## Welcome, Call to Order

Kevin Harris, Production Cost Data Subcommittee (PCDS) Vice Chair, called the meeting to order at 10:37 a.m. MT on May 31, 2022. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

## Review WECC Antitrust Policy

Tyler Butikofer, System Adequacy Planning Engineer, read aloud the WECC Antitrust Policy statement. The meeting agenda included a link to the posted policy.

## Approve Agenda

Mr. Harris introduced the proposed meeting agenda.

**On a motion by Chifong Thomas, the PCDS approved the agenda.**

## Review and Approve Previous Meeting Minutes

**Approval of the minutes from the meeting on May 17, 2022 has been postponed until a future meeting.**

## Use Wind Annual Capacity Factor to choose from the NREL Turbine Types – Hourly Profiles

Yi Zhang, California Independent System Operator, gave an update on the use of wind annual capacity factor to choose to from the National Renewable Energy Laboratory (NREL) turbine types, hourly profiles based on a discussion from the previous meeting.

**On a motion by Steven Wallace, the PCDS approved:**

* **Use of NREL “A-1” turbine type hourly profiles for existing wind resources.**
* **Use of NREL “B-1” turbine type hourly profiles for future wind resources.**

## Status and inventory of data compiled in the 2032 ADS PCM

Mr. Butikofer gave an update on the status and inventory of data compiled in the 2032 Anchor Data Set (ADS) Production Cost Model (PCM). Concern was raised about whether wind profiles with <20% capacity factor should be excluded and replaced with a nearby shape. The location of the turbines may be the larger issue. Mr. Butikofer will review the capacity factors of each wind shape with the location.

## Validate BAA level resources in the 2032 ADS: Reference Case PF vs. L&R

Mr. Butikofer presented the validation of the Balancing Authority Area (BAA) level resources in the 2032 ADS Reference Case Power Flow (PF) versus loads and resources (L&R).

There were issues mapping locations in the L&R spreadsheet, along with additional items that resulted in mismatched capacities as discussed in the previous meeting. There is currently <2% difference between the capacity of the L&R and the capacity of the reference PF.

The PCDS reviewed the presented chart and pointed out that about 4,000 megawatts were misplaced. Mr. Butikofer informed the subcommittee that these megawatts are uniformly spread throughout the <2% difference between L&R and PF. At the request of the subcommittee, the chart was modified to include a column showing percent difference to signify the difference on megawatts between the L&R and PF.

The document is posted to the [PCDS team site.](https://www.wecc.org/teams/PDWG/Shared%20Documents/2032%20ADS%20PCM/PF%20vs%20LAR%20comparison_pivot%20table_Share_2022-5-31.xlsx?Web=1)

## Status of Behind the Meter data development

Mr. Butikofer gave an update on the behind-the-meter data implementation. Hitachi has implemented behind-the-meter data at the county level in the data set using the distribution provided by NREL. Mr. Butikofer had no concerns with the data provided.

## Development of the 2032 ADS Hourly Loads

Jon Jensen, System Adequacy Planning Engineer, presented the development of the 2032 ADS hourly loads based of the gross 2018 load shapes which included the residential, commercial, and industrial behind-the-meter energy shape information provided by NREL added in.

Mr. Jensen stated there was some questionable data received, but he and Mr. Butikofer reached out to data submitters to fix it. Mr. Jensen also went through the chart, providing the purpose of each graph. The PCDS discussed the information provided.

The document is posted to the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/ADS_2032_Hourly_Loads_LnR_2022-3-29_v09i_MST_UpdatedPSCO%20WACM_2022-6-7.xlsx).

## Status of reading generator scenarios into GridView

Mr. Jensen gave an update on the status of reading generator scenarios in GridView. There were issues with the change cases that had thermal units. Hitachi provided GridView version 10.3 Tier 6 which resolved the issue.

Mr. Jensen mentioned that after adding the change cases, he and Mr. Butikofer noticed some of the applied change cases did not bring in all the generation. Those will be double checked.

## California Hydro has $10 dispatch cost, lower than California Renewable

Mr. Harris gave an update on the current and proposed dispatch costs. Current dispatch cost for California hydro is -$10, all wind and solar is -$25, and non-California hydro is -$50. The subcommittee discussed whether this an appropriate cost and agreed to locate a contact at the Balancing Authority of Northern California (BANC) to verify the hydro data.

## Public Comment

A sample section of the Data Development and Validation Manual has been posted to the [WECC website](https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Administrative/DDVM_2032-Structure%202022-Sample%20Section.docx&action=default&DefaultItemOpen=1).

## Review New Action Items

* Review load capacity factor wind supply including a list with the location.
  + Assigned To: Tyler Butikofer
  + Due Date: June 7, 2022
* Line up the 2018 behind the meter to see if there are any issues.
  + Assigned To: Tyler Butikofer
  + Due Date: June 7, 2022
* Ask Jamie Austin for a contact at BANC to verify hydro data.
  + Assigned To: Tyler Butikofer
  + Due Date: June 7, 2022

## Upcoming Meetings

June 7, 2022 Virtual

June 14, 2022 Virtual

June 21, 2022 Virtual

## Adjourn

Mr. Harris adjourned the meeting without objection at 11:49 a.m.

Exhibit A: Attendance List

### Members in Attendance

Kevin Harris Harris PCM

Nader Samaan Pacific Northwest National Laboratory

Chifong Thomas Thomas Grid Advisor

Steven Wallace Comprehensive Power Solutions, LLC

Yi Zhang California Independent System Operator

### Members not in Attendance

Lee Alter Tucson Electric Power

Hazel Aragon California Energy Commission

Jamie Austin PacifiCorp

Ben Brownlee Energy Strategies

Jose Diaz Los Angeles Department of Water and Power

Christopher Fecke-Stoudt Arizona Public Service Company

Johnathon Flores Los Angeles Department of Water and Power

Monica Garcia El Paso Electric Company

Manuel Gomez El Paso Electric Company

Michael Granados Los Angeles Department of Water and Power

Chris Hagman American Transmission Company

Bill Hosie PSI Power System Innovation Corp.

Tito Inga-Rojas British Columbia Hydro and Power Authority

Anders Johnson Bonneville Power Administration - Transmission

Harris Lee Salt River Project

Amy Li Southern California Edison Company

John Liang Public Utility District No. 1 of Snohomish County

Peter Mackin GridBright, Inc.

Akhil Mandadi Arizona Public Service Company

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

Kimberly McClafferty NorthWestern Energy

Hank McIntosh San Diego Gas and Electric

Effat Moussa San Diego Gas and Electric

Ahlmahz Negash Tacoma Power

Daniel Ramirez Energy Strategies

Matthew Stajcar NorthWestern Energy

Sirisha Tanneeru Public Service Company of Colorado (Xcel Energy)

Xiaobo Wang California Independent System Operator

Stan Williams Bonneville Power Administration - Transmission

Di Xiao Southern California Edison Company

### Others in Attendance

Ryan Afshar Los Angeles Department of Water and Power

Natalie Carter WECC

Jon Jensen WECC

Richard Jensen California Energy Commission

Chelsea Loomis Western Power Pool

Abe Rais WECC

Alyssa Tavares California Energy Commission

Byron Woertz WECC