

Minutes

Planning Committee

December 10, 2019 | 1:00 – 5:00 p.m. Eastern

December 11, 2019 | 8:00 a.m. – 12:00p.m. Eastern

Intercontinental – Buckhead
3315 Peachtree Road NE
Atlanta, GA 30326

Call to Order

Brian Evans-Mongeon, Chair, called to order the meeting at 1:00 p.m. eastern. All PC members introduced themselves, followed by introductions of other meeting participants. The chair acknowledged the tremendous amount of work completed or occurring within the subcommittees, working groups, and task forces and expressed his gratitude. Mark Olson, Secretary, declared a quorum present.

In introductory remarks, the Chair provided his observations from a European working group that is discussing integration of new resource technologies in European electric systems.

NERC Antitrust Compliance Guidelines, Participant Conduct Policy, and Public Announcement

Mark Olson read the NERC anti-trust guidelines and advised participants as to the public nature of the meeting. He reviewed the NERC Participant Conduct Policy for all attendees.

Remarks and Reports

Leadership Report

The chair provided the following updated from the November NERC Board of Trustees Meeting:

The Board approved the proposal to form the Reliability and Security Technical Committee (RSTC). The Board accepted the Reliability Risks and Priorities Report from the Reliability Issues Steering Committee (RISC Report). The Board approved changes to the bylaws at SERC and RF. The Board accepted NERC supply chain report, affirming continued interest in low-impact BES cyber assets. The Members Representative Committee (MRC) has the following new leaders: Jennifer Sterling becomes chair and Paul Choudhury is elected to vice chair. The Board accepted the Electromagnetic Pulse Task Force (EMP) report and announced that they will seek policy input in January on next steps for the ERO. The PC chair encouraged PC members to provide feedback on the EMPTF report to their MRC members.

The chair announced the following PC working group leadership changes:

- Reliability Assessment Subcommittee (RAS): Anna Lafoyiannis becomes the vice chair. Lewis De La Rosa (Texas RE) is the new chair, replacing Tim Fryfogle.

- System Protection and Control Subcommittee (SPCS): Bill Crossland becomes the vice chair. Jeff Iler is the new chair, replacing Mark Gutzmann.

Consent Agenda

The following items were on the consent agenda:

- a. September 10-11, 2019 [Meeting Minutes](#) – Approve
- b. Reliability Guideline | *Fuel Assurance and Fuel-Related Reliability Risk Analysis for the Bulk Power System* – PC Executive Committee Authorized Posting on October 31, 2019
- c. 2019-20 Winter Reliability Assessment – Endorsed by email vote on November 12, 2019
- d. 2019 Long-Term Reliability Assessment – Endorsed by email vote on December 3, 2019

Carl Turner moved to approve the consent agenda. The motion was seconded.

Action: The PC approved the consent agenda.

Subcommittee Leadership Reports and PC Work Plan Update

Performance Analysis Subcommittee (PAS)

Maggie Peacock presented the update in the agenda package. The PAS met the prior week. PAS will provide updates to the PC Work Plan.

Reliability Assessment Subcommittee (RAS)

Tim Fryfogle delivered the update presentation. He reminded the PC that next year's LTRA will include the Probabilistic Assessment. He reviewed work plans and schedules for RAS and the Probabilistic Assessment Working Group (PAWG). There are about 75 people registered to attend the probabilistic analysis forum at the end of this week. John Moura discussed the importance of probabilistic analysis in adding to our resource adequacy assessments. It will be instrumental in meeting ERO goals for studying energy assurance. NERC and RAS will be putting thoughts together on how to present the information to stakeholders in an impactful manner.

System Protection & Control Subcommittee (SPCS)

Mark Gutzmann delivered the update presentation. SPCS will proposed two new work items to the PCEC in January. SPCS anticipates bringing the PRC-019 SAR to the PC in March.

Synchronized Measurements Subcommittee (SMS)

Tim Fritch provided an overview of SMS and current work items. SMS does not see a path forward on the CIP PMU classification implementation guidance. A group within SMS will continue to look for potential solutions that they can develop that can provide PMU and CIP Classification guidance to the industry. He discussed ongoing activity around the January 11, 2019 oscillation event, including collaboration with industry forums and NERC Operating Reliability Subcommittee.

