

Southwest Power Pool
SYSTEM PROTECTION AND CONTROL WORKING GROUP
MEETING

January 30 & 31, 2019
AEP Offices, Elm Street
Dallas, TX

• M I N U T E S •

Agenda Item 1: Administrative Items

Call to Order and Introductions

Chair, Steve Wadas, called the meeting to order at 1pm and welcomed everyone. There were 21 participants, 12 in person and 9 via webex on day one. There were 17 participants, 12 in person and 5 via webex on day two. (Attendance List Attached)

Proxies

Michael Fleck was the proxy for Tom Miller of ITC Holdings.

Approve minutes of previous meetings

The minutes for the October 23-24, 2018 meeting were reviewed by Doug Bowman and no changes were required. The motion to approve the minutes was made by Rick Gurley and seconded by Shawn Jacobs. The group unanimously approved the document.

Approve agenda

The agenda for the meeting was reviewed. Agenda item number 14 'Event Analysis Working Group Update' was changed to be provided by Kim Van Brimer. Forrest Brock was removed from agenda item number 5 'NERC SPC Update' and Steve Wadas was added. Forrest Brock was also removed from agenda item number 6 'PRC-012-2, R8 Guidance Clarifications due to his absence. The motion to approve the modified agenda was made by Mathew Thykkuttathil and seconded by John Anderson. It was approved unanimously. (see attached)

Agenda Item 2: Antitrust Statement

Doug Bowman provided the following SPP Antitrust Statement to the Group:

“SPP strictly prohibits use of participation in SPP activities as a forum for engaging in practices or communications that violate the antitrust laws. Please avoid discussion of topics or behavior that would result in anti-competitive behavior, including but not limited to, agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition”

Agenda Item 3: Review of Past Action Items

Doug Bowman reviewed the past action items. Item 110 was previously covered regarding PRC-012-2 and was marked complete. Most of the open item topics were on the meeting agenda

to be discussed and these action items were re-visited at the end of the meeting and several were marked as complete. Four (4) new action items were added (see attached).

Agenda Item 4: Member Vacancies

Steve reviewed the current working group membership as shown on SPP.org. Rick Gurley announced that this would be his last meeting as he is retiring in April. Michael Fleck who was attending as the proxy for Tom Miller. New action item was taken to post two SPCWG member positions. The group also discussed the need to review the SPCWG email exploder list.

Agenda Item 5: NERC SPC Update

Steve Wadas provided information from the last meeting on November 13, 2018 in Atlanta. Covered PRC-019 guidance document. Discussion 4.2.3 in control. They are revising the existing standard and still discussing revisions. Also discussing the generator AVR requirements. The leadership discussed PRC-023 SAR to change language in the standard due to conflicts. Shannon Mickens attended in person and was available to answer questions related to NERC standard changes. Shannon talked about the discussions on PRC-024 SAR and inverter-based generation issues. Steve talked about the tripping diagram for PRC-024 with respect to IBG. There was some confusion about the lower boundary of tripping.

Agenda Item 6: PRC-012-2, R8 Guidance Clarifications

From the last meeting, “Forrest will contact members of the NERC Staff and the Standards Drafting Team for PRC-012 to get some clarity. Forrest will distribute results via email and will discuss at the next meeting as well.” As Forrest is temporarily out of pocket, he will provide additional information at the next meeting. Steve provided an update and noted that R8 is specifically focused on RAS testing. There is a helpful IEEE illustration in the supplement materials. The group opted to move this item to the next meeting for further discussion.

Agenda Item 7: PRC-002-2, R2 – Ongoing Monitoring Requirements Discussions

Forrest Brock and Jeff Beasley attended the MRO PRS meeting. Jeff provided an update of the MRO discussion and noted that the MRO is in agreement with the SPP SPCWG interpretation.

The group talked about the diagram provided by Michael Fleck. Bus D4 does not have to be monitored since it tied to a non BES element on the low side. Bus D4 individual quantities were discussed. R2 breaker status and R3 electrical quantity monitoring aren't needed. Relays can be used and cross-triggering isn't required.

Steve also discussed a document initiated by MRO PRS asking for clarification of PRC-002-2 requirements. The MRO concluded that relays could be used. Impedance elements for triggering are directional. No cross triggering is required. The MRO document agrees with the Jeff's information above.

