

1. Welcome, Call to Order

Jamie Austin, Production Cost Data Subcommittee (PCDS) Chair, called the meeting to order at 10:04 a.m. MT on October 26, 2022. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

2. Review WECC Antitrust Policy

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

3. Approve Agenda

Ms. Austin introduced the proposed meeting agenda.

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

4. Review and Approve Previous Meeting Minutes

Ms. Austin introduced the minutes from August 24, 2022, September 7, 2022, and September 14, 2022, meetings.

On a motion by Steven Wallace, the PCDS approved the minutes from August 24, 2022, September 7, 2022, and September 14, 2022.

5. Review Previous Action Items

Nicole Lee, Administrative Coordinator, reviewed action items carried over from the PCDS meeting on October 24, 2022. Action items that are not closed and will be carried forward can be found [here](#).

6. Review Capacity Differences Between Resources in the 2032 ADS and the L&R; Do Differences Track with the Rule Approved by PCDS?

Steven Wallace, Comprehensive Power Solutions (CPS), presented the spreadsheet with the capacity differences between resources in the 2032 Anchor Data Set (ADS) and the loads and resources (L&R). It includes the version 2.1 generators and the generator distribution table. The difference column for the L&R mapping shows when there are issues. Mr. Wallace used the bus number and the unit identification (ID) for the power flow (PF) table and mapped the bus with

the unit ID. There were 652 generators that were not directly located in the generator list from the generator table and 1,008 generators in the WECC case that were not directed to the L&R. The cause of this has not been determined. Concern was expressed that the PF models a single hour from the heavy summer (HS) case and the Production Cost Model (PCM) models all hours within a year. There are some still some outstanding issues that are difficult to review. The PCM contains more capacity due to retired generators. Mr. Wallace stated that there is no reason to doubt that the L&R data is in the PCM. The PCDS discussed that determining the firm capacity on wind and gas turbines can vary.

7. Assessment of the 2032 ADS PCM, V2.1 and Next Steps

Ms. Austin presented the results from the v2.1 2032 ADS validation. It contains questionable dispatch results and a significant difference in the capacity factors. The PCDS discussed that the capacity factor difference could be from the heat wave and fuel cost. The settings relative to the phase shifter contain sensitive information that most likely will not be provided by the operator. It was determined that the coordinated phase shifter settings that were perused pertain to short-term operation and don't apply in the planning horizon.

There were issues with collecting energy shapes for the DC interconnect system. Assumptions were made to the DC ties because it has not been available in the past.

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

Mr. Jensen presented v2.1 assessment results and the next steps. Concerns with the data were reviewed and changes were made to some of the units. The geothermal generators will be reviewed to ensure they are not modeled as natural gas and a comparison will be done with the \$20 MWh versus \$1,000 MWh to see how many times the penalty is being hit. There is more energy storage in v2.2 and less coal.

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

8. Changes to Version 2.1

Mr. Jensen presented the ADS version 2.1 geothermal forced outage rate approval item. The geothermal was not updated