System Analysis and Modeling Subcommittee (SAMS)

Brad Gordon provided an update on work plan activities. OC is taking volunteers to review the load loss white paper developed by SAMS. Power Plant Modeling and Verification Task Force (PPMVTF) has approved a white paper on MOD-025. SAMS will seek PC agreement to submit a SAR.

Inverter-based Resource Performance Task Force (IRPTF)

Jeff Billo delivered the presentation in the agenda package. He provided details on new work plan additions. In discussion, participants distinguished electromagnetic transient (EMT) studies for inverters and the EMT studies for EMP mitigation.

System Planning Impacts from Distributed Energy Resource Working Group (SPIDERWG)

Kun delivered the update presentation and highlighted recent changes to subteam leaders. He noted that the SPIDERWG has stopped work on its guideline for undervoltage load shedding, but continues to develop the underfrequency load shedding (UFLS) guideline.

Geomagnetic Disturbance Task Force (GMDTF)

Ian Grant gave delivered the presentation in the agenda package.

Electric-Gas Working Group

Thomas Coleman delivered the presentation in the agenda package. Comments on the draft Reliability Guideline are due December 18, 2019. Participants discussed potential next steps on the guideline. PC Chair noted that the EGWG is eager to have the guideline used and further developed with ongoing experience. The chair reviewed background that led to creation of the EGWG, including NERC's recommendations to the NERC board in November 2018. Participants discussed initial feedback on the guideline and extent of fuel assurance as a risk. They also considered what successful outcomes of using the guidance would look like. A PC member encouraged colleagues to do what they can to support knowledge about and use of guidelines with entities.

Reliability Guidelines

BPS Perspectives for Implementing IEEE 1547-2018

Kun Zhu delivered the presentation in the agenda package. Participants discussed the level of distribution-entity involvement on SPIDERWG. The working group chair estimates it is about twelve, out of around 200 total group participants. NERC staff and SPIDER have been working to engage and increase the level of participation by distribution entities. Participants discussed significance of legacy devices (pre -2018) and uncertainty with how regulatory bodies may deal with them (retrofit or grandfather). Resource versioning is potentially a need to address in planning model data collection.

Carl Turner moved to authorize posting the Reliability Guideline for 45-day industry comment period. The motion was seconded.

Action: the PC authorized posting.

Items for Approval, Endorsement, or Acceptance*

Standards Authorization Request for MOD-032

Kun Zhu provided the presentation in the agenda package. He discussed comments received from PC members, revisions to the SAR, and SPIDERWG responses. Participants discussed the relationship of the guideline in development and the proposed SAR. A PC member is considering that the SAR may be more effective if it came after the guideline. The working group chair clarified that the proposed SAR would not require specific modeling of DER by planning entities. Participants discussed whether the proposed change was necessary in order to get the data, or worth the level of effort that goes into standards revision. Participants discussed routes the SAR may take if the PC decides to endorse or not endorse. Participants discussed whether the SAR would provide the necessary level of detail to the Standards Committee and a Standards Drafting Team.

Carl moved to endorse the proposed SAR. The motion was seconded. The PC chair called for vote by show of hands. Christine Ericson abstained from voting.

Action: The PC endorsed the SAR.

Misoperations Information Data and Analysis System (MIDAS) Data Reporting Instruction (DRI)

Donna Pratt provided background and overview. She discussed comments that were sent to MIDASWG during the October review period.

Carl Turner moved to approve the MIDAS DRI. The motion was seconded.

Action: The PC approved the MIDAS DRI.

White Paper: Inverter-Based Resource Monitoring

Tim Fritch provided background and an overview of the white paper. The PC chair noted that the IRPTF white paper on standards review (item 6.b.ii) contains recommendations that may need to be aligned with the SMS white paper. A PC member had a concern with addressing monitoring through the standard as proposed in the white paper. The member noted that a methodology is needed, however a prescriptive solution could have undesirable outcomes for reliability. Recent IRPTF work may have surpassed the SMS white paper in relevance. IRPTF has the document for review.

The PC agreed with delaying action on the white paper. The IRPTF has provided its members with the document for review. SMS will inform PC leadership in January 2020 on outcomes and proposed next steps.

White Paper: Applicability of Transmission-Connected Reactive Devices

Brad Gordon provided the presentation in the agenda package. A PC reviewer noted he agreed with the SAMS comment responses and revisions. Participants discussed next steps for a SAR. Participants asked about SAMS views on applicability of proposed standards changes to HVDC facilities and SVCs.

