



Minutes of the Reliability Advisory Council Meeting

St. Paul, MN, and Webex

Thursday, November 9, 2023, 9:30 a.m. to 3:24 p.m. Central

Notice for this meeting was electronically posted to the MRO [website](#) on October 12, 2023. A final agenda, including advanced reading materials, was also posted on November 7, 2023.

1. Call to Order and Determination of Quorum

The Reliability Advisory Council (RAC) Chair, Dick Pursley called the meeting to order at 9:30 a.m. Pursley welcomed everyone, and introductions were made. Reliability Analysis Administrator, Rebecca Schneider, advised the chair that a quorum of the RAC was present. A complete list of attendees is included as [Exhibit A](#).

2. Standards of Conduct and Antitrust Guidelines

Pursuant to Policy and Procedure 4, Bryan Clark, MRO Director of Reliability Analysis, highlighted MRO's Standards of Conduct and Antitrust Guidelines.

3. Chair's Remarks

Chair Pursley highlighted several NERC activities including the Winter Storm Elliott Final Report, the NERC Interregional Transfer Capability Study (ITCS), and the ERO Reliability Risk Priorities Report. The Winter Storm Elliott report offered 11 recommendations in four categories for cold weather improvements to: Generator Cold Weather Reliability; Natural Gas Infrastructure Reliability; Gas-Electric Coordination; Electric Grid Operations. Chair Pursley noted the significance of energy policy being added as a new risk to the Reliability Issues Steering Committee (RISC) Report this year. Lastly, Chair Pursley reminded the members that the RAC has four open seats on the roster for 2024. Pursley also recognized the outgoing members for their contributions to the RAC.

4. Consent Agenda

The RAC reviewed the consent agenda, which included draft minutes from the August 10, 2023, meeting. Also included were the nominee recommendations for the RAC, Protective Relay Subgroup (PRS), and MRO Representatives on the NERC Inverter-Based Resource Performance Subcommittee (IRPS), which will be submitted to the OGOC for approval. A member requested more information on the PRS nominees, which was provided verbally by the meeting secretary.

Upon a motion duly made and seconded, the RAC approved the consent agenda in its entirety.

5. MRO Board of Directors, OGOC and General Update

Clark provided a recap of the third quarter Organizational Group Oversight Committee (OGOC) meeting on September 13, 2023, during which the members held a continuation of the discussion regarding Energy Reliability Planning. The conversation centered around solutions and mitigating actions being taken by NERC, MRO, and the registered entities. Clark highlighted a discussion around energy policy and the engagement of environmental agencies and state regulators in terms of educational opportunities. Clark also mentioned more discussion is needed around cyber-informed transmission planning. Next, Clark deferred to Chair Pursley and Gayle Nansel for additional



comments. Pursley commented on NERC's role in the policy discussion and the need for market reforms for resource adequacy at the state level.

Clark highlighted two changes to MRO's Policy and Procedure 3, including the addition of diversity language and the removal of NERC Rep term limits. The next OGOC meeting will take place on December 13, 2023, and one volunteer from the RAC is needed as the Vice Chair is unable to attend.

6. ERO Reliability Risk Priorities Report

Clark reviewed the 2023 ERO Reliability Risk Priorities Report approved by the Reliability Issues Steering Committee (RISC) on July 24, 2023. The report includes five ERO Risk Profiles including the newly added Energy Policy profile. Clark highlighted the report's common themes, including collaboration, security threats, and grid transformation. He shared the key points of the Energy Policy risk and defined energy sufficiency. Next, Clark shared the key points of Grid Transformation. He concluded by noting that the report offers actionable mitigating activities, and most recommendations identify a responsible group or organization. Discussion ensued.

7. Reliability and Security Technical Committee Meeting Update

Reliability Advisory Council and RSTC member, John Stephens, provided a recap of the Reliability and Security Technical Committee (RSTC) meeting on September 20-21, 2023. Meeting highlights included endorsements of a SPIDERWG Standard Authorization Request (SAR) for modifications to EOP-004, the approval of three Reliability Guidelines, the approval of three white papers, the review of the 2023 Risk Priorities Report, and the review of an IBR event report in Southwest Utah. Stephens shared an infographic of the 2023-2024 Winter Reliability Assessment. Stephens noted NERC's initiative requiring certain entities (Generator Owners/Generator Operators) to register Inverter-Based Resources (IBRs). The next meeting is scheduled for December 6-7, 2023. Discussion ensued.

8. MRO Representatives on NERC Subgroups

NERC Electric Gas Working Group (EGWG) – Jaimin Patel

Patel provided a written report located in the agenda packet. Discussion ensued.

NERC Inverter Based Resource Performance Subcommittee (IRPS) – Open

This seat is currently open, and no written report was provided.