Agenda Item 8: Standards Technical Rationale Presentation

Shannon Mickens presented on NERC Standards Technical Rationale changes and updates Track 1. Q2 2019 will be the date for posting. After track 1 it will go to the drafting team. Track 2 will be addressed through the Standards Development process. Howard Gugel is working on a one-stop shop for everything associated with a standard. Shannon informed the group that the Guidelines Technical Basis (GTB) will be replaced by Technical Rationale documents and/or Implementation Guidance. Moving forward the Technical Rationale will be standalone documents and will not be auditable. Shannon noted that the Implementation Guidance will provide examples of implementation, but will not prescribe the only approaches to compliance. Chris Angland asked if REs or MRO will they be doing the same type documentation? Shannon took an action item to find the answer. Shannon also reviewed the SPP Reliability Standards Outreach Report and reminded the group to be mindful of important dates for commenting and review and informed the group that comments may be submitted early. He also noted that NERC now posts all Webinars for those who miss their presentations.

Agenda Item 9: Multi-Terminal Line Paper

Jeff Beasley submitted a paper for review on three-terminal line design and protection challenges. Included are details on the different types of protection relays and schemes used and what the challenges are. The paper concluded that regardless of the reason for constructing a three terminal line, it will always result in a compromise in the new transmission line protection system configuration. Alternatives to three terminal lines are given as well. John Anderson recommended the apparent impedance discussed in 2.1.1 be expanded so other will understand the concept better. Michael Fleck recommended an explanation of why DCB schemes may not work well with three terminal lines. Jeff's paper provided the following recommendation:

“It is the recommendation of the SPCWG that SPP prepare and approve a policy prohibiting the creation of transmission lines with three or more sources, connected to facilities 69kV or above, whether temporary or permanent”

Steve will discuss the recommendation with Travis Hyde (TWG) and report back to the SPCWG at the next meeting.

Agenda Item 10: Misoperations

This item was tabled until the next meeting.

Agenda Item 11: Criteria Section 8 Revision Request

John Allen presented the draft request that he and Forrest Brock assembled. Only sections 8.2.7, 8.3, 8.4, and 8.5 will remain. These sections are mainly place holders for future standards that are in development. The draft RR will be placed into the RR process. Edits to Section 8.5 to capture language about individual TP UVLS schemes, and differentiating them from a regional program were made. A motion was made by Rick Gurley to endorse the draft RR with the SPCWG edits. John Anderson seconded and the group provided unanimous approval. An action item was taken for Kathryn to submit the RR on behalf of the SPCWG and the RCWG.

Agenda Item 12: RAS Specifications Document

Steve presented the existing RAS checklist. Scott Jordan (CAS) is working with Operations to make sure everything will be covered for PRC-012-2. The CAS will edit the checklist if anything required in Attachment 2 isn't delineated. Neil and Scott will provide a draft process at the next SPCWG meeting.

Agenda Item 13: EPRI PSET Tool Update

Steve reviewed the tool and then requested members around the room report if they had any experience with the tool. Most reported that they had not as their organizations were not part of the project or were not EPRI members. NPPD had worked with the tool and EPRI and Steve reported on NPPD's experience. PSET works on both CAPE and ASPEN. NPPD has used the PSET tool to check relay coordination in their system. They have found some small relay coordination changes that were necessary and they will be using the tool more in the future. Bob Soper reported that WAPA is also testing the tool. Aspen one-liner is making edits to their program that will improve it. Bob and Steve will continue to work to test the PSET and report on progress.

Agenda Item 14: Event Analysis Working Group Update

This item was moved up in the agenda due to staff time constraints. Kim Van Brimer provided the update on the Event Analysis Working Group (EAWG) which was dissolved at the previous MOPC meeting. Event analysis will be transitioned to an ad hoc process by which all working groups may bring events forth and may create new task forces in order to conduct analysis. Working group charters will need to be amended to include this new functionality. Alan Wahlstrom will be heading up event analysis at SPP and responsible for event reviews or lessons learned which should be shared with SPP membership. Noted that MRO also does have an Event Analysis group. An additional action item was taken to have Alan Wahlstrom provide clarity on the types of events for which membership should notify SPP for event analysis. There will be a meeting in the third week of February to start getting charters changed. Steve asked about the Addendum for category 1A events.

Agenda Item 15: SPS UFLS Island

Kevin Jones presented on the SPS island and informed the group that SPS has had over a dozen separation events resulting in UFLS. Noted the South Australia 2016 blackout as a potential for similar conditions to SPS. Kevin requested that SPP Planning run studies on various scenarios in SPS and Charles Hendrix noted that SPP could add the SPS island to Planning's UFLS study.

Agenda Item 16: Discussion of Future Meetings (Proposed Meeting Dates)

- Future Meeting Dates and locations
 - April 17,18 Little Rock, SPP Office
 - July 24,25 Denver, CO, Xcel Office
 - October 16,17 Kansas City, KCPL Office

Agenda Item 17: Closing Administrative Duties

Summarize Action Items

The action item list was updated to reflect four (4) new action items and these were summarized by Doug Bowman (Action Items Attached).

Discuss upcoming meeting topics

Steve noted that the agenda will be sent out and to please reach out with any additional items.