Rich Kowalski moved to approve the white paper. The motion was seconded. John Moura noted that the reliability issues was identified in the 2017 LTRA. He is heartened by this example of the industry identifying and addressing risk through the ERO enterprise.

Action: The PC approved the white paper.

The PC agreed to review the proposed SAR at the January PC executive committee meeting.

Discussion Topics– Information

Overview of the National Renewable Energy Lab (NREL) Electrification Study

Caitlin Murphy provided a presentation. Participants discussed methods used to determine long-term transmission projections. NREL used an economic cost optimization model. John Moura asked how sensitive electrification is to battery technology development/adoption. Commercial electrification is not entirely dependent on batteries. Cooking electrification may be changing daily load shape. Air space heat pump efficiency improvements may have significant impact. Participants discussed potential for resources to be large and BPS-connected, verses more distributed resources. NREL's current study is not looking at distinguishing distributed and BPS-connected resources. However, NREL could consider this as part of future study. The current study does not look at drivers for overcoming certain hurdles for electrification (i.e., not an examination of policy). Participants discussed how, based on experience, it is challenging for the transmission system to catch up when the distribution system reaches its capacity.

IRPTF White Papers

Jeff Billo provided an overview of the white paper on Fast Frequency Response Fundamentals. He requested PC members volunteer to review the white paper and provide comments. Gwen Frazier, Kyle Vander Helm, Carl Turner, Wayne Guttormson, Robert Reinmuller, Bill Allen, Christine Ericson, Cezar Panait, Charles Hendrix, David Short, Gary McAdams, Michael Goggin, and Brian Evans-Mongeon volunteered to review.

Jeff Billo provided an overview of the white paper on Inverter-Based Resource Applicability in NERC Reliability Standards, including discussion of the IRPTF's recommendations for revising certain standards. Participants discussed the level of prescription that is being contemplated by the IRPTF for standards. The IRPTF has identified that the term *materially modified* as used in the FAC standards is being inconsistently applied. Participants sought insights into the IPRTF's understanding of the issues and potential solutions. FERC Order 845 provides FERC insights into what *materially modified* means. Jeff Billo noted that the context for the term in the FAC standards is different from the order, and use of the same term creates confusion in IRPTF member views. Jeff Billo requested PC members volunteer to review the white paper and provide comments. Michael Goggin, Carl Turner, Wayne Guttormson, Bill Allen, Joe Sowell, Charles Hendrix, and Brian Evans-Mongeon volunteered to review.

White Paper: Review of TPL-001 Standard for Incorporation of DER

Kun Zhu provided an overview of the white paper. He requested PC reviewers and sought guidance on when to develop a SAR. PC chair noted that there is an updated version of the white paper to be provided to PC reviewers. Participants discussed the challenges in getting the modeling information, which would

make implementing some of the changes contemplated by the SPIDERWG difficult. Participants discussed the flexibility provided in the approved standard, which could be at risk in some of the revisions contemplated. Participants discussed a potential role for field testing before drafting a SAR. Participants discussed concerns that some revisions may be premature to be applied in a continent-wide standard. SPIDERWG chair agreed, and stated that not all issues identified in the white paper would need to be addressed at this time. NERC staff noted how quickly the amounts of DER on the system can change, citing examples in other countries. PC agreed that they would like to review the white paper before work on the SAR. Gwen Frazier, Michael Goggin, Carl Turner, Luc Matteau, Wayne Guttormson, Robert Reinmuller, Joe Sowell, Enoch Davies, Wes Woitt, Charles Hendrix, Rich Kowalski, David Short, Jason Spitzkoff, and Brian Evans-Mongeon volunteered to review the white paper.

Data Reporting Instruction for Geomagnetic Disturbance Data (GMD DRI)

Mark Olson gave the presentation in the agenda package and requested PC members volunteer to review and provide comments. Enoch Davies, Christine Ericson, Bill Allen, Charles Hendrix, Suzanne Ericson, and Brian Evans-Mongeon volunteered to review.

Discussion of NERC EMP Task Force Strategic Recommendations Report – NERC Staff

The chair noted the presentation from the Joint meeting. Participants did not have further comments.

