

1. Welcome, Call to Order

Bill Middaugh, Protection and Control Subcommittee (PCS) Chair, called the meeting to order at 8:06 a.m. MT on March 7, 2024. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

2. Review WECC Antitrust Policy

James Hanson, Operations Analysis Manager, read aloud the WECC Antitrust Policy statement. The meeting agenda included a link to the posted policy.

3. Approve Agenda

B. Middaugh introduced the proposed meeting agenda.

The 2024-03-07 PCS Agenda was amended as follows:

- Topic “Review Assignments for 2023 Misoperations Report” moved from item eight to item seven.
- Topic “American Electric Power’s Journey to Reduce Misoperations” changed from item seven to item eight.
- Item 12, “WECC Risk Register,” swapped with item 11, “Minimizing Unknown Misoperations.”
- Meeting date September 12–13, 2024, was changed to October 3–4, 2024.

On a motion by David Beach, Portland General Electric Company, the PCS approved the agenda.

4. Review and Approve Previous Meeting Minutes

B. Middaugh introduced the minutes from the meeting on December 7–8, 2023.

The Meeting Minutes were amended as follows:

- “BPS” changed to “BPA” in the action items.

On a motion by Curtis Sanden, Southern California Edison Company, the PCS approved the minutes from December 7–8, 2023.

5. Review Previous Action Items

Maya Brimhall, Administrative Coordinator, reviewed action items carried over from the PCS meeting on December 8, 2023. Action items that are not closed and will be carried forward can be found [here](#).

6. Standing Committee Updates

Event and Performance Analysis Subcommittee (EPAS) Report

Curtis Holland, Senior Reliability Specialist, reported that, since the last PCS meeting, there have been four brief reports submitted to the Event Analysis department at WECC, organized by categorized events occurring in 2024. Version 5 of the Event Analysis Process Document took effect January 1, 2024, which affects the EPAS. The changes will be presented by the revision team on March 27, 2024, at 1:00 p.m. MT, and in April 2024. The next EPAS meeting is a closed session and will be held virtually on April 3, 2024.

Remedial Action Scheme Reliability Subcommittee (RASRS) Report

Gene Henneberg shared the Western Interconnection Remedial Action Scheme (RAS) database progress in the most recent RASRS meeting. He relayed that BC Hydro is adding to some of its RAS. PacifiCorp is building additional 500kV lines throughout its system, which will simplify the Jim Bridger RAS. The next RASRS meeting will be held in Salt Lake City, Utah, on July 16, 2024.

IEEE Power System Relaying Committee Report

G. Henneberg encouraged the PCS to attend the in-person IEEE Power System Relaying Committee meeting in Buffalo, New York, from May 13 through 16, 2024. Interested members can register [here](#).

MIDAS User Group (MIDASUG) Report

B. Middaugh and J. Hanson reported that the MIDASUG meetings have been switched to quarterly, and the meeting for this quarter has been cancelled. He shared updates to the 2024 MIDAS template spreadsheet as well as the MIDAS Data Reporting Instruction Manual.

The updated 2024 MIDAS template is posted on the [WECC Website](#).

The MIDAS Data Reporting Instruction Manual is posted on the [WECC Website](#).

System Protection and Control Working Group (SPCWG) Report

B. Middaugh and David Beach, Portland General Electric Company, reported that FERC No 881 still dominates the SPCWG conversations. J. Hanson shared that they are putting together a technical reference document on the 61850 implementation. They are also working on a paper

concerning PRC 28. Discussions continue about PG&E TPL 001-SAR, but work has slowed down due to FERC Order No. 901.

Short-Circuit Modeling Work Group (SCMWG) Report

D. Beach shared that the SCMWG has not met in quite some time and does not have anything to report to the PCS.

Event Analysis Subcommittee (EAS) Report

J. Hanson shared that the Failure Modes and Mechanisms Task Force created various failure modes and mechanism diagrams to improve the EAS's effectiveness. J. Hanson also encouraged the PCS to review NERC's article "Lesson Learned: Protective Relay Solid-State Output Contact Voltage Leakage." He clarified the differences between EPAS and EAS.

