

**SOUTHWEST POWER POOL
SYSTEM PROTECTION AND CONTROL ADVISORY GROUP MEETING**

April 25, 2023 1:00PM - 5:00PM (CPT)
April 26, 2023 8:00AM - 12:00PM (CPT)

OPPD Offices, Omaha, Nebraska

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

- Jeff Beasley (GRDA) motioned to approve the *February 7, 2023 SPCAG Meeting Minutes*. John Anderson (Evergy) seconded the motion. The motion carried without opposition or abstention.
- Steve Wadas (NPPD) motioned to recommend SPP staff proceed with the drafted revisions, as presented and amended, to the Reliability Coordinator and Planning Coordinator NERC Reliability Standard PRC-012-2 Process Document for the Eastern Interconnection. Jeff Beasley (GRDA) seconded the motion. The motion carried without opposition or abstention.

ACTION ITEMS:

- 169: SPCAG to be engaged in TWG and MDAG to appropriately prioritize SIR544

SYSTEM PROTECTION AND CONTROL ADVISORY GROUP MINUTES
4/25-26/2023

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS

SPCAG Chair Chris Angland (OPPD) called the meeting to order at 1:00 PM on 4/25/2023. The meeting reconvened at 8:01 AM on 4/26/2022.

William Holden (SPP) took attendance and established a meeting quorum. A record of member attendance is an attachment to these minutes.

William Holden (SPP) read the SPP Antitrust Statement.

Chair Chris Angland (OPPD) reviewed the agenda and made requested changes:

- Added discussion of CIP-014 at the request of Steve Wadas

A record of the updated Agenda is an attachment to these minutes.

Jeff Beasley (GRDA) motioned to approve the *February 7, 2023 SPCAG Meeting Minutes*. John Anderson (Eversource) seconded the motion. The motion carried without opposition or abstention.

AGENDA ITEM 2 – FERC ORDER 881

Jack Williamson (SPP) provided an overview of FERC Order 881 and a status update on associated SPP activities.

Rich Bauer (NERC) presented on impacts from FERC Order 881 on NERC Standard PRC-023.

AGENDA ITEM 3 – REMEDIAL ACTION SCHEMES

THUNDERHEAD

William Holden (SPP) provided an update that the Thunderhead RAS remains active. The retirement remains anticipated for November 2024.

RAPID CITY

William Holden (SPP) provided an update on the upcoming Rapid City RAS Retirement. Relayed that Philip Westby (BEPC) communicated that analysis performed by Schweitzer remains underway to be followed by further discussions with NPPD and WAPA.

GGS

Steve Wadas (NPPD) provided an update on ongoing equipment modernization upgrades.

PROCESS DOCUMENT

William Holden (SPP) presented a draft of proposed revisions to the *Reliability Coordinator and Planning Coordinator NERC Reliability Standard PRC-012-2 Process Document for the Eastern Interconnection*. Members recommended amendments to event reporting requirements for align with the standard.

Steve Wadas (NPPD) motioned to recommend SPP staff proceed with the drafted revisions, as presented and amended, to the *Reliability Coordinator and Planning Coordinator NERC Reliability Standard PRC-012-2 Process Document for the Eastern Interconnection*. Jeff Beasley (GRDA) seconded the motion. The motion carried without opposition or abstention.

The draft process document will be brought to the TWG, ORWG, & RCAG for additional recommendations prior to implementation.

PRC-012 PLANNING COORDINATOR RAS EVALUATIONS

Scott Jordan (SPP) presented, during an executive session, an update on the NERC Standard PRC-012 Planning Coordinator evaluations of RAS within the SPP planning area.

AGENDA ITEM 4 – SPP SYSTEM PLANNING SHORT CIRCUIT MODEL

Eric Sullivan (SPP) provided an update on the SPP initiative, SIR544 Short circuit modeling enhancement. More details are available in the presentation found in the March 28, 2023 [TWG meeting materials](#).