Reliability and Security Technical Committee (RSTC) Implementation Planning – PC Leadership and NERC Staff

The Chair invited PC members to express concerns, so that he can incorporate them in the ongoing implementation planning. PC members are interested in seeing how the experience mix of members works out through the election process, and through the participation from observers. Participants agreed that there is tremendous value in the diversity of views. Some expressed concern that the agenda/work loading for meetings could be excessive, noting the volume handled by the PC alone. Some observed that the depth of focus may have to change, which would need to be balanced with providing value to the process of developing technical materials. It may become more difficult to provide informed direction to subgroups. Some observed that the level of autonomy that groups have may need to increase from where the PC has been exercising oversight; also, subcommittee structure may need to change. The RSTC executive organization will need to be set up to handle management. Participants asked if webex could be provided; PC chair advised that this is in consideration. Participants encouraged having a time period of overlap in the transition from current (three-committee) structure to RSTC in order to prevent an obligation being missed. It was noted that timing of transition coincides with obligations to review of the State of Reliability Report and the summer reliability assessment (SRA). Many were optimistic about the potential for efficiencies with the new group, but noted that challenges with prioritizing focus and decision-making would need to be monitored and addressed. A subcommittee chair noted that guidance is needed to help subcommittees prepare for the transition. Their work/work plans need to be integrated and considered (e.g., SoR work and delivery and needs of transition). The chair committed to keeping channels of communication open with the PC members. He encouraged PC members continue to express concerns and questions to PC chair and vice chair so that they can work to address them during transition.

Member Roundtable

PC Members discussed topics of interest:

- Sector 1 (Investor-Owned Utility): A PC member expressed concern that the PC is considering changes to many standards. He reiterated interest in discussing resilience topics in the future.
- Sector 4 (Federal or provincial utility / Federal Power Marketing Area). A PC member shared items of interest at his utility: focus on GMD and EMP assessment and mitigation; reliably integrating new technologies onto the system through such efforts as revised interconnection requirements for energy storage and behind-the-meter (BTM) generation; and managing capacity of BTM and how it effects rates.
- Sector 5 (Transmission-dependent Utility). A PC member noted the volume of work and review items from this meeting.
- Sector 9 (Small end-use electricity customer). A PC member advised colleagues to keep end-use customer load in mind. He noted the positive atmosphere of the PC meetings and the collective work effort.
- Sector 10 (ISO/RTO). A PC member expressed interest in discussing more about hybrid resources (e.g., collocated storage and solar) in the future. A PC member commended the IRPTF and SPIDERWG on their work.
- Sector 11 (Regional Entities):
 - A PC member discussed the recent general meeting of their members, where the theme was reliability transformation of the grid. Presentations on digitization of the grid, cloud computing, and cybersecurity were included. He cited this as an example of issues that matter to everyone: operators, planners, and cybersecurity staff.
 - A PC member advised of her interest in entity experience using the EPRI GIC Harmonics tool. She advised that she will attend the Probabilistic Analysis Forum and recommends these types of education forums continue.
- U.S. Government Representative. A PC member noted the NAERM update at joint meeting. He advised that the U.S. DoE Future of Electric Power study/report will be coming soon, and it will be accompanied by a workshop on the grid in Irvine early next year. He advised participants to contact him for the agenda if interested. The next meeting of NASPI will be in Minnesota following the SMS meeting. The meeting will focus on evolving toward higher speed measurements to get better IBR info.
- A meeting observer expressed appreciation for the interaction with participants and the working group chairs that occurs through the PC. He noted that because the NERC roster is no longer publicly-posted, networking is more difficult. He suggested that NERC find a secure means to provide rosters.
- John Moura noted that the full suite of ERO tools are at the PC's disposal to address reliability issues. This includes SARS, standards, guidelines, best practices, and implementation guidance. He

encourages the RSTC to think about making use of conferences to gather stakeholders and industry experts.

Closing Remarks

The Chair thanked NERC staff for supporting the PC meeting. He advised that there is a lot on the plate for the PC. Members can anticipate a similar meeting in March. Work continues at an aggressive place.

Adjournment

The chair adjourned the meeting at 11:15 a.m. on December 11, 2019.

Future In-person Meetings

- March 3-4, 2020 | Atlanta
- March 31 – April 1 | PCEC Strategic Meeting | Austin