



Reliability Assessment Committee
Meeting Minutes
October, 25—26, 2023
Virtual

1. Welcome, Call to Order

Chelsea Loomis, Reliability Assessment Committee (RAC) Chair, called the meeting to order at 1:02 p.m. MT on October 25, 2023. 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

Ms. Loomis introduced the proposed meeting agenda.

By consensus the RAC approved the agenda.

4. Review and Approve Previous Meeting Minutes

Ms. Loomis introduced the minutes from the meeting on June 27–28, 2023.

On a motion by Kevin Conway, the RAC approved the minutes from June 27–28, 2023.

5. Review Previous Action Items

Daja Bell, Administrative Coordinator, reviewed action items carried over from the RAC meeting on last meeting date in June 27–28, 2023. Action items that are not closed and will be carried forward can be found [here](#).

6. RAC Co-chair Nominating Committee

Mr. Davies discussed creating a nominating committee to discuss and provide suggestion on who should be nominated as a RAC chair. No names were volunteered or discussed.

7. System Review Subcommittee (SRS)

Tracy Rolstad, Grant County PUD #2, updated the committee on the SRS.

The presentation is posted on the [WECC website](#).



8. Production Cost Data Subcommittee (PCDS)

Kevin Harris, Pacific Northwest National Laboratory (PNNL), updated the committee on the PCDS.

The presentation is posted on the [WECC website](#).

9. Committee Engagement Survey

Mr. Davies presented the Joint Guidance Committee (JGC)'s committee engagement survey video presentation.

The presentation is posted on the [WECC website](#).

10. Near-term Production Cost Model Need and Application Discussion

Mr. Davies discussed the need for production cost models (PCM) and best practices to apply to the PCMs. Mr. Loomis, Mr. Rolstad, Mr. Harris, and Chifong Thomas, Thomas Grid Advisor, will work on developing a proposal concerning the use of back casting near-term PCM including defining the goals, determining the amount of work that needs to be done and along with assessing the reliability risks and benefits.

11. Model Validation Subcommittee (MVS)

Song Wang, Portland General Electric Company, provided an update on the MVS. The RAC reviewed the charter's modifications.

On a motion by Chifong Thomas the RAC approved the MVS Charter.

The charter is posted on the [WECC website](#).

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

Allison Auld Hill, Southern California Edison (SCE), updated the committee on the LTPTF. The RAC reviewed the LTPTF charter's modifications. As the LTPTF is still in development the task force is still looking to find a co-chair.

On a motion by Tracy Rolstad, the RAC approved the LTPTF Charter.

The charter is posted on the [WECC website](#).

13. Studies Subcommittee

Thomas Carr, Western Interstate Energy Board, gave an update on the Studies Subcommittee.

14. Short-Circuit Modeling Subcommittee (SMS)

Amos Ang, SCE, gave an update on the SMS.



The presentation is posted on the [WECC website](#).

15. Resource Adequacy Advisory Group (RAAG)

Matt Elkins, Principal Engineer, updated the committee on the RAAG.

16. Long-Duration Storage Modeling Best Practices and Implications for WECC

Sergio Duenas and Devin Gaby, Strategen, discussed best practices for long-duration storage modeling and implications for not using the practices.

The presentation is posted on the [WECC website](#).

17. Interregional Transfer Capability Study (ITCS)

Saad Malik, Reliability Assessments Director, provided an update on NERC's Interregional Transfer Capability Study, NERC's ITCS Advisory Group, and WECC's ITCS Advisory Group. The Interregional Transfer Capability Studies deadline will be December 2, 2024.

18. Electromagnetic Modeling Task Force (EMTF)

Mr. Rolstad updated the committee on the EMTF. Ms. Loomis, Mr. Rolstad and Phillip Augustin, RAC Co-Chair, will work to develop a roadmap of the next steps for electromagnetic transient modeling.

The presentation is posted on the [WECC website](#).

19. Transmission Flow Changes in the Western Interconnection

Ms. Loomis discussed transmission flow changes in the western interconnection, operation changes and planning changes with the committee. Ms. Loomis, Mr. Agustin, and Mr. Davies will work to create a proposal on how RAC can regularly get information about operational changes in the western interconnection.

The presentation is posted on the [WECC website](#).

20. Integration of Climate Forecasts in Bulk System Studies

Casey Burleyson and Nathalie Voisin, PNNL, discussed integrating climate forecast in bulk system studies with the committee.

The presentation is posted on the [WECC website](#).

21. Plexos Trial Report Out

Katie Rogers, Sr. Engineer, updated the committee on the Plexos Trail reports.



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The presentation is posted on the [WECC website](#).

22. Data Management Project Update

Mr. Davies updated the committee on the data management project. The project is currently on hold until 2024.