NERC System Planning Impacts from DER Working Group (SPIDERWG) – Wayne Guttormson

Guttormson provided a written report located in the agenda packet. Discussion ensued.

NERC System Protection and Control Working Group (SPCWG) – Lynn Schroeder

Schroeder provided a written report located in the agenda packet. Discussion ensued.

NERC Energy Reliability Assessment Working Group (ERAWG) – Tom Whynot

Whynot provided a written report located in the agenda packet. Discussion ensued.

To accommodate scheduling conflicts, Chair Pursley moved the Reliability Coordinator Updates (Agenda Item 10a.-c.) ahead on the agenda. These minutes reflect the order in which the reports were provided.



9. Reliability Coordinator Updates

Southwest Power Pool (SPP)

Neil Robertson, Lead Functional Coordinator, SPP, provided a summary of the weather outlook for the upcoming winter season. Overall temperatures are projected to be normal in SPP's central and southern regions and warmer than normal in the northern region. The subtropical jet stream is favoring a potential increase for freezing rain and ice in the central and southern regions. The projected winter load forecast is 46 gigawatts (lower than the all-time winter peak load). The reliability assessments have not identified any specific concerns for the winter season. SPP anticipates being tight on capacity during extreme cold weather events.

Noteworthy reliability issues included a substation fire in southern Oklahoma in late September resulting in generation dispatch and localized manual load shed to mitigate thermal overloads. Another issue is the Williston Load Pocket in North Dakota, which continues to see high levels of transmission constraints primarily due to generation restrictions in the area. Discussion ensued.

Midcontinent Independent System Operator (MISO)

Durgesh Manjure, RAC member, provided an oral report. Fall operations were normal with only one alert. Overall, MISO's load was trending higher. Locational Marginal Prices (LMPs) were lower than in the last several years. Based on the seasonal resource auction there is sufficient capacity for normal winter operations. A warmer winter is anticipated for a majority of the MISO footprint. Additional winter readiness information is posted on MISO's website.

Saskatchewan Power Corporation (SPC)

Binod Shrestha, RAC member, provided an oral report. In general, SaskPower's expected load growth is one percent annually. There are several near-term generation projects in the pipeline. SaskPower is planning the addition of two new 230 kV transmission lines.

Winter load is expected to be between 3,300 – 3,850 megawatts (November to April). No gas or coal issues are anticipated. Hydro reservoir levels remain below the 10-year average for this time of year. Wind capacity for winter is based on a 3-year on-peak average of 46 percent. There are no major plans for transmission outages impacting operations. SaskPower is predicting a colder than average winter with less snow than average. Adequate operating reserve margins are expected to be met this winter. Discussion ensued.

10. 2023 Work Plan Update

Action Item Review.

Chair Pursley reviewed the action items in the 2023 work plan. Updates were made accordingly.

Clark reviewed the 2023 work plan items and explained how they are mapped to the Regional Risk Assessment (RRA). He noted that the NERC Interregional Transfer Capability Study (ITCS) item may be added to the 2024 work plan. Discussion ensued.

Cold Weather Preparedness Workshop Debrief

Bryan Clark invited members to share comments from the Cold Weather Preparedness Workshop which took place on October 26, 2023. Topics included MISO's Risk Modeling and Consideration of Extreme Cold Weather Events, MRO's Generator Winterization Program (GWP), Winter Storm Elliott



Findings and Recommendations from the FERC/NERC Joint Inquiry. There were 273 total virtual attendees. Discussion ensued.

Draft 2024 Work Plan

Clark solicited ideas, additional items and edits for the 2024 work plan based the key objectives from the prior year. The draft work plan will be presented to the OGOC for feedback at the next meeting on December 13, 2023.

11. Assessment Review

Review 2023 Long-Term Reliability Assessment (LTRA)

MRO Principal Reliability Assessment Engineer, Salva Andiappan, presented the 2023 Long-Term Reliability Assessment (LTRA) Report. The LTRA heat map for the next five years showed that MISO is at high risk for energy shortfalls during normal peak conditions. Future generation retirements are causing the declining reserve margins for SPP and MISO. SaskPower and Manitoba Hydro have sufficient reserve margins. Andiappan presented the 5-year projected summer reserves for MISO and SPP. Both MISO's and SPP's reserve margins are trending downward for the next five years. RAC member, Jeremy Severson volunteered to serve as the liaison and emcee for the LTRA webinar in January 2024. Discussion ensued.

Upon a motion duly made and seconded, the RAC endorsed the 2023 LTRA Report prepared by each of the MRO Planning Coordinators – Manitoba Hydro (MH), Midcontinent Independent System Operator (MISO), Saskatchewan Power Corporation (SPC) and Southwest Power Pool (SPP).

