## Welcome, Call to Order

Chifong Thomas, Reliability Assessment Committee (RAC) Co-Chair, called the meeting to order at 1:02 p.m. MT on March 1, 2022. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

## 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.

## Approve Agenda

Ms. Thomas introduced the proposed meeting agenda.

**On a motion by Peter Mackin, the RAC approved the agenda.**

## Review and Approve Previous Meeting Minutes

Marie Smith, Administrative Coordinator, introduced the minutes from the meeting on October 18–19, 2022.

An update to Item 6 was made to reflect “The committee discussed the proposal to adjust the ADS process and how they process may change year to year, as well as better placement for those resources.”

**On a motion by Tracy Rolstad, the RAC approved the minutes from October 18–19, 2022.**

## Review Previous Action Items

Ms. Smith reviewed action items carried over from the RAC meeting on October 18–19, 2022. Action items that are not closed and will be carried forward can be found [here](https://www.wecc.org/Administrative/RAC%20Action%20Items.pdf).

## RAC Co-chair Nominating Committee Recommendation

Philip Augustin, Salt River Project, was recommended to become the RAC co-chair.  **On a motion by Tracy Rolstad, the RAC approved the recommendation for Philip Augustin to be the new co-chair of the RAC.**

## California Mobility Center Reliability Working Group

Ryan Quint, NERC, presented an update for the California Mobility Center Reliability Working Group.

The committee discussed the timeline for the presented modeling activities and electric vehicle (EV) auto cells focused in California with the timeline of when data can start being collected.

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/2022%20WECC%20RAC%20-%20CMC%20and%20NERC%20EV%20Work.pdf&action=default&DefaultItemOpen=1).

## Technical Committee Restructure

Victoria Ravenscroft, Senior Policy and External Affairs Coordinator, and Mr. Davies provided an update on the technical committee restructure. The Joint Guidance Committee (JGC) approved the technical committee structure. Along with this, a new RAC Charter was drafted and is still being revised with respect to quorum and membership.

## Studies Subcommittee

Mr. Augustin provided an update on the Studies Subcommittee (StS). The committee discussed the 2023 study programs and who is participating.

## Production Cost Data Subcommittee

Jamie Austin, PacifiCorp, presented an update on the Production Cost Data Subcommittee (PCDS).

**On a motion by Peter Mackin, the RAC approved the PCDS Charter.**

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/2023-03-01__RAC-%20-%20PCDS%20Progress%20Report.pdf&action=default&DefaultItemOpen=1).

The PCDS Charter is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/PCDS%20Draft%20Charter.pdf&action=default&DefaultItemOpen=1).

## System Review Subcommittee

Tracy Rolstad, Public Utility District No. 2 of Grant County, presented an update on the System Review Subcommittee (SRS).

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/SRS%20Chair%20Data%20Discussion%20SRS%20Feb%202022.pdf).

## Short Circuit Modeling Work Group

Amos Ang, Southern California Edison Company, gave an update for the Short-Circuit Modeling Work Group (SCMWG).

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/RAC%20Justification%20v2.pdf&action=default&DefaultItemOpen=1).

## Poll on the UFLS and GMD Assessment Approach

Chelsea Loomis provided a poll for the underfrequency load shedding (UFLS) and geomagnetic disturbance (GMD) assessment approach. There have been concerns about this topic brought to the attention of the RAC previously. Mr. Davies and Ms. Thomas provided a brief history of the UFLS and GMD data.

## Model and Validation Subcommittee

Song Wang, Portland General Electric, presented an update on the Modeling and Validation Subcommittee (MVS). The committee discussed the potential for changing the hydro model as explained in the presentation.

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/MVS%20Update.pdf).

## Data Management Solution Project

Amanda Sargent, Senior Resource Adequacy Analyst, is looking for a vendor to increase security when collecting loads and resources data. A request for proposal was released for the data management project and the deadline was extended. A list of 70 technical requirements for the project was made available. The advisory group will be meeting to discuss suggestions.

## The National Transmission Planning Study

Hamody Hindi, Department of Energy, presented an update on the National Transmission Planning Study.

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/GDO%20NTP%20Study%20WECC%20RAC%20March%202023.pdf&action=default&DefaultItemOpen=1).

## Long-Term Transmission Planning

Saad Malik, Reliability Assessments Director, presented an update on long-term transmission planning. Comments for this are due April 7, 2023.

The presentation is posted on the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/RAC%20Meeting%202023-03-02.pdf&action=default&DefaultItemOpen=1).