Members expressed concerns with current MDAG short circuit models regarding zero sequence data issues and compatibility with conversion to other software. The expectation is that efficiency would be realized with a consolidated SPP effort by alleviating redundant corrections and conversions performed by each member. Lynn Schroeder (Sunflower) recommended that NERC paper items be checked in the MDAG process including approaches to boundary equivalents considering the variance of current contributions from synchronous resources and inverter based resources (IBR).

Eddie Watson (SPP) encouraged participation in the MDAG process, particularly for the short circuit model, stating each pass is an opportunity for review. Eric Sullivan (SPP) clarified that DocuCheck and fault current values are currently provided for quality assurance within the process.

Antitrust: 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.

Action Item #169 was created for SPCAG to be engaged in TWG and MDAG to appropriately prioritize SIR544.

AGENDA ITEM 5 – SYNCHROPHASORS

Mike Nugent (SPP) Presented on the current state of Phasor Measurement Unit (PMU) technology implementations in SPP and across industry along with an SPP roadmap for further developments.

AGENDA ITEM 6 – RELIABILITY GROUPS

NERC SPCWG

Lynn Schroeder (Sunflower) provided an update on the April 2023 NERC SPCWG meetings. Topics included review of the SPCWG library and website regarding retention & maintenance process, maintenance for Ethernet for P&C, a position paper for FERC Order 881/881A to be brought to RTSC for review, and Reliability Assessment Subcommittee (RAS) discussion of IBR impacts.

Members discussed the need for future agenda items regarding IBR impacts to protection, including negative sequence current for various configurations. Discussion highlighted ongoing efforts by NERC to develop performance based standards. Additionally, PRC-024 implementation guide development appears to be on hold due to ongoing SAR process.

NERC STANDARDS

Shannon Mickens (SPP) provided an overview of upcoming updates to NERC Standards.

MRO PRS MEETING

Jeff Beasley (GRDA) provided an update on the March 2023 MRO PRS meeting, summarized the misoperations metrics, and presented on lesson's learned.

AGENDA ITEM 7 – PROTECTION IN YOUR SHOP

Jeff Beasley (GRDA) deferred presentation on GRDA experience with PRC-004 Powerbase Integration Process to the next meeting.

AGENDA ITEM 8 – CLOSING ADMINISTRATIVE DUTIES

William Holden (SPP) reviewed new, open and closure pending action items.

Action Item 157 remained as Closure pending to evaluate NERC whitepaper on short circuit models integration into the MDAG process. Action item 162 remains marked as In Progress with SPP Planning Modeling staff to present requested topics during SPCAG discussion of Short Circuit Models and analysis. Action item 165 was adjusted to Closure Pending to allow SIR544 prioritization to be agreeable to the SPCAG. Action item 166 remains marked as In Progress with SPCAG members invited to participate in the MDAG model process. Action item 167 remains marked as In Progress with SIR544 submitted for prioritization. Action item 169 was added for SPCAG members to be engaged in TWG and MDAG to appropriately prioritize SIR544. A record of action items is an attachment to these minutes.

Chair Chris England (OPPD) led a discussion on potential topics for the August 1st – 2nd, 2023 SPCAG meeting, including:

- Short Circuit Models (standing agenda item): update on initiative and MDAG Focus Group meetings
- IBR as a new standing topic
- Traveling wave relays
- MRO RAM Process Audit Experiences

The remaining 2023 meeting schedule was discussed. All members present anticipate travel to the August in-person meeting which satisfies the SPP criteria for in-person stakeholder meetings to have an expected attendance of 10 or more people. In consideration of the time-zone of all attendees, the August meeting schedule will be adjusted to remain within normal business hours for both Central and Mountain Time unless necessitated by agenda.

- August 1-2, 2023 (In-Person at Xcel offices in Denver)
- November 7-8, 2023 (WebEx)

SPCAG Chair Chris England (OPPD) recessed the SPCAG at 4:59 PM on 4/25/2023 and adjourned the SPCAG at 12:27 PM on 4/26/2023.