Adjourn meeting

Michael F. made a motion to adjourn the meeting and Gary seconded, meeting was adjourned.

Respectfully Submitted,

**Douglas Bowman
SPCWG Staff Secretary**

ATTENDANCE



Southwest Power Pool, Inc.

SYSTEM PROTECTION AND CONTROL WORKING GROUP MEETING

January 30-31, 2019

AEP Office – Dallas, TX

• ATTENDANCE LIST •

Jan 30	Jan 31	IP/WB	Name	Company
	✓	WB	Scott Jordan	SPP
	✓	WB	Charles Hendrix	SPP
✓	✓	IP	STANWON V. MICKENS	SPP
✓	✓	IP	David Ewald	Liberty Utilities (EDE)
✓	✓	IP	John Anderson	KCP&L & Western / Energy companies
✓	✓	IP	David Wheeler	Xcel Energy
✓	✓	IP	MICHAEL FLECK	ITC HOLDINGS
✓	✓	IP	Derek Vonada	Sunflower Electric
✓	✓	IP	SHAWN JACOBS	OGE
✓	✓	IP	Rick Gurley	AEP
✓	✓	IP	Steve Wades	NPPD
✓	✓	IP	Doug Bowman	SPP
✓	✓	IP	Kathryn Dial	SPP
✓	✓	IP	Mathew	SUNC
✓	✓	WB	Chris Angland	OPPD
✓	✓	WB	Bob Soper	WAPA
✓	✓	WB	Jeff Beasley	GRDA
✓	✓	WB	Ken Zellefrow	CUS
✓		WB	Kim VanBrimer	SPP
✓		WB	Angela Wheat	SPA
✓		WB	Ryan Golwin	AEP
✓		WB	Neal Williams	Popter Bluff
✓	✓	WB	Jonathan Hayes	SPP
	✓	WB	John Allen	CUS

AGENDA



Southwest Power Pool, Inc.
SYSTEM PROTECTION AND CONTROL WORKING GROUP
January 30-31, 2018
AEP Office, Dallas, TX

• A G E N D A •

1. Administrative Items Steve Wadas
 - a. Call to Order
 - b. Proxies
 - c. Approve minutes of October 23-24, 2018 meeting
 - d. Approve agenda
2. Antitrust Statement Doug Bowman
3. Review of Past Action Items Doug Bowman
4. Member Vacancies Steve Wadas
5. NERC SPC Update Steve Wadas
6. PRC-012-2, R8 Guidance Clarifications Steve Wadas
7. PRC-002-2, R2 – Ongoing Monitoring Requirements Discussions Steve Wadas
8. Standards Technical Rationale Presentation Shannon Mickens
9. Multi-Terminal Line Paper Jeff Beasley
10. Misoperations
 - a. NERC MIDASWG Data Reporting Instructions (DRI) Progress Forrest Brock, Louis Guidry
 - b. EPRI Categorization Tool – Member Review Update All
 - c. Tool Roll-out Louis Guidry
11. Criteria Section 8 Revision Request Forrest Brock/John Allen
12. RAS Specifications Document Steve Wadas
13. EPRI PSET Tool Update Adrian Kelly / Steve Wadas
14. Event Analysis Working Group Update Kim Van Brimer
15. SPS UFLS Island Kevin Jones
16. Discussion of Future Meetings (Proposed Meeting Dates) Steve Wadas
 - a. 2019 Dates and Locations
 - i. April 17, 18 Little Rock, SPP Office
 - ii. July 24, 25 Denver, CO, Xcel Office
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*Relationship-Based * Member-Driven * Independence Through Diversity*

*Evolutionary vs. Revolutionary * Reliability & Economics Inseparable*



17. Closing Administrative Duties Steve Wadas
 - a. Summarize Action Items
 - b. Discuss upcoming meeting topics
 - c. Adjourn meeting

ACTION ITEMS

Action Item	Date Originated	Action Item	Comments	Status (Not Started, In Progress, Closure Pending, On Hold, Closed)
115	07/26/18	All members will test EPRI flowchart tool and provide feedback to EPRI		ongoing
119	10/24/18	LG to begin working on webex to roll out EPRI Misops tool to SPP Members in the Spring		ongoing
120	10/24/18	DB will check on the GI task force's status and when the group will make recommendations. AA re 3-terminal line discussions		ongoing
121	01/30/19	Kathryn to send out request for nominations for two, maybe three new member slots to be filled.		
122	01/30/19	Shannon to look into whether REs or MRO will be doing the same type technical rational documentation.		
123	01/31/19	Steve will discuss three terminal line recommendation with Travis Hyde to get his opinion. Steve will report to the group at next meeting.		
124	01/31/19	Kathryn to submit RR provided by John and Forrest for criteria 8 revisions on behalf of the SPCWG		