23. Public Comment

No comments were made.

24. Review New Action Items

- Develop a roadmap of the next steps for electromagnetic transient modeling.
 - Assigned To: Chelsea Loomis, Phillip Augustin, Tracy Rolstad
 - Due Date: February 28, 2023
- Create a proposal on how RAC can regularly get information about operational changes in the western interconnection.
 - Assigned To: Chelsea Loomis, Phillip Augustin, Tracy Rolstad, Enoch Davies
 - Due Date: February 28, 2023
- Discuss with RRC the risks of using ambient temperatures that are too low when providing the rating information.
 - Assigned To: Enoch Davies,
 - Due Date: February 28, 2023
- Develop a proposal concerning the use of back casting a near-term production cost model defining the goals, the amount of work and by who, and reliability risks/benefits.
 - Assigned To: Chelsea Loomis, Chifong Thomas, Tracy Rolstad, Kevin Harris (TBD)
 - Due Date: February 28, 2023

25. Upcoming Meetings

December 13, 2023, Leadership Training Virtual

December 14, 2023, 3-year Work Plan Alignment Virtual

February 28–29, 2024..... Virtual

26. Adjourn

Ms. Loomis adjourned the meeting without objection at 12:00 p.m.



Exhibit A: Attendance List

Members in Attendance

Hamid Atighechi Powerex, Inc.

Allison Aud-Hill Southern California Edison Company

Philip Augustin.....Salt River Project

Mitchell BetonieFarmington Electric Utility System

Aseem Bhatia.....California Department of Water Resources

Thomas Carr..... Western Interstate Energy Board

Jeff Hanson Colorado Springs Utilities

Fred Heutte..... NW Energy Coalition

Peter Huang.....Alberta Electric System Operator

Robert Jackson..... Burns & McDonnell (1898 and Co.)

Lorissa Jones.....Bonneville Power Administration—Transmission

Peter Jones Puget Sound Energy, Inc.

Chelsea Loomis.....Western Power Pool

Peter Mackin..... GridBright, Inc.

Richard Maguire..... Electrical Consultants, Inc.

Christopher McLean..... California Energy Commission

Tracy Rolstad.....Public Utility District No. 2 of Grant County

Steve Schaarschmidt..... Colorado Springs Utilities

Robert Smith..... TransCanyon LLC

Chifong Thomas Thomas Grid Advisor

David Tovar..... El Paso Electric Company

Gary Trent..... Tucson Electric Power

Jerod Vandehey..... Public Utility District No. 1 of Cowlitz County

Song Wang..... Portland General Electric Company

David Wiley..... Arizona Public Service Company

Kenneth Wilson Siemens Energy, Inc.



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Joanna Yang.....Puget Sound Energy, Inc.
 Janice Zewe..... Sacramento Municipal Utility District
 Quinten Ziegler.....Transmission Agency of Northern California

Members not in Attendance

Ravi AggarwalBonneville Power Administration—Transmission
 Sharmen Andrew.....MATL Canada L.P.
 John ArmentaFarmington Electric Utility System
 Paul Arnold EnTranTek LLC
 Jamie AustinPacifiCorp
 Ehsan Azordegan Kinectrics US
 Eric Bahr.....NorthWestern Energy
 Nathan Barcic.....California Public Utilities Commission
 Ian Beil.....Portland General Electric Company
 Constance BergmarkImperial Irrigation District
 Charles Berry..... City of Lompoc
 Scott Beyer Western Power Pool
 Jeffrey BillintonCalifornia Independent System Operator
 Savina Blackman.....Clearway Energy Operating, LLC (NRG)
 Brett Bodine Turlock Irrigation District
 Marian Bonar.....Gallatin Power Partners, LLC
 Lindsay Briggs Black Hills Corporation
 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 Carlson Basin Electric Power Cooperative
 Andrew ChankoGuzman Power Markets, LLC
 Tim Cherry Metropolitan Water District of Southern California



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Dennis Desmarais.....Copia 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
Jared Ellsworth.....Idaho Power Company
Greg Engels British Columbia Utilities Commission
Jonathon Flores Los Angeles Department of Water and Power
Shaun Foster.....Portland General Electric Company
Jordy Fuentes Arizona Power Authority
Jennifer GalawayPortland General Electric Company
Biju GopiCalifornia Independent System Operator
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
Ryan Hancock.....Grid Subject Matter Experts
Nadine Hanhan.....Oregon Public Utility Commission
Johanna Hanson..... Washington Department of Commerce - State Energy Office
David Hartman..... Arizona Electric Power Cooperative, Inc. (Arizona G&T Cooperatives)
Jonathan Hayes.....Southwest Power Pool
Bill Hosie..... PSI Power System Innovation Corp.
Ryan Hubbard..... Tri-State Generation and Transmission—Reliability
Rhett Hurless..... Absaroka Energy, LLC
Richard Jackson..... U.S. Bureau of Reclamation



