

# Meeting Notes

## Project 2010-13.2 Phase 2 of Relay Loadability: Generation Standard Drafting Team

April 3, 2013

Conference Call with ReadyTalk Web Access

### Administrative

#### 1. Introductions

The meeting was brought to order by Charles Rogers, chair, at 10:03 a.m. ET, Wednesday, April 3, 2013 and welcomed everyone to the call. Mr. Rogers noted that the goal of the meeting was to complete the response to comments regarding the draft 2 posting of PRC-025-1 from the meeting in Fresno last month and to complete the necessary revisions to the remaining documents. The goal is to finish such that the documents may be posted by April 19 to provide an opportunity to meet the September 2013 filing deadline. Those in attendance were:

Name	Company	Member/ Observer
Charles Rogers (Chair)	Consumers Electric	Member
Jeff Billo	ERCOT	Member
S. Bryan Burch, P.E.	Southern Company	Member
Steven Hataway	Florida Power and Light Company	Member
Mike Jensen	Pacific Gas and Electric Company	Member
Xiaodong Sun	Ontario Power Generation, Inc.	Member
Sudhir Thakur	Exelon Generation	Member
Joe T. Uchiyama	U.S. Bureau of Reclamation	Member
David Youngblood	Luminant Energy	Member
Syed Ahmad	Federal Energy Regulatory Commission	Observer

Name	Company	Member/ Observer
Scott Barfield-McGinnis (Standard Developer)	North American Electric Reliability Corporation	Observer
Phil Tatro (Technical Advisor)	North American Electric Reliability Corporation	Observer
Randy Seggerman	TENASKA	Observer

## 2. Determination of Quorum

The rule for NERC Standard Drafting Team (SDT or team) states that a quorum requires two-thirds of the voting members of the SDT. Quorum was achieved as nine of the eleven members were present.

## 3. NERC Antitrust Compliance Guidelines and Public Announcement

NERC Antitrust Compliance Guidelines and public disclaimer were read by Mr. Barfield. There were no questions.

## 4. Review Roster

Mr. Barfield noted there have been no changes to the roster.

## Agenda

### 1. Open business from last meeting (Reviewed)

- a. Mr. Barfield:
  - i. Contact Ed Dobrowolski and/or Peter Heidrich, FRCC about obtaining the BES Guidance document Visio illustrations to use in the team's Guidelines and Technical Basis. (Completed – Mr. Dobrowolski was concerned that the figures were not finalized and should not be used)
  - ii. Modify the Implementation Plan for new relays subject to the PRC-023-3 standard so that it comports with the initial Implementation Plan of PRC-023-2 upon approval of the revised standard. (Completed – The proposed PRC-023-3 Implementation Plan was updated to comport with the implementation periods in the proposed PRC-025-1. Since the existing PRC-023-2 used a table approach that industry was familiar with, the Implementation Plan for PRC-025-1 was updated to use the same approach.)
  - iii. Address where the Generator Owners that are not Transmission Owners concern in PRC-023-3. For example, the NERC Compliance Bulletin #2012-001 (In progress).

- iv. Coordinate the next posting on or before Friday, April 15, 2013. (In progress)
- v. Issue announcements for the April 3 and 12 conference calls. (Complete)
- vi. Send appointments out to block out team calendars for April 3 and 12, and the week of June 3-8, 2013. (Complete)
- b. Mr. Tatro
  - i. Review Generator Owner and Transmission Owner (GOTO) documentation for consistency with the PRC-025-1 content. (Complete – No issues at this time)
  - ii. Provide the simulation example from the SPCS Power Plant document to add as an example in the PRC-025-1 Guidelines and Technical Basis. (In progress – needs to match the other data so more time is needed to tweak the output)
  - iii. Locate and revise the PRC-023-2 technical document called, Determination and Application of Practical Relaying Loadability Ratings Version 1 developed by the System Protection and Control Task Force of the NERC Planning Committee, June 2008. (Complete – On the work plan list for the Planning Committee to consider)
- c. Mr. Youngblood
  - i. Develop calculations for multi-winding transformers. (Complete – Not needed, simulation would be a better approach)
- d. Mr. Jensen
  - i. Revise the calculations for based on errors observed by commenters. (In progress – Mr. Hataway and Mr. Vuong continue to assist)
  - ii. Address “feeders” to the aggregate generating units. (Complete – Added Applicability for aggregating generation to the collector bus)
  - iii. Create a figure to denote the location of CTs and VTs for the Table 1 options. (Complete)
- e. Mr. Billo
  - i. Review the change to PRC-023-2, Attachment A to require the Transmission Planner to include all generator relays. (Criterion 6 and 10) remove Generator Owner. (Complete)
- f. Erika
  - i. Update Madison Electric to MRO NSRF (Complete)
  - ii. Replace Southwest Power Pool RRO with “SRC” and move Southwest Power Pool RRO down into the list of group responders. Mr. Barfield confirmed with Mr. Yeung that SRC should be the group name on March 28, 2013 via email. (Complete)

## 2. Complete draft 2 PRC-025-1 Response to Comments

Mr. Ahmad asked how the FAC-003-3 standard and the proposed draft 2 PRC-025-1 standard relate concerning the generator lead lengths. Mr. Rogers pointed out the goal of the team is to avoid a registration issue and to be consistent with the Generator Owner Transmission Owner (GOTO) project approach.