Respectfully Submitted,

William Holden, System Protection and Control Advisory Group, Staff Secretary

SUMMARY OF ATTACHMENTS:

SPCAG 4/25-26/2023 Agenda (pg. 7-8)

SPCAG 4/25-26/2023 Member Attendance (pg. 9)

SPCAG Action Item Tracking (pg. 10-11)

SPCAG Approved *February 7, 2023 SPCAG Meeting Minutes*

SOUTHWEST POWER POOL, INC.

SYSTEM PROTECTION AND CONTROL ADVISORY GROUP MEETING

April 25, 2023 1:00PM - 5:00PM CDT
April 26, 2023 8:00AM - 12:00PM CDT

OPPD Offices, Omaha, Nebraska

AGENDA

1. Administrative Items:
 - a. Call to Order..... Chris Angland
 - b. AttendanceWilliam Holden
 - c. Antitrust Statement.....William Holden
 - d. Agenda Review Chris Angland
 - e. Review minutes of February 7, 2023 meeting (Approval)..... Chris Angland
2. FERC [Order 881](#) (Update):
 - a. [AARITF](#) & SPP Implementation.....Jack Williamson (30m)
 - b. Impact to [PRC-023](#)? Rich Bauer (2pm, 40m)
3. Remedial Action Schemes: https://spp.org/documents/62226/spp_prc-012-2_process_ei.pdf
 - a. Thunderhead RAS (Update) William Holden (5m)
 - b. Rapid City RAS Retirement (Update) William Holden (5m)
 - c. NPPD GGS RAS (Update)..... Steve Wadas (5m)
 - d. EI PRC-012-2 Process Document Revisions (Approval).....William Holden (60m)
 - e. PRC-012 Planning Coordinator RAS (Update – **Executive Session**)...Scott Jordan (4:30pm, 20m)
4. SPP System Planning Short Circuit Model: [SIR544](#) (Update) Eric Sullivan (deferred)
5. [Synchrophasors](#)/PMU (Update).....Mike Nugent (Wed 9am, 60m)
6. Reliability Groups (Update):
 - a. [NERC SPCWG](#)..... Lynn Schroeder (20m)
 - b. [NERC Standards](#).....Shannon Mickens (30m)
 - c. [MRO PRS](#) Jeff Beasley/Lynn Schroeder (20m)
7. Protection in your shop: PRC-004 PowerBase Integration Process..... Jeff Beasley (30m)
8. CIP-014Steve Wadas (30m)

9. Closing Administrative Duties:

- a. Review of New, Open and Closure Pending Actions.....William Holden
- b. Discuss upcoming meeting topics and location Chris Angland
 - i. August 1-2, 2023 (In-Person, Denver)
 - ii. November 7-8, 2023 (WebEx)
- c. Adjourn meeting Chris Angland

SPCAG MEMBER ATTENDANCE:

Name	Company	Role	4/25/2023	4/26/2023
Chris Angland	Omaha Public Power District	Chair	✓	✓
David Oswald	Liberty Utilities	Vice Chair	✓	✓
John Anderson	Evergy, Inc	Member	✓	✓
Jeff Beasley	Grand River Dam Authority	Member	✓	✓
Matt Boersema	Western Farmers Electric Cooperative	Member	✓	✓
Glenn Bryson	American Electric Power	Member	✓	✓
Michael Fleck	ITC Great Plains	Member	✓	
Shawn Jacobs	Oklahoma Gas & Electric	Member	✓	✓
Spencer Riddle	Western Area Power Administration Upper Great Plains Region	Member	✓	
Lynn Schroeder	Sunflower Electric Power Corp	Member	✓	✓
Steve Wadas	Nebraska Public Power District	Member	✓	✓
David Wheeler	Xcel Energy	Member	✓	✓
Ken Zellefrow	City Utilities of Springfield MO	Member	✓	✓
William Holden	Southwest Power Pool	Staff Secretary	✓	✓