## Future RAC Meeting Arrangements

Mr. Davies suggested the committee meet in person once a year and have the other meetings virtually. There were concerns about budgeting to travel to Salt Lake City. There was also support for having one in-person meeting per year that all members would strive to attend in person.

## Public Comment

Richard Marrs, Quantum Planning Group, reminded the committee how long WECC has done 20-year studies. Chris McLean, California Energy Commission, supported the comment and suggested a survey-style report of the previous 20-year studies.

## Review New Action Items

There were no new action items created during this meeting.

## Upcoming Meetings

June 27–28, 2023 Salt Lake City, UT

October 24–26, 2023 Virtual

## Adjourn

Ms. Thomas adjourned the meeting without objection at 12:14 p.m.

## **Exhibit A: Attendance List**

### Members in Attendance

Ravi Aggarwal Bonneville Power Administration—Transmission

Hamid Atighechi Powerex, Inc.

Jamie Austin PacifiCorp

John Gross Avista Corporation

Jeff Hanson Colorado Springs Utilities

David Hartman Arizona Electric Power Cooperative, Inc.

Peter Jones Puget Sound Energy, Inc.

Justin Lee Salt River Project

Chelsea Loomis Western Power Pool

Peter Mackin GridBright, Inc.

Valeriy Oleshko Jr. Western Area Power Administration

Tracy Rolstad Public Utility District No. 2 of Grant County

Robert Smith TransCanyon LLC

Muhammad Tayyab Western Area Power Administration

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

David Wiley Arizona Public Service Company

Kenneth Wilson Siemens Energy, Inc.

Kevin Zhang British Columbia Hydro and Power Authority

### Members not in Attendance

Sharmen Andrew MATL Canada L.P.

John Armenta Farmington Electric Utility System

Paul Arnold EnTranTek LLC

Robin Arnold Renewable Northwest

Manuel Avendano Southern California Edison Company

Ehsan Azordegan Kinectrics US

Eric Bahr NorthWestern Energy

Nathan Barcic California Public Utilities Commission

Chris Benson Cascade Renewable Transmission, LLC

Constance Bergmark Imperial Irrigation District

Mitchell Betonie Farmington Electric Utility System

Scott Beyer Western Power Pool

Aseem Bhatia California Department of Water Resources

Jeffrey Billinton California Independent System Operator

Savina Blackman Clearway Energy Operating, LLC (NRG)

Brett Bodine Turlock Irrigation District

Chad Bowman Public Utility District No. 1 of Chelan County

Lindsay Briggs Black Hills Corporation

Marcus Brown NaturEner USA, LLC

Jeremy Brownrigg Platte River Power Authority

Shawn Carlson Basin Electric Power Cooperative

Thomas Carr Western Interstate Energy Board

Andrew Chanko Guzman Power Markets, LLC

Tim Cherry Metropolitan Water District of Southern California

Tom Christensen Basin Electric Power Cooperative

Tim Cook DesertLink, LLC

Dennis Desmarais Copia Power DevCo, LLC

Bryce Dininger Central Arizona Water Conservation District

Gordon Dobson-Mack Powerex, Inc.

Rodica Donaldson EDF Renewable Energy

Thomas Duane Public Service Company of New Mexico

Jared Ellsworth Idaho Power Company

Greg Engels British Columbia Utilities Commission

Jonathon Flores Los Angeles Department of Water and Power

Thomas Flynn California Energy Commission

Ellie Foruzan Transmission Agency of Northern California

Shaun Foster Portland General Electric Company

Ron Grife Leeward Renewable Energy, LLC

Ernie Griggs Cascade Renewable Transmission, LLC

Brenda Grossgebauer Utah Associated Municipal Power Systems

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

Jonathan Hayes Southwest Power Pool

Fred Heutte NW Energy Coalition

Bill Hosie PSI Power System Innovation Corp.

Ryan Hubbard Tri-State Generation and Transmission—Reliability

Rhett Hurless Absaroka Energy, LLC

Ben Hutchins Power System Consultants, Inc.

Robert Jackson Burns & McDonnell (1898 and Co.)