Mr. Thakur was concerned about a coordination issue with the proposed PRC-024-2 (Project 2009-07 – Generator Verification) regarding the tripping of the generator in Requirement R2. Mr. Tatro will review off-line.

The entity, Electric Reliability Compliance raised an excellent question that the proposed PRC-025-1 standard appears to be focusing on only the optimal operating conditions and does not allow an entity an alternative setting approach. The draft 2 proposed PRC-025-1 standard is based on the reported output to the Transmission Planner and does not allow exceptions to limiting factors, such as, a generator step-up (GSU) transformer which may have been de-rated. The team believed that in these cases, if the de-rating were to be for a prolonged period, the entity would update its capability and potentially develop a new set of settings.

Mr. Youngblood noted that the Implementation Plan did not account for cases where an entity may want to remove a load-responsive protective relay rather than apply the appropriate setting or replace the relay. The team agreed that the Implementation Plan should account for the removal of a relay, if necessary. Language was added to the Implementation Plan to address the period that the entity had for removal.

For potential cases where both synchronous and asynchronous machines are connected to the same generator step-up (GSU) or generation interconnection Facility(ies), Mr. Jensen raised a concern about how to perform the vector sum of the generation based on the way Table 1 is configured. Mr. Burch noted that depending on the situation that the aggregated generators may consume the VAR output on-site which may defeat the purpose of the standard. Mr. Burch also noted that simulation would assist in this area. Mr. Jensen agreed to provide a sample calculation for the Guidelines and Technical Basis document for the summing of the vectors.

After discussion concerning the removal of the Generator Owner from the proposed PRC-023-3 standard, the team could not rectify the issues created by doing so. The main issue revealed is the need to add the Distribution Provider and Transmission Owner to the proposed PRC-025-1. The team agreed that this would not be advantageous to moving the standard forward. The solution was to add two new Applicability sections to address the Distribution Provider and Transmission Owner with respect to generator interconnection Facilities and generator step-up (GSU) transformers. This also resulted in two new Requirements R7 and R8 which allowed the team to eliminate Requirement R1, Criterion #6 from the proposed PRC-023-3 standard.

## 3. Revise PRC-025-1 project documents

- a. PRC-025-1 Standard

- b. PRC-025-1 Guidelines and Technical Basis
- c. PRC-025-1 Implementation Plan
- d. PRC-025-1 VRF/VSL Justifications
- e. PRC-025-1 Consideration of Issues and Directive
- f. PRC-025-1 RSAW

#### 4. Respond to SAR PRC-023-3 Comments

#### 5. Future Webinar Content

- a. Adding GSU requirement to proposed PRC-023-3 to include the TO.
- b. Discuss Applicability that R7 is “regardless of voltage”
- c. Address removal of relays in the Implementation Plan

#### 6. Review of the schedule

Mr. Rogers was concerned about the schedule with the additional time it is taking to bring the documents to the successive posting. Mr. Barfield noted that the team was okay so long as they meet the June meeting with the posting.

#### 7. Action items or assignments

- a. Mr. Barfield:
  - i. Adding GSU requirement for TO in PRC-023-2 (Need: Communication plan and outreach).
  - ii. Work with Mr. Rogers on approaching the PC to revise the loadability document.
  - iii. Apply RRO throughout Table 1 in both 023 and 025.
  - iv. Continue to address the where Generator Owners that are not Transmission Owners concern in PRC-023-3, Compliance Bulletin #2012-001.
  - v. Send Mr. Rogers the VRF/VSL Justifications for PRC-023-2 for modification to add R7 and R8.
- b. Mr. Jensen:
  - i. Provide a sample calculation for the Guidelines and Technical Basis document for the summing of the vectors.
- c. Mr. Tatro:
  - i. Review PRC-024-2 (Project 2009-07 – Generator Verification) with the proposed PRC-025-1 for coordination issue regarding the tripping of the generator in Requirement R2.

## 8. Next steps

- a. Clean up the documents and forward for quality review by April 5, 2013.
- b. Conference call on Friday, April 12, 2013 to respond to quality review feedback.
- c. Post draft 3 of PRC-025-1 for successive comment and ballot along with other project documents the week of April 15, 2013.
- d. Block the week to schedule in-person meeting to respond to comments from the draft 3 successive ballot the week of June 3-7, 2013.

## 9. Future meeting(s)

Conference call April 5, 2013 from 10:00 a.m.-5:00 p.m. ET

Conference call April 12, 2013 from 1:00 p.m.-5:00 p.m. ET

## 10. Adjourn

The meeting adjourned at 4:58 p.m. ET on April 3, 2013.