SPCAG ACTION ITEMS

Action Item	Origin Date	Action Item	Update Summary	Status	Owner	Date Closed
157	02/10/21	SPP Staff to reach out to SPCAG to determine interest in developing PSSE/ASPEN/CAPE Conversion Whitepaper.	<p>5/12/21: Trey to send list to Lynn, and resend the request for participation.</p> <p>8/11/21: There's a current NERC effort to develop a whitepaper, and the SPP action is on hold until that paper is developed.</p> <p>11/10/21: Closure pending review of NERC paper, Q2 2022.</p> <p>5/11/22: Closure pending review of NERC paper, Q2 2022.</p> <p>8/9/22: Closure pending review of NERC paper, Q4 2022.</p> <p>11/9/22: Closure pending discussion of need for additional whitepaper.</p> <p>2/7/23: Closure pending discussion of need for additional whitepaper.</p> <p>4/25/23: Closure pending evaluation of NERC paper incorporation into MDAG process</p>	Closure pending	William Holden	
162	11/10/21	SPP Planning Modeling staff to present requested topics during SPCAG discussion of Short Circuit Models and analysis	<p>2/9/22: SPP solicited members for topics, survey being conducted for preferred fault model software with review of results at the May 22' meeting. Zach Sabey committed to provide updates on external Short Circuit data collection efforts.</p> <p>5/11/22: Eric Sullivan (SPP) shared MDAG survey results on short circuit model software and other preferences. The topic for discussion at the August meeting was selected to be update on short circuit build and any quality checks to be discussed.</p> <p>8/9/22: Erin Cathey (SPP) presented on the SPP Roadmap Process, Aspen presented on Short Circuit model conversion, and A/I #167 opened to submit an initiative request to improve the MDAG short circuit models for use with system protection and control</p> <p>11/9/22: Eric Sullivan (SPP) provided an update on the initiative and opportunity for feedback on the current short circuit model</p>	In progress	Zach Sabey	

Action Item	Origin Date	Action Item	Update Summary	Status	Owner	Date Closed
			development. Lynn Schroeder (SECI) provided a summary of the NERC SPCWG Inter-Entity Short Circuit whitepaper. Nick Stueve (Evergy) demonstrated a short circuit model comparison tool 2/7/23: SPCAG requested SPP Modeling Staff provide an overview at the April '23 meeting on the status of the initiative, MDAG Focus Group meetings, improvements steps, and data requests. 4/25/23: SPP Modeling Staff deferred detailed update to the next meeting in August.			
165	05/11/22	SPCAG to explore SPP Roadmap for Short Circuit modeling program purchase.	8/10/20: Process presented to the group, A/I #167 opened to submit an initiative request to improve the MDAG short circuit models for use with system protection and control 11/9/22: Eric Sullivan (SPP) provided an update on the initiative 2/7/23: no progress to report 4/25/23: Closure pending SIR544 prioritization agreeable by SPCAG	Closure pending	William Holden	
166	05/11/22	SPCAG to create sub-group for coordination with MDAG.	8/10/22: SPCAG members have been attending MDAG Focus Group meetings 11/9/22: Eric Sullivan (SPP) provided an update on opportunity for feedback on the current short circuit model development. 2/7/23: no progress to report 4/25/23: SPP Modeling staff invited SPCAG members to participate in MDAG model process	In progress	John Anderson	
167	08/09/22	Submit an initiative request to improve the MDAG short circuit models for use with system protection and control	11/9/22: Eric Sullivan (SPP) provided an update on the initiative 2/7/23: no progress to report 4/25/23: SIR544 submitted, in-process for prioritization by working groups (e.g. TWG)	In progress	William Holden	
169	04/25/23	SPCAG to be engaged in TWG and MDAG to appropriately prioritize SIR544		Not Started	William Holden	

**SOUTHWEST POWER POOL
SYSTEM PROTECTION AND CONTROL ADVISORY GROUP MEETING**

Tuesday February 7, 2023 1:00PM - 5:00PM (CPT)

Net Conference

SUMMARY OF MOTIONS AND ACTION ITEMS

MOTIONS:

- Ken Zellefrow (CUS) motioned to approve the November 8-9, 2022 SPCAG Meeting Minutes. Shawn Jacobs (OG&E) seconded the motion. The motion carried without opposition or abstention.