Richard Jackson U.S. Bureau of Reclamation

Holly Johnson City of Redding

Mike Johnson Pacific Gas and Electric Company

Harley Johnson Tacoma Power

Lorissa Jones Bonneville Power Administration—Transmission

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

Mike Larsen Public Utility District No. 1 of Cowlitz County

Josh Laurandeau NorthWestern Energy

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

Richard Maguire Public Utility District No. 2 of Grant County

Habibou Maiga San Diego Gas and Electric

Sarah Majok Sarah Aggrey Consulting Engineers LLC

Jessica Markovich Eugene Water and Electric Board

Tiana Marmitt Energy Exemplar, LLC

Jesus Martinez Imperial Irrigation District

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

Diana McMahon Salt River Project

Jerry Melcher California Public Utilities Commission, Office of Ratepayer Advocates

Pete Mensonides Turlock Irrigation District

Keegan Moyer Energy Strategies

Julie Myerholtz First Solar

Ramya Nagarajan DesertLink, LLC

George Nail Public Service Company of New Mexico

Tyler Nice Eugene Water and Electric Board

John Nierenberg Tacoma Power

Mike Nitido Tucson Electric Power

Andrey Olennikov Portland General Electric Company

Erik Olson Puget Sound Energy, Inc.

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 and 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

Rob Robertson Leeward Renewable Energy, LLC

Philip Roice Pend Oreille County PUD #1

Sam Rugel Tucson Electric Power

Faranak Sarbaz Los Angeles Department of Water and Power

Roy Sashwat Renewable Northwest

Steve Schaarschmidt Colorado Springs Utilities

Ronald Schellberg Northern Tier Transmission Group

Erik Schellenberg Idaho Power Company

Matt Scheppers Platte River Power Authority

Tim Schiermeyer Transmission Agency of Northern California

Gretchen Schott Clearway Energy Operating, LLC (NRG)

Masoud Shafa California Department of Water Resources

Tom Siegel Longroad Energy Holdings, LLC

Gary Simonson Energy Strategies

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 Studer First Solar

Spencer Tacke Auriga Corporation

Angela Tanghetti California Energy Commission

Holly Taylor Western Interstate Energy Board

Mark Thompson TransCanada Energy Ltd.

Edwin Tso Metropolitan Water District of Southern California

Boris Tumarin Arizona Electric Power Cooperative, Inc.

Guy Van Uytven Guy Van Uytven

Darrel G. VanCoevering EnTranTek LLC

Pushkar Wagle Flynn Resource Consultants, Inc.

Jonathan Walcott Delta-Montrose Electric Association

Song Wang Portland General Electric Company

Jeffery Watkins NV Energy

Lowell Watros Grid Subject Matter Experts

Steve Wickel Public Utility District No. 1 of Chelan County

Scott Wilson Avista Corporation

Wes Wingen Black Hills Corporation

David Withrow California Public Utilities Commission

Jeff Wyman ITC Grid Development, LLC

Brian Young Central Arizona Water Conservation District

Nick Zettel City of Redding

Janice Zewe Sacramento Municipal Utility District

### Others in Attendance

Ruben Arrendondo Regime LLC

Adam Bow Arizona Public Service Company

Toxie Burriss Modesto Irrigation District

Earl Campbell Arizona Public Service Company

Stephanie Conn Salt River Project

Jacob Flores Salt River Project

James Hanson WECC

Gene Henneberg NV Energy

Jennine Hinkle City of Riverside

Chris Hofmann Salt River Project

Vic Howell WECC

Raj Hundal Powerex, Inc.

Michael Jang Seattle City Light

Luz Ramos El Paso Electric Company

Tim Reynolds WECC

Boone Staples Tenaska, Inc.

Juan Vicente El Paso Electric Company

Margaret Albright Bonneville Power Administration

Amos Ang Southern California Edison Company

Philip Augustin Salt River Project

Larissa Cardoza Bonneville Power Administration

Dinah Cisco Salt River Project

John Clarke Seattle City Light

Alexis Cortez Transmission Agency of Northern California

Enoch Davies WECC

Kanya Dorland California Public Utilities Commission

Maddy Eberhard WECC

Kathy Estrada GDS Associates Inc.

Biju Gopi Alberta Electric Systems Operator

Angie Hall Pend Oreille County PUD #1

Kevin Harris Pacific Northwest National Laboratory

Mark Hesters California Energy Commission

Richard Hydzik Avista Corporation

Jon Jensen WECC

Tim Kedis Southern California Edison Company

Richard Marrs Quantum Planning Group

Chris McLean California Energy Commission

Raphael Molano Bonneville Power Administration

Effat Moussa Sempra Energy Trading Corporation

Tyson Niemann WECC

Heidi Pacini WestConnect

Katie Peterson GM

Ryan Quint North American Electric Reliability Corporation

Victoria Ravenscroft WECC

Trevor Rombough Black Hills Corporation

Marie Smith WECC

Alan Soe San Diego Gas and Electric

Branden Sudduth WECC

Mike Walker California Mobility Center

Yi Zhang California Independent System Operator