

Day 1—July 10, 2024
2:45 p.m. to 5:00 p.m.

1. Welcome, Call to Order

Phillip Augustin, Reliability Assessment Committee (RAC) Chair, called the meeting to order at 2:47 p.m. MT on January 10, 2024. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

2. Review WECC Antitrust Policy

Enoch Davies, Reliability Modeling Manager, read aloud the WECC Antitrust Policy statement. The meeting agenda included a link to the posted policy.

3. Approve Agenda

Mr. Augustin introduced the proposed meeting agenda.

On a motion by Chifong Thomas, the RAC approved the agenda.

4. Review and Approve Previous Meeting Minutes

Mr. Augustin introduced the minutes from the meeting on February 27, 2024.

On a motion by Gary Trent, the RAC approved the minutes from February 27, 2024.

5. Review Previous Action Items

Daja Bell, Administrative Coordinator reviewed action items carried over from the RAC meeting on February 27, 2024. Action items that are not closed and will be carried forward can be found [here](#).

6. System Review Subcommittee (SRS)

Ben Hutchins, Western Power Pool, and Jeffrey Anderson, SRS Co-chair provided a brief update on the SRS.

7. NERC EMTTF Update

Aung Thant, NERC gave an update on NERC's Electro Magnetic Transient Task Force and discussed the work items the task force has in progress as well as education and outreach. The presentation for this item can be found on the WECC Calendar.

8. Geomagnetic Disturbance Analysis

Ben Hutchins, Western Power Pool, provided an overview on geomagnetic disturbance analysis, TPL-007-4, the 1989 black out, coronal mass ejection and solar flares, GIC impacts, EOP-010, EPRI harmonic assessments, and NPCC methodology and guidelines. The presentation for this item can be found on the WECC calendar.

9. Production Cost Data Subcommittee (PCDS)

Kevin Harris, PCDS Chair, gave an update on the PCDS. The presentation has been posted to the WECC Calendar.

10. Short-circuit Modeling Subcommittee (SCMS)

Tyson Nieman, provided a brief update on the SCMS. The subcommittee is working with its software providers to review the Cape and Aspen data and working on Inverter-based Resource (IBR) model issues.

Day 2—July 11, 2024

9:00 a.m. to 12:00 p.m.

11. FERC Order 1920

Chelsea Loomis, RAC Co-chair, presented on FERC Order 1920. Ms. Loomis discussed changes in culture regarding base case data submittal participation with the committee. The presentation for this item has been posted to the WECC Calendar.

12. Model and Validation Subcommittee (MVS)

Song Wang, MVS Chair, gave an update on the MVS. Mr. Wang discussed grid-forming inverter modeling, model development timelines, the Generator type J (GENTPJ) model review, the MVS's plans going forward, advanced pumped storage models, load modeling updates, and active transmission system modeling. The presentation for this item has been posted to the WECC calendar.

13. Long-term Transmission Planning Task Force (LTPTF)

Allison Auld-Hill, LTPTF Co-chair, presented on the LTPTF. Ms. Auld-Hill discussed FERC Order No. 1920, WECC's role in the order, and suggested approaches for the order. The presentation for this item has been posted to the WECC Calendar.



14. Studies Subcommittee (StS)

Thomas Carr, StS Chair, updated the committee on the StS. Mr. Carr provided previews of the Year 20 extreme heat event, Year 20 cold weather event, and Year 20 compound load impacts. The presentation for this item has been posted to the WECC Calendar.

15. Interregional Transfer Capability Study (ITCS)

Saad Malik, NERC, presented on the ITCS. Mr. Malik discussed the ITCS timeline, objectives, transfer analysis, the ITCS study process map and scenario matrix with the committee. The presentation for this item has been posted to the WECC Calendar.

16. FERC 881 Risk Development

Mr. Augustin discussed FERC 881 risk development with the committee.

17. Public Comment

No comments were made.

18. Review New Action Items

There were no new action items created during this meeting.

19. Upcoming Meetings

October 15-16, 2024..... Virtual

20. Adjourn

Mr. Augustin adjourned the meeting without objection at 11:58 p.m.



Exhibit A: Attendance List

Members in Attendance

Page Andrews Western Area Power Administration

Hamid Atighechi Powerex, Inc.

Philip Augustin Salt River Project

Allison Auld-Hill Southern California Edison Company

Scott Beyer PacifiCorp

Jeffrey Billinton California Independent System Operator

Kris Carper Arizona Electric Power Cooperative, Inc. (Arizona G&T Cooperatives)

Roberto Favela El Paso Electric Company

Jordy Fuentes Arizona Power Authority

Jennifer Galaway Portland General Electric Company

Fred Heutte NW Energy Coalition

Ryan Hubbard Tri-State Generation and Transmission—Reliability

Ben Hutchins Western Power Pool

Robert Jackson Burns & McDonnell (1898 and Co.)

Mike Johnson Pacific Gas and Electric Company

Lorissa Jones Bonneville Power Administration—Transmission

Peter Jones Puget Sound Energy, Inc.