ACTION ITEMS:

- None

SYSTEM PROTECTION AND CONTROL ADVISORY GROUP MINUTES 2/7/2023

MINUTES

AGENDA ITEM 1 – ADMINISTRATIVE ITEMS

SPCAG Chair Chris Angland (OPPD) called the meeting to order at 1:00 PM on 2/7/2023. John Anderson was thanked for serving as the previous Chair. Matt Boersema (WFEC) and Glenn Bryson (AEP) were welcomed as members receiving approval on 11/18/2022. David Oswald (Liberty) was welcomed as the Vice Chair for the 2023-2024 term.

William Holden (SPP) took attendance and established a meeting quorum. A record of member attendance is an attachment to these minutes.

William Holden (SPP) read the SPP Antitrust Statement.

Chair Chris Angland (OPPD) reviewed the agenda and made requested changes:

- Added review of RAS operation or failure

A record of the updated Agenda is an attachment to these minutes.

Ken Zellefrow (CUS) motioned to approve the *November 8-9, 2022 SPCAG Meeting Minutes*. Shawn Jacobs (OG&E) seconded the motion. The motion carried without opposition or abstention.

AGENDA ITEM 2 – REMEDIAL ACTION SCHEMES

THUNDERHEAD

William Holden (SPP) noted that the group was notified on 12/9/2022 that the Thunderhead RAS was initially activated on 11/21/2022. Orajit Ghoshal (Invenergy) informed the group that since that time the Thunderhead RAS has experienced an operational event and is coordinating analysis reporting of the operational performance.

RAPID CITY

William Holden (SPP) provided an update on the upcoming Rapid City RAS Retirement. Relayed that Jeremy Severson (BEPC) communicated that analysis performed by Schweitzer remains underway along with discussions with NPPD and WAPA.

GG5

Steve Wadas (NPPD) provided an overview of upcoming equipment modernization upgrades anticipated to maintain existing functionality.

REVIEW OF RAS OPERATION OR FAILURE

William Holden (SPP) provided an overview of the existing process where each RAS operation or failure should result in a preliminary and final report to the SPP RC. The NERC Standard PRC-012-2 requires a report for analysis with identified deficiencies. The group discussed whether to amend the document to align the process with the standard and only require a report for deficient operation. The group requested SPP Staff draft amendments to the process document and bring it to the next SPCAG followed by TWG, ORWG, & RCAG for recommendations prior to implementation.

AGENDA ITEM 3 – RR521 NON-STANDARD LOAD CLEANUP

Michael Ray (SPP) presented on RR521 which is intended to clarify the current market rules for exceptions where generation can be netted with load where consistent with applicable laws, rules and regulations. SPCAG feedback was sought by the ORWG on 1/5/2023. There were concerns expressed regarding potential impacts to system protection. The scope of review requested of the SPCAG is the appropriateness of 6-cycles under Market Protocols - Resource Metering section D.7.1 (c). SPCAG recommended edits are underlined below:

D.7.1 Resource Metering

Resource data must be submitted in either 5-minute or hourly intervals as indicated by market registration and must be consistent with the Resource's registration as described in Section 6.1.1. No load shall be aggregated with a registered Resource for market settlement purposes. The only exceptions to this are cases which include:

- (a) Auxiliary Load as described under Section 6.1.12 (2) and 6.1.12 (3);
- (b) Load which is being directly served by and is located at the same physical and electrically equivalent injection point to the Transmission System as a registered Resource exercising its rights under PURPA; or
- (c) Load which is being directly served by and is located at the same physical and electrically equivalent injection point to the Transmission System as a registered Resource, and configured to be physically isolated and prevented from withdrawing from the Transmission System within 6-30 cycles depending upon the stability requirements of the load and the local system of the Resource output going below the load.

