2)
 - Addressing Requirements R1, R2, R5, and R6
 - Operation time horizon requirements
 - Focuses on BA, GOP, and TOP
 - Protection System requirements about knowledge and communication

- Address FERC directives
- Consider applicable entities are appropriate
 - E.g., NERC Functional Model
- Requirements
 - Eliminate ambiguity
 - Identify other similar standards and requirements
 - Consider if activity is appropriate for a PRC family of standards
 - Must be measurable

- Currently enforceable requirement:
 - **R1.** Each Transmission Operator, Balancing Authority, and Generator Operator shall be familiar with the purpose and limitations of Protection System schemes applied in its area.

- Ambiguous phrases
 - Be familiar with
 - Purpose and limitations
 - Protection Systems applied in its area

- Applicability
 - Uncertainty why BA is included
 - Operating personnel vs. functional entity

- Improving measurability
 - Ambiguous terms (familiar, purpose, and limitations) can be measured by training
 - Entities historically use training records to demonstrate compliance
 - Supported by Order No. 693 NOPR Comments
- SDT considering migrating PRC-001, R1 to PER-005
 - PER-005-2 (*System Personnel Training*) (effective: 7/1/2016)



Q&A on R1

- Currently enforceable requirement
 - **R2.** Each Generator Operator and Transmission Operator shall notify reliability entities of relay or equipment failures as follows:
 - **R2.1.** If a protective relay or equipment failure reduces system reliability, the Generator Operator shall notify its Transmission Operator and Host Balancing Authority. The Generator Operator shall take corrective action as soon as possible.
 - **R2.2.** If a protective relay or equipment failure reduces system reliability, the Transmission Operator shall notify its Reliability Coordinator and affected Transmission Operators and Balancing Authorities. The Transmission Operator shall take corrective action as soon as possible.
- Ambiguous language
 - A “failure”
 - A “reduction in system reliability”
 - A “corrective action” and “as soon as possible”

- Intent of R2
 - Communicate and take action, if necessary, to maintain reliability
- Improving clarity
 - Flexibility around the appropriate entity defining what information (e.g., failures) needs to be communicated
 - Enable the appropriate entity responsible for directing the operation of the system
- For the TOP function, SDT considering migrating requirement intent to:
 - TOP-001-3, R1 (BOT adopted)
- For the GOP function, SDT has not identified a similar existing standard



Q&A on R2

- **Currently enforceable requirement**

- **R5.** A Generator Operator or Transmission Operator shall coordinate changes in generation, transmission, load or operating conditions that could require changes in the Protection Systems of others:
 - **R5.1.** Each Generator Operator shall notify its Transmission Operator in advance of changes in generation or operating conditions that could require changes in the Transmission Operator's Protection Systems.
 - **R5.2.** Each Transmission Operator shall notify neighboring Transmission Operators in advance of changes in generation, transmission, load, or operating conditions that could require changes in the other Transmission Operators' Protection Systems.

- **Ambiguous items**

- “coordinate changes”
- “could require changes”

- Intent of R5
 - Communicate in advance changes in operating conditions that could impact Protection Systems of others
- Improving clarity
 - Communicating in advance is “operations planning”
- SDT considering migrating requirement intent to:
 - TOP-002-4 (BOT adopted) (i.e., operations planning)
 - Address communication between GOP and TOP functions
 - Address communication between TOP to TOP functions (i.e., neighboring TOPs)



Q&A on R5

- Currently enforceable requirement
 - **R6.** Each Transmission Operator and Balancing Authority shall monitor the status of each Special Protection System in their area, and shall notify affected Transmission Operators and Balancing Authorities of each change in status.
- Items to be addressed
 - Duplicative of BOT adopted standards to be filed
 - Recent changes in definitions (e.g., RAS/SPS)

- Intent of R6
 - Situational awareness of RAS/SPS
- SDT considering to retire R6 because monitoring and notification will be addressed by BOT adopted standards:
 - TOP-001-3, R10 applicable to the TOP
 - TOP-001-3, R11 applicable to the BA
 - TOP-003-3, R1 applicable to the TOP
 - TOP-003-3, R2 applicable to the BA



Q&A on R6



Closing Remarks

- Revise standards based on feedback
 - SDT meeting on March 16-18, 2015
 - Location: Tri-State G&T, Westminster, CO (Denver)
 - Must register either for in-person or remote attendance
- Anticipate initial formal posting
 - Early April, hold a follow up webinar
 - After April 15 for a 45-day comment period
 - Initial ballot in the last 10 days of the comment period
- Respond to comments
 - Anticipated for second week in June 2015
 - Announcement will follow initial posting after April 15
 - See the NERC calendar at www.nerc.com for registration
 - See Program Areas, Standards, Calendar, View Standards Events

- Effective feedback:
 - Specific to question, brevity is best
 - Provide suggestions or equally effective alternative
 - Indicating agreement with others is preferred over copying the comments (e.g., “ABC agrees with XYZ’s comments...” or “ABC agrees with XYZ’s comments except for...”)
 - Provide proposed change and rationale
 - Save unrelated comments to last question
- Balloting will be in conducted in the new SBS
- If the SBS is new to you, on the NERC webpage, go to:
 - Program Areas & Departments > Standards > [Balloting and Commenting](#)
 - Best to start the process now, not during the comment period

- Please submit your questions via the chat window
 - This session is intended to help general understanding
 - Please reference slide number, standard section, etc.
 - Presenters will respond to as many questions as possible
 - Some questions may have to be deferred to the full team
- For the official record
 - Webinar and chat comments are not a part of the official project record
 - Comments must be submitted via the project page during posting
 - The drafting team will consider any informal feedback
 - Send to a team member, or
 - Send to the NERC Standards Developer (scott.barfield@nerc.net) for distribution to the team

- Encourage working through forums or trades
 - To become aware of industry direction on topics
 - Develop consolidated comments informally or during postings
- NERC Standards Developer, Scott Barfield-McGinnis
 - Email at scott.barfield@nerc.net
 - Telephone: 404-446-9689
 - To receive **Project 2007-06.2** announcements and updates
 - Request to be added to **SPCP2SDT_Plus**
- Webinar slides and recording will be posted to www.nerc.com
 - In about 24-48 hours following webinar under “Standards” / “Webinars”
 - Link will be provided in the next “Standards Bulletin”
- Thank you for participating

Project 2007-06.2 Webinar has ended Thank you for participating

Email at scott.barfield@nerc.net

Telephone: 404-446-9689

*Request to be added to **SPCP2SDT_Plus***

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