Chelsea Loomis Western Power Pool

John D. Martinsen Public Utility District No. 1 of Snohomish County

Christopher McLean California Energy Commission

Vishal Patel Southern California Edison Company

Cuong Phan Eurowind Energy

Jacob Richardson Western Resource Advocates

Erik Schellenberg Idaho Power Company

Trevor Schultz Idaho Power Company

Robert Smith TransCanyon LLC



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Chifong Thomas Thomas Grid Advisor
Jameson Thornton Burns & McDonnell (1898 and Co.)
David Tovar..... El Paso Electric Company
Stina Trast Eurowind Energy
Gary Trent..... Tucson Electric Power
Jerod Vandehey..... Public Utility District No. 1 of Cowlitz County
Song Wang..... Portland General Electric Company

Members not in Attendance

Ravi AggarwalBonneville Power Administration—Transmission
Sharmen Andrew.....MATL Canada L.P.
John ArmentaFarmington Electric Utility System
Paul Arnold EnTranTek LLC
Ehsan Azordegan Kinectrics US
Eric Bahr.....NorthWestern Energy
Nathan BarcicCalifornia Public Utilities Commission
Ian Beil.....Portland General Electric Company
Constance BergmarkImperial Irrigation District
Mitchell BetonieFarmington Electric Utility System
Aseem Bhatia.....California Department of Water Resources
Savina Blackman.....Clearway Energy Operating, LLC (NRG)
Brett Bodine Turlock Irrigation District
Marian Bonar.....Gallatin Power Partners, LLC
Diane Brandt Renewable Northwest
Marcus Brown.....NaturEner USA, LLC
Jeremy Brownrigg.....Platte River Power Authority
Jason BurwenGridStor LLC
Deanna Carlson.....Public Utility District No. 1 of Cowlitz County
Shawn CarlsonBasin Electric Power Cooperative



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Andrew ChankoGuzman Power Markets, LLC
Tim Cherry Metropolitan Water District of Southern California
Chris ColsonWestern Area Power Administration
Dennis DesmaraisCopia Power DevCo, LLC
Bryce DiningerCentral Arizona Water Conservation District
Gordon Dobson-Mack.....Powerex, Inc.
Rodica DonaldsonEDF Renewable Energy
Thomas DuanePublic Service Company of New Mexico
Kirsten Eliassen.....Gallatin Power Partners, LLC
Greg Engels British Columbia Utilities Commission
Jonathon Flores Los Angeles Department of Water and Power
Shaun FosterPortland General Electric Company
Biju GopiCalifornia Independent System Operator
Allen Green..... U.S. Army Corps of Engineers, Portland District
Ron Grife..... Leeward Renewable Energy, LLC
Ernie Griggs..... Cascade Renewable Transmission, LLC
John Gross.....Avista Corporation
Mike Guité British Columbia Hydro and Power Authority
Val Guzman Ridad Silicon Valley Power (City of Santa Clara)
Mark Hackney..... Open Access Technology International
Christina Hajny U.S. Army Corps of Engineers, Portland District
Ryan HancockGrid Subject Matter Experts
Nadine Hanhan.....Oregon Public Utility Commission
Jeff HansonColorado Springs Utilities
Johanna Hanson..... Washington Department of Commerce - State Energy Office
Jonathan HayesSouthwest Power Pool
Bill Hosie..... PSI Power System Innovation Corp.
Peter Huang.....Alberta Electric System Operator



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Nicole Hughes..... Renewable Northwest
Rhett Hurless..... Absaroka Energy, LLC
Richard Jackson..... U.S. Bureau of Reclamation
Harley Johnson Tacoma Power
Holly Johnson.....City of Redding
Justin Joiner TransCanyon LLC
Will Jolley.....GridStor LLC
Robert Jones..... Seattle City Light
Anish Joshi.....Transmission Agency of Northern California
Lesley Kayser-Sprouse..... Hetch Hetchy Water and Power
Cathy Kim.....Copia Power DevCo, LLC
Eli King..... Washington Department of Commerce - State Energy Office
Ruth Kloecker..... ITC Grid Development, LLC
Michael Korhonen Western Area Power Administration
Luca KovacicDirect Energy Business Marketing, LLC
John Kyei..... TransCo Energy, LLC
Josh LangerI2R Grid Solutions, Inc
Josh LaurandeauNorthWestern Energy
Justin Lee.....Salt River Project
John Leland.....Northern Tier Transmission Group
Daniel Leon Power System Consultants, Inc.
John Liang..... Public Utility District No. 1 of Snohomish County
Todd Lichtas..... Tucson Electric Power
Patrick Ma..... Energy Exemplar, LLC
Peter Mackin..... GridBright, Inc.
Richard Maguire Electrical Consultants, Inc.
Habibou Maiga San Diego Gas and Electric
Sarah Majok.....Sarah Aggrey Consulting Engineers LLC