Exceptions must be consistent with applicable laws, rules, and regulations.

Additional SPCAG Feedback: Potential for impacts to system protection and control from loads withdrawing from the system. Recommend a defined tolerance of acceptable duration and amount of withdrawal prior to requiring disconnection.

AGENDA ITEM 4 – SPP SYSTEM PLANNING SHORT CIRCUIT MODEL

William Holden (SPP) communicated that SPP Modeling Staff had no progress to report on the short circuit model development improvement initiative. Feedback was requested from the group.

Members requested SPP Modeling Staff provide an overview at the April '23 meeting on the status of the initiative, MDAG Focus Group meetings, improvements steps, and data requests.

AGENDA ITEM 5 – 2022 STAKEHOLDER GROUP EFFECTIVENESS SURVEY

William Holden (SPP) provided an overview of the 2022 Stakeholder Group Effectiveness Survey results with a focus on the SPCAG. Members recommended the following to achieve the greatest effectiveness: improved guidance on advisory group role, WebEx experience may depend on meeting location environment, encourage in-person attendance.

AGENDA ITEM 6 – RELIABILITY GROUPS

NERC SPCWG AND LESSONS LEARNED

Lynn Schroeder (Sunflower) provided a presentation with updates on the December 2022 NERC SPCWG meetings. Participation is open and encouraged for interested individuals. Liaison reports included IRPS on IBR events, EMT analysis, and grid forming inverter impacts to system protection. RSTC recently reviewed entire work plan. FERC Order 881 and PRC-023 draft position paper indicating no changes. PRC-019-2 implementation guide approved though SAR was not approved. SPCWG scope has been approved and posted along with a new website format. Presentation on UFLS design for low inertia situations. Draft scope document to provide industry guidance for impacts of 61850 architecture on NERC Protection System definition and related standards. SPCWG review and renew documents every 3-years. *Determination of Practical Transmission Relaying Loadability Settings* out of step blocking edits are anticipated in the coming months.

NERC lessons learned will no longer be presented along with the SPCWG update. There is a new lessons learned posted for protection *Preventing Unwanted Operations during Relay Diagnostic Restarts*. NERC website provided the following link for lessons learned organized by date issued: <https://www.nerc.com/pa/rrm/ea/Pages/Lessons-Learned.aspx>

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SPP NERC

Shannon Mickens (SPP) provided an overview of the SPIDERWG FAC-001-4 and FAC-002-4 Standard Authorization Requests (SARs), Reliability Guideline 1547-2018, and Standard Processes Manual Revisions to enhance NERC's ability to address reliability needs with appropriate agility, while maintaining an open and inclusive process.

MRO PRS MEETING

David Wheeler (SPS) communicated that the MRO meeting minutes were included in the meeting materials. Noted that Ryan Einer (OG&E) was elected as Chair and Dennis Lu (Manitoba Hydro) as Vice Chair for the term concluding on 12/31/2023.

David Oswald (Liberty) requested that MRO misoperation presentations be given at future meetings.

AGENDA ITEM 7 – PROTECTION IN YOUR SHOP

Chair Chris Angland (OPPD) led a discussion with the group confirming interest in maintaining protection in your shop as a standing agenda item. Coordination of scheduling of these topics is planned to follow the meeting:

- PRC-004 Powerbase Integration Process – Jeff Beasley (GRDA)
- MRO RAM Process Audit Experiences – Chris Angland (OPPD) or Steve Wadas (NPPD)
- Traveling Wave Relays – Michael Fleck (ITC)

AGENDA ITEM 8 – CLOSING ADMINISTRATIVE DUTIES

William Holden (SPP) reviewed new, open and closure pending action items.