MRO Regional Winter Assessment (RWA)

Andiappan provided key findings from the MRO Regional Winter Assessment (RWA). SaskPower is at high risk of energy shortfalls during the winter season due to retirements. MISO and SPP have sufficient resources under normal weather conditions but are at risk under extreme weather conditions. Manitoba Hydro has sufficient resources to meet reserve margin requirements under normal and extreme demand. There is a potential for natural gas deliverability issues for MISO and SPP associated with extreme weather conditions. Long-term trends indicate an increase in generation forced outage rates possibly due to an aging fleet and fatigue. A positive highlight was a significant improvement in the number of misoperations due to human error compared to last winter. Discussion ensued.

12. NERC Standards Review Forum Update

Vice Chair Nansel provided an update on behalf of the NERC Standards Review Forum (NSRF). Nansel shared the top six high priority work items from the last NSRF meeting. Nansel proposed that the RAC primarily focus on the high priority work items in 2024. The information she presented was distributed to the RAC members via email on November 8, 2023.

13. Protective Relay Subgroup Update

MRO Manager of Reliability Performance, Jake Bernhagen, provided an update on behalf of the Protective Relay Subgroup (PRS). Bernhagen highlighted the NERC BES Protection system Misoperation Reduction Workshop in Atlanta, GA on October 25-26, 2023, with approximately 90 in-person participants. American Electric Power (AEP) gave a misoperation presentation that may be a good topic for a future MRO Reliability Conference. Bernhagen noted the recent hire of MRO Senior

Systems Protection Engineer, Sarah Wernette, who may become the PRS liaison next year. A goal for Wernette and the PRS is to foster more engagement with other relay subgroups across the ERO Enterprise.

14. 2024 Meeting Dates

Chair Pursley reviewed the 2024 meeting dates for the RAC, as well as the other councils and subgroups. There was discussion around the earlier meeting dates in 2024, the 2024 Reliability Conference in May, and a half-day advisory council collaboration meeting on October 2, 2024. All fourth quarter advisory council meetings are scheduled for October 3, 2024. Discussion ensued.

15. RAC Member Roundtable

Chair Pursley invited member participants to share other relevant industry observations. Topics discussed included recognition of the outgoing members, and encouragement to recruit new members to fill the open seats on the RAC.

16. Other Business and Adjourn

Having no further business to discuss, the meeting was adjourned at 3:24 p.m.

Prepared by: Rebecca Schneider, Reliability Analysis Administrator.

Reviewed and submitted by: Bryan Clark, Director of Reliability Analysis



Exhibit A – Meeting Attendees

| Reliability Advisory Council Members Present | |
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| Name | Organization |
| Dick Pursley, Chair | Great River Energy |
| Gayle Nansel, Vice Chair | Western Area Power Administration |
| Andy Witmeier | MISO |
| Binod Shrestha | Saskatchewan Power Corporation |
| Bryn Wilson | Oklahoma Gas & Electric |
| Dallas Rowley | Oklahoma Gas & Electric |
| Derek Brown | Evergy |
| Jason Weiers | Otter Tail Power Company |
| Durgesh Manjure | MISO |
| Jeremy Severson | Basin Electric Power Cooperative |
| John Stephens | City Utilities of Springfield Missouri |
| Ron Gunderson | Nebraska Public Power District |
| MRO Staff Present | |
| Name | Title |
| Bryan Clark | Director of Reliability Analysis |
| Rebecca Schneider | Reliability Analysis Administrator |
| Shawn Keller | Outreach Coordinator |
| Salva Andiappan | Principal Reliability Assessment Engineer |
| Jake Bernhagen | Manager of Reliability Performance |
| Cris Zimmerman | Manager of Outreach and Stakeholder Engagement |
| Carolina Margaria | Assistant Corporate Secretary and Governance Administrator |
| Sarah Wernette | Sr. Systems Protection Engineer |
| Jenny Knernschild | Compliance Engineer/Auditor, CIP |



| Other Attendees | |
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| Name | Organization |
| Jaimin Patel | Saskatchewan Power Corporation |
| Joshua Phillips | Southwest Power Pool |
| Kelly Crist | Engie |
| Lynn Schroeder | Sunflower Electric Power Corporation |
| Mark Eastwood | City Utilities of Springfield Missouri |
| Neil Robertson | Southwest Power Pool |
| Owen Veale | Kansas City Board of Public Utilities |
| Paul Mehlhaff | Sunflower Electric Power Corporation |
| Sharon Mayers | CAM Industrial Solutions |
| Tom Whynot | Manitoba Hydro |
| Wayne Guttormson | Saskatchewan Power Corporation |