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Jessica Markovich Eugene Water & Electric Board
Tiana Marmitt Energy Exemplar, LLC
Jesus Martinez Imperial Irrigation District
Diana McMahon Salt River Project
Jerry Melcher California Public Utilities Commission, Office of Ratepayer Advocates
Keegan Moyer Energy Strategies
Foung Mua Sacramento Municipal Utility District
Julie Myerholtz First Solar
Ramya Nagarajan DesertLink, LLC
George Nail Public Service Company of New Mexico
Tyler Nice Eugene Water & Electric Board
John Nierenberg Tacoma Power
Andrey Olennikov Portland General Electric Company
Dave Peck California Public Utilities Commission, Office of Ratepayer Advocates
Mateusz Pena Delta-Montrose Electric Association
Chris Pink Tri-State Generation and Transmission—Reliability
Nathan Powell Deseret Generation & Transmission Cooperative
Michael Pulskamp U.S. Bureau of Reclamation
Justin Radl EDF Renewable Energy
Sunny Raheem Southwest Power Pool
Michael Rein Public Service Company of Colorado (Xcel Energy)
Marco Rios Pacific Gas and Electric Company
Jay Robertson Direct Energy Business Marketing, LLC
Rob Robertson Leeward Renewable Energy, LLC
Matt Robinson Arizona Public Service Company
Michael Roetzel Eligius LLC
Philip Roice Pend Oreille County PUD #1
Faranak Sarbaz Los Angeles Department of Water and Power



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Steve Schaarschmidt.....Colorado Springs Utilities
Matt Scheppers.....Platte River Power Authority
Gretchen Schott.....Clearway Energy Operating, LLC (NRG)
Masoud Shafa.....California Department of Water Resources
Tom SiegelLongroad Energy Holdings, LLC
Alejandro SolisEl Paso Electric Company
Sachin Soni.....I2R Grid Solutions, Inc
Jonathan StahlhutTransCo Energy, LLC
Rachel Stanford.....Utah Associated Municipal Power Systems
Quincy Stormer.....Electrical Consultants, Inc.
Jan StrackSan Diego Gas and Electric
Tom StuderFirst Solar
Spencer Tacke.....Auriga Corporation
Holly TaylorWestern Interstate Energy Board
Sonseeahray ThayerArizona Power Authority
James ThompsonFirst-Light Energy
Mark ThompsonTransCanada Energy Ltd.
Edwin Tso.....Metropolitan Water District of Southern California
Boris Tumarin.....Arizona Electric Power Cooperative, Inc. (Arizona G&T Cooperatives)
Guy Van Uytven.....Guy Van Uytven
Darrel G. VanCoevering.....EnTranTek LLC
Pushkar Wagle.....Flynn Resource Consultants, Inc.
Jonathan Walcott.....Delta-Montrose Electric Association
Jeffery Watkins.....NV Energy
Lowell Watros.....Grid Subject Matter Experts
Philip Westby.....Basin Electric Power Cooperative
Steve WickelPublic Utility District No. 1 of Chelan County
Scott Wilson.....Avista Corporation



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Rob Witham..... Public Utility District No. 1 of Chelan County
David WithrowCalifornia Public Utilities Commission
Jeff Wyman..... ITC Grid Development, LLC
Joanna Yang..... Puget Sound Energy, Inc.
Chris Yoon Seattle City Light
Brian Young.....Central Arizona Water Conservation District
Nick ZettelCity of Redding
Janice Zewe..... Sacramento Municipal Utility District
Kevin Zhang..... British Columbia Hydro and Power Authority
Quinten Ziegler.....Transmission Agency of Northern California
Karl Zimmerman First-Light Energy
Oren "Dayne" Zimmerman Eligius LLC

Others in Attendance

Rachel Allen Tacoma Power
Jeffrey Anderson.....Western Area Power Administration
Grace Anderson California Energy Commission
Brittany AndrusWECC
Ruben Arredondo.....Regime Energy Partners
Steve AshbakerWECC
Daja BellWECC
Kyle Bensley El Paso Electric Company
Maya Brimhall.....WECC
Toxie Burris Modesto Irrigation District
Thomas Carr..... Western Energy Board
Jeff Dagle..... Pacific Northwest National Laboratory
Enoch Davies.....WECC
Matt Evans.....WECC
Rob Gonzales..... Hetch Hetchy Water and Power



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Ivan Guerro El Paso Electric Company
Jim Hadley Black Hills Energy
Kevin Harris Pacific Northwest National Laboratory
Gerald Harris..... Quantum Planning Group
Curtis HollandWECC
Vic HowellWECC
Robert Jackson..... Burns & McDonnell (1898 and Co.)
Michael Jang Seattle City Light
Michael Jang Seattle City Light
Jon Jensen.....WECC
Nicole LeeWECC
Sarah LewisWECC
Saad Malik NERC
Effat Moussa..... San Diego Gas and Electric
Tyson Niemann.....WECC
Greg ParkWECC
Anuj PatilWECC
Joshua Phillips.....Southwest Power Pool
Linda Pope.....Western Area Power Administration
Eespita Priye.....Pugent Sound Energy Inc.
Ben Rodriguez..... El Paso Electric Company
Katie RogersWECC
Alan Soe San Diego Gas and Electric
Brandon SudduthWECC
Aung Thant..... NERC
Brian Theaker Middle River Power, LLC
Juan Vincente El Paso Electric Company