The entire library of failure modes and mechanism diagrams is posted on the PCS Closed Team Site on the [WECC Website](#).

7. Review Assignments for 2023 Misoperations Report

J. Hanson and PCS committee members distributed 2023 Misoperation Report topic responsibilities. PCS members with an active, signed Member Group Confidentiality Agreement on file can find the report draft in the PCS Closed Team Site.

The 2023 Misoperations Report Assignments are posted on the [WECC Website](#).

8. American Electric Power's Journey to Reduce Misoperations

Ross Stienecker, American Electric Power (AEP), presented AEP's journey to reduce misoperations. He emphasized that entities could achieve misoperations reduction through cross-functional collaboration and innovative problem-solving. R. Stienecker also emphasized AEP's success through trial and error—no progress can be made if entities are not willing to test different methods to reduce misoperations.

9. FERC Order 881 Group Discussion

The attendees discussed the following subjects in detail:

- Phase Sensitive Relays,
- Relays on Elements Rated by other Entities,
- PRC-027 Compliance, and
- Remedial Action Schemes.

10. Misoperation Severity Index

J. Hanson presented the Misoperation Severity Index. He invited the group to brainstorm how they could use the index to reduce misoperations severity, and discussion followed.

11. WECC Risk Register

J. Hanson presented the WECC Risk Register. He covered the listed risks and encouraged committee members to study the register in relation to the topics and work discussed in the PCS.

The WECC Risk Register is posted on the [WECC Website](#).

12. Minimizing Unknown Misoperations

PCS members engaged in a discussion concerning unknown misoperations minimization.

13. Closed Session

The PCS reviewed Q4 2023 misoperation submissions. B. Middaugh conducted a roundtable.

14. Public Comment

J. Hanson proposed changing PCS’s Q3 meeting date to accommodate those travelling for a separate conference held in Salt Lake City, Utah. The group agreed, and the new meeting dates are recorded below.

15. Review New Action Items

There were no new action items created during this meeting.

16. Upcoming Meetings

June 6–7, 2024.....	Vancouver, WA—BPA Facilities
October 3–4, 2024.....	Salt Lake City, Utah
December 5–6, 2024.....	Salt Lake City, Utah

17. Adjourn

B. Middaugh adjourned the meeting without objection at 10:33 a.m.



Exhibit A: Attendance List

Members in Attendance

David Beach.....Portland General Electric Company
 Dean BenderBonneville Power Administration—Transmission
 Xing Chen British Columbia Hydro and Power Authority
 Kevin Damron.....Avista Corporation
 Bryan Diemer Sacramento Municipal Utility District
 Jason Hall..... Puget Sound Energy, Inc.
 James Hanson.....WECC
 Gene Henneberg.....NV Energy
 Kawika Lawlor..... San Diego Gas and Electric
 Lucy LinAlberta Electric System Operator
 Donald Loftis..... Colorado Springs Utilities
 Pamela MendozaPublic Service Company of Colorado (Xcel Energy)
 Josh MoyersWestern Area Power Administration
 Claire PattiPortland General Electric Company
 Blake Peck.....Idaho Power Company
 Rafael Pineda..... Pacific Gas and Electric Company
 Nick Podany U.S. Bureau of Reclamation
 Curtis Sanden..... Southern California Edison Company
 Stephen SmithSalt River Project
 Jonathan Trejo El Paso Electric Company

Members not in Attendance

Orion Chan British Columbia Hydro and Power Authority
 David Heffernan.....PacifiCorp
 Sanjay Mehta Los Angeles Department of Water and Power
 Harjinder SidhuAltaLink Management Ltd.
 Tyler SmithIdaho Power Company



PCS Meeting Minutes—March 7-8, 2024

Others in Attendance

Maya Brimhall.....WECC
Dave GroverWECC
Curtis HollandWECC
Sarah LewisWECC
Tim LougheedColorado Springs Utilities
Bert Peters IV.....WECC
Ross Stienecker.....American Electric Power