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Harley Johnson Tacoma Power
Holly Johnson.....City of Redding
Mike Johnson..... Pacific Gas and Electric Company
Will Jolley.....GridStor LLC
Robert Jones..... Seattle City Light
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
John Kyei..... TransCo Energy, LLC
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
Habibou Maiga San Diego Gas and Electric
Sarah Majok.....Sarah Aggrey Consulting Engineers LLC
Jessica Markovich Eugene Water & Electric Board
Tiana Marmitt Energy Exemplar, LLC
Jesus Martinez.....Imperial Irrigation District
John D. Martinsen..... Public Utility District No. 1 of Snohomish County
Diana McMahanSalt River Project
Jerry Melcher California Public Utilities Commission, Office of Ratepayer Advocates
Pete Mensonides Turlock Irrigation District
Keegan Moyer Energy Strategies
Foung Mua Sacramento Municipal Utility District



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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
Mike Nitido Tucson Electric Power
Denis Obiang..... Los Angeles Department of Water and Power
Andrey Olennikov Portland General Electric Company
Vishal Patel Southern California Edison 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
Glen Pruitt Public Utility District No. 1 of Chelan County
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
Rob Robertson..... Leeward Renewable Energy, LLC
Michael Roetzel.....Eligius LLC
Philip Roice.....Pend Oreille County PUD #1
Sam Rugel Tucson Electric Power
Erik SchellenbergIdaho Power Company
Matt Scheppers..... Platte River Power Authority
Tim SchiermeyerTransmission Agency of Northern California
Gretchen Schott.....Clearway Energy Operating, LLC (NRG)
Masoud Shafa.....California Department of Water Resources



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Tom SiegelLongroad Energy Holdings, LLC
Hari Singh.....Public Service Company of Colorado (Xcel Energy)
Alejandro Solis El Paso Electric Company
Jonathan Stahlhut TransCo Energy, LLC
Rachel Stanford.....Utah Associated Municipal Power Systems
Quincy Stormer.....Electrical Consultants, Inc.
Jan Strack San Diego Gas and Electric
Tom StuderFirst Solar
Spencer Tacke.....Auriga Corporation
Holly Taylor Western Interstate Energy Board
Sonseeahray Thayer Arizona Power Authority
James Thompson First-LightEnergy
Mark Thompson TransCanada Energy Ltd.
Jameson Thornton Burns & McDonnell (1898 and Co.)
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 WagleFlynn Resource Consultants, Inc.
Jonathan Walcott..... Delta-Montrose Electric Association
Jeffery Watkins.....NV Energy
Lowell WatrosGrid Subject Matter Experts
Steve Wickel Public Utility District No. 1 of Chelan County
Scott Wilson.....Avista Corporation
Wes WingenBlack Hills Corporation
David WithrowCalifornia Public Utilities Commission
Jeff Wyman..... ITC Grid Development, LLC
Chris Yoon Seattle City Light



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Brian Young.....Central Arizona Water Conservation District
 Nick ZettelCity of Redding
 Kevin Zhang..... British Columbia Hydro and Power Authority
 Karl Zimmerman First-LightEnergy
 Oren "Dayne" Zimmerman Eligius LLC

Others in Attendance [Only for technical committees]

Chris AlbrechtWECC
 Rachel AllenCity of Tacoma
 Brittany AndrusWECC
 Amos Ang..... Southern California Edison Company
 Steve AshbakerWECC
 Eric Baran.....Western Interconnection Regional Advisory Body
 Daja BellWECC
 Casey Burleyson Pacific Northwest National Laboratory
 Kevin Conway.....Pend Oreille County PUD #1
 Mar DahlREU Resources
 Arkadeep Das.....WECC
 Enoch Davies.....WECC
 Ashton Davis.....WECC
 Matt Elkins.....WECC
 David FrederickZglobal Inc.
 Dave GroverWECC
 Kevin Harris Pacific Northwest National Laboratory
 Corrine Higgins Guidehouse
 Curtis HollandWECC
 Vic HowellWECC
 Ben HutchinsWestern Power Pool



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Jon Jensen.....WECC

Nicole LeeWECC

Saad MalikWECC

Rafael MolanoBonneville Power Administration—Transmission

Mike Pfeister.....Salt River Project

Luz Ramos El Paso Electric Company

Aaron Reid.....WECC

Tim ReynoldsWECC

Katie RogersWECC

Angela Tanghetti California Energy Commission

Niazi Tariq.....California Department of Water Resources

Juan Vicente..... El Paso Electric Company

Nathalie Voisin Pacific Northwest National Laboratory

Matt Zapotocky.....WECC