Action Item 157 remained as Closure pending to allow SPCAG discussion following publication of NERC whitepaper on short circuit models. Action item 162 remains marked as In Progress with SPP Planning Modeling staff to present requested topics during SPCAG discussion of Short Circuit Models and analysis. Action item 165 remains marked as In Progress for SPCAG to explore SPP roadmap for short circuit modeling program purchase. Action item 166 remains marked as In Progress for SPCAG to create sub-group for coordination with MDAG. Action item 167 remains marked as In Progress to submit an initiative request to improve the MDAG short circuit models for use with system protection and control. A record of action items is an attachment to these minutes.

Chair Chris Angland (OPPD) led a discussion on potential topics for the April 25th – 26th, 2023 SPCAG meeting, including:

- Short Circuit Models (standing agenda item): update on initiative and MDAG Focus Group meetings
- MRO RAM Process Audit Experiences
 - David Oswald upcoming audit

The 2023 meeting schedule was discussed with updates to location. All members present anticipate travel to the in-person meetings which satisfies the SPP criteria for in-person stakeholder meetings to have an expected attendance of 10 or more people.

- April 25-26, 2023 (In-person at OPPD offices in Omaha)
- August 1-2, 2023 (In-Person at Xcel offices in Denver)
- November 7-8, 2023 (WebEx)

SPCAG Chair Chris Angland (OPPD) adjourned the SPCAG at 4:44 PM on 2/7/2023.

Respectfully Submitted,

William Holden, System Protection and Control Advisory Group, Staff Secretary

SUMMARY OF ATTACHMENTS:

SPCAG 2/7-8/2023 Agenda (pg. 8)

SPCAG 2/7-8/2023 Member Attendance (pg. 9)

SPCAG Action Item Tracking (pg. 10-11)

SOUTHWEST POWER POOL, INC.

SYSTEM PROTECTION AND CONTROL ADVISORY GROUP MEETING

February 7, 2023 1:00PM - 5:00PM CDT
February 8, 2023 8:00AM - 12:00PM CDT

Net Conference

AGENDA

1. Administrative Items:
 - a. Call to Order, new members, Chair & Vice Chair..... Chris Angland
 - b. AttendanceWilliam Holden
 - c. Antitrust Statement.....William Holden
 - d. Agenda Review Chris Angland
 - e. Review minutes of November 8-9, 2022 meeting (Approval)..... Chris Angland
2. Remedial Action Schemes: https://spp.org/documents/62226/spp_prc-012-2_process_ei.pdf
 - a. Thunderhead RAS (Update) Juan Hayem (5m)
 - b. Rapid City RAS Retirement (Update)..... Jeremy Severson (5m)
 - c. NPPD GGS RAS (Update)..... Steve Wadas (5m)
 - d. Review of RAS operation or failureWilliam Holden (15m)
3. RR521 Non-Standard Load Cleanup: spp.org/Documents/68081/RR521.zip..... Michael Ray (30m)
4. SPP System Planning Short Circuit Model:
 - a. SPP Roadmap Initiative (Update)..... William Holden (5m)
5. 2022 Stakeholder Group Effectiveness Survey.....William Holden (15m)
6. Reliability Groups (Update):
 - a. NERC SPCWG and Lessons Learned Lynn Schroeder (20m)
 - b. SPP NERCShannon Mickens (30m)
 - c. MRO PRS MeetingDavid Wheeler (5m)
7. Protection in your shop (Discussion)Chris Angland (5m)
8. Closing Administrative Duties:
 - a. Review of New, Open and Closure Pending Actions.....William Holden
 - b. Discuss upcoming meeting topics and location Chris Angland
 - April 25-26, 2023 (WebEx)
 - August 1-2, 2023 (In-Person)
 - November 7-8, 2023 (In-Person)
 - c. Adjourn meeting Chris Angland

SPCAG MEMBER ATTENDANCE:

Name	Company	Role	2/7/2023
Chris Angland	Omaha Public Power District	Chair	✓
David Oswald	Liberty Utilities	Vice Chair	✓
John Anderson	Evergy, Inc	Member	✓
Jeff Beasley	Grand River Dam Authority	Member	✓
Matt Boersema	Western Farmers Electric Cooperative	Member	✓
Glenn Bryson	American Electric Power	Member	✓
Michael Fleck	ITC Great Plains	Member	✓
Shawn Jacobs	Oklahoma Gas & Electric	Member	✓
Spencer Riddle	Western Area Power Administration Upper Great Plains Region	Member	
Lynn Schroeder	Sunflower Electric Power Corp	Member	✓
Steve Wadas	Nebraska Public Power District	Member	✓
David Wheeler	Xcel Energy	Member	✓
Ken Zellefrow	City Utilities of Springfield MO	Member	✓
William Holden	Southwest Power Pool	Staff Secretary	✓

SPCAG ACTION ITEMS

Action Item	Origin Date	Action Item	Update Summary	Status	Owner	Date Closed
157	02/10/21	SPP Staff to reach out to SPCAG to determine interest in developing PSSE/ASPEN/CAPE Conversion Whitepaper.	<p>5/12/21: Trey to send list to Lynn, and resend the request for participation.</p> <p>8/11/21: There's a current NERC effort to develop a whitepaper, and the SPP action is on hold until that paper is developed.</p> <p>11/10/21: Closure pending review of NERC paper, Q2 2022.</p> <p>5/11/22: Closure pending review of NERC paper, Q2 2022.</p> <p>8/9/22: Closure pending review of NERC paper, Q4 2022.</p> <p>11/9/22: Closure pending discussion of need for additional whitepaper.</p> <p>2/7/23: Closure pending discussion of need for additional whitepaper.</p>	Closure pending	William Holden	
162	11/10/21	SPP Planning Modeling staff to present requested topics during SPCAG discussion of Short Circuit Models and analysis	<p>2/9/22: SPP solicited members for topics, survey being conducted for preferred fault model software with review of results at the May 22' meeting. Zach Sabey committed to provide updates on external Short Circuit data collection efforts.</p> <p>5/11/22: Eric Sullivan (SPP) shared MDAG survey results on short circuit model software and other preferences. The topic for discussion at the August meeting was selected to be update on short circuit build and any quality checks to be discussed.</p> <p>8/9/22: Erin Cathey (SPP) presented on the SPP Roadmap Process, Aspen presented on Short Circuit model conversion, and A/I #167 opened to submit an initiative request to improve the MDAG short circuit models for use with system protection and control</p> <p>11/9/22: Eric Sullivan (SPP) provided an update on the initiative and opportunity for feedback on the current short circuit model development.</p> <p>Lynn Schroeder (SECI) provided a summary of the NERC SPCWG Inter-</p>	In progress	Zach Sabey	

Action Item	Origin Date	Action Item	Update Summary	Status	Owner	Date Closed
			Entity Short Circuit whitepaper. Nick Stueve (Evergy) demonstrated a short circuit model comparison tool 2/7/23: SPCAG requested SPP Modeling Staff provide an overview at the April '23 meeting on the status of the initiative, MDAG Focus Group meetings, improvements steps, and data requests.			
165	05/11/22	SPCAG to explore SPP Roadmap for Short Circuit modeling program purchase.	8/10/20: Process presented to the group, A/I #167 opened to submit an initiative request to improve the MDAG short circuit models for use with system protection and control 11/9/22: Eric Sullivan (SPP) provided an update on the initiative 2/7/23: no progress to report	In progress	William Holden	
166	05/11/22	SPCAG to create sub-group for coordination with MDAG.	8/10/22: SPCAG members have been attending MDAG Focus Group meetings 11/9/22: Eric Sullivan (SPP) provided an update on opportunity for feedback on the current short circuit model development. 2/7/23: no progress to report	In progress	John Anderson	
167	08/09/22	Submit an initiative request to improve the MDAG short circuit models for use with system protection and control	11/9/22: Eric Sullivan (SPP) provided an update on the initiative 2/7/23: no progress to report	In progress	William Holden	