



**Studies Subcommittee
Meeting Minutes
August 21, 2023
Virtual**

1. Welcome, Call to Order

Tom Carr, Studies Subcommittee (StS) Chair, called the meeting to order at 1:03 p.m. MT on August 21, 2023. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

2. Review WECC Antitrust Policy

Amanda Sargent, Senior Resource Adequacy Analyst, read aloud the WECC Antitrust Policy statement. The meeting agenda included a link to the posted policy.

3. Approve Agenda

Mr. Carr introduced the proposed meeting agenda.

By consensus, the StS approved the meeting agenda.

4. Review and Approve Previous Meeting Minutes

Mr. Carr introduced the minutes from the meeting on June 26, 2023.

By consensus, the StS approved the meeting minutes from June 26, 2023.

5. Review Previous Action Items

Marie Smith, Administrative Coordinator, reviewed action items carried over from the StS meeting on June 26, 2023. Action items that are not closed and will be carried forward can be found [here](#).

6. Future Study Program

Jon Jensen, Engineer Reliability Modeling, presented on the studies program and future restructuring of the program. Mr. Jensen briefly discussed the creation of new advisory groups as the new studies are decided upon.



7. PTF Recommendations Next Steps

Mr. Carr provided an update of the development of Path Task Force (PTF) advisory subgroup. This advisory group is being developed as a recommendation from the [PTF Report](#) that was published in January, 2023.

8. TPL-001-4 Extreme Contingencies Study Data

Evan Paull, Staff Engineer, Operations Analysis presented the TPL-001-4 extreme contingencies study data. This study assesses the resiliency of the Western Interconnection by looking at entities' TPL-001 contingencies. TPL transmission planning contingencies are reviewed and tracked over time. Mr. Paull reached out to entities for feedback on these contingencies.

9. UFLSWG Update

Robby Anderst, Puget Sound Energy, provided an update on the 2023 Under Frequency Load Shedding Work Group (UFLSWG) assessments. This assessment is completed every two years. WECC has a list of interested entities willing to participate in the assessment simulations. The UFLSWG meets the second Tuesday of each month.

Mr. Anderst will provide a more conclusive update at the next UFLSWG meeting.

10. 2023 Study Program Update

Mr. Jensen presented on the Year 10 Extreme Cold Event study assessment. The project identified vulnerabilities during an extreme cold weather event and recommended mitigation techniques. The presentation is posted on the WECC [website](#).

Ms. Sargent presented on the Year 20 Extreme Heat/LDES Event study assessment and discussed hot weather events during August 2020, June 2021, and July 2023.

Mr. Jensen presented on the Year 20 Extreme Cold/LDES study assessment and the assessment assumptions.

Katie Rogers, Senior Engineer, Reliability Assessments, presented on the Year 20 Compound Load Impacts (CLI) study assessment. Mrs. Rogers discussed the proposed CLI timeline and reported that assumptions are reasonable for the future 2042 scenario.

Doug Tucker, Senior Engineer, Reliability Assessments, provided an update on the Grid-Forming Inverters study assessment. Mr. Tucker highlighted the reliability questions the study is attempting to address, the cases used, models and data, approach, observations, and

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recommendations. This report will be available in October 2023. The presentation is posted on the WECC [website](#).

Tyson Niemann, Staff Engineer, Reliability Modeling, discussed the study assessment on changes in grid strength. Mr. Niemann has been working with base cases modeled in simulation software, Aspen, which has not been done before.

11. Public Comment

No comments were made.

12. Review New Action Items

- Develop a framework and structure for the future WECC Study Program.
 - Assigned To: WECC Staff
 - Due Date: October 16, 2023.
- Send email out on the Path Rating Task Force subgroup and include their long-term recommendations.
 - Assigned To: Jon Jensen
 - Due Date: October 16, 2023

13. Upcoming Meetings

October 16, 2023, 1:00–5:00 p.m. Virtual

14. Adjourn

Mr. Carr adjourned the meeting without objection at 4:15 p.m.



Exhibit A: Attendance List

Members in Attendance

Robby Anderst.....Puget Sound Energy, Inc.
Thomas Carr..... Western Interstate Energy Board
Ken Che..... Public Utility District No. 1 of Snohomish County
Chris Gilden Tri-State Generation and Transmission—Reliability
Jon Jensen.....WECC
Lesley Kayser-Sprouse..... Hetch Hetchy Water and Power
May Le.....Public Utility District No. 2 of Grant County
David Le.....California Independent System Operator
Todd Lichtas..... Tucson Electric Power
Jake Maxfield.....PacifiCorp
Mitchell Miller.....NorthWestern Energy
Eepsita Priye..... Puget Sound Energy, Inc.
Karen ReedyPublic Service Company of New Mexico
Amanda SargentWECC
Erik Schellenberg.....Idaho Power Company
Angela Tanghetti California Energy Commission
Chifong Thomas Thomas Grid Advisor
Xiaofei (Sophie) Xu..... Pacific Gas and Electric Company
Cole Youngers.....Avista Corporation

Members not in Attendance

Nayeem Mohammad Abdullah..... Metropolitan Water District of Southern California
Brenna AndrewsNorthWestern Energy
Waseem Arif..... FortisBC, Inc.
Philip Augustin.....Salt River Project
Vinson Banh Alberta Department of Energy
Ian Beil.....Portland General Electric Company



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Scott Beyer Western Power Pool
Aseem Bhatia..... California Department of Water Resources
Benjamin Borowiak Arizona Electric Power Cooperative, Inc. (Arizona G&T Cooperatives)
Ron Calvert..... Utility System Efficiencies, Inc.
Shawn Carlson Basin Electric Power Cooperative
David Cathcart..... Bonneville Power Administration—Transmission
Desmond Chan Seattle City Light
Tom Christensen..... Basin Electric Power Cooperative
Patrick Corrigan..... Public Service Company of Colorado (Xcel Energy)
Tuan Dang Public Utility District No. 1 of Snohomish County
Thomas Duane Public Service Company of New Mexico
Jonathon Flores Los Angeles Department of Water and Power
Thomas Flynn..... California Energy Commission
Alex Fratkin..... NV Energy
Talal Hanna San Diego Gas and Electric
Jeff Hanson Colorado Springs Utilities
Fred Heutte..... NW Energy Coalition
Bryant Hicks..... Salt River Project
Bill Hosie..... PSI Power System Innovation Corp.
Robert Jackson..... Burns & McDonnell (1898 and Co.)
Daniel Johnson Jr. Black Hills Corporation
Michael Korhonen Western Area Power Administration
Christopher Kulink..... Portland General Electric Company
Chelsea Loomis Western Power Pool
Peter Mackin..... GridBright, Inc.
Richard Maguire Public Utility District No. 2 of Grant County
Daniel McGuire..... Salt River Project
Christopher McLean..... California Energy Commission



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Pete Mensonides Turlock Irrigation District
Patrick MontPlaisir Western Area Power Administration
Valeriy Jr. Oleshko Western Area Power Administration
Ebrahim Rahimi California Independent System Operator
Dipendra Rai British Columbia Hydro and Power Authority
Daniel Ramirez Energy Strategies
Benjamin Rodriguez El Paso Electric Company
Faranak Sarbaz Los Angeles Department of Water and Power
Masoud Shafa California Department of Water Resources
Hari Singh Public Service Company of Colorado (Xcel Energy)
Alejandro Solis El Paso Electric Company
Amy Sopinka British Columbia Ministry of Energy and Mines
Jan Strack San Diego Gas and Electric
Spencer Tacke Auriga Corporation
Khanh Thai Tacoma Power
Jameson Thornton Burns & McDonnell (1898 and Co.)
David Tovar El Paso Electric Company
Patrick Truong Sacramento Municipal Utility District
Dhayanesh Velusamy Burns & McDonnell (1898 and Co.)
Louis Vigil El Paso Electric Company
Jeremy Webber FortisBC, Inc.
Curtis Westhoff Idaho Power Company
Di Xiao Southern California Edison Company
Dennis Yegorov PacifiCorp
Janice Zewe Sacramento Municipal Utility District
Kevin Zhang British Columbia Hydro and Power Authority
Wenjuan (Wendy) Zhang Pacific Gas and Electric Company



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Others in Attendance

Brittany AndrusWECC

Kent BoltonWECC

Jyotsna ChatratiNV Energy

Chris Corral El Paso Electric Company

Gene DuranXcel Energy

Donna Enriquez El Paso Electric Company

Matt EvansWECC

Mensur HasocivWestern Area Power Administration

Ian HenrichColorado Springs Utilities

Vic HowellWECC

Richard Marrs Quantum Planning Group

Nima Miri Seattle City Light

Tyson NiemannWECC

Emily Parry Public Utility District No. 1 of Snohomish County

Anthony RendonSalt River Project

Ricardo Rodriguez El Paso Electric Company

Katie RogersWECC

Thomas RupertColorado Springs Utilities

Juan Santiago-SantosColorado Springs Utilities

Erik SchellerbergIdaho Power Company

Tim SchiermeyerTransmission Agency of Northern California

Marie SmithWECC

Doug TuckerWECC

Rashid Warsame Bonneville Power Administration

Ken Wilson Trans Grid Consulting

Jonathan Young Bonneville Power Administration

Han YuBC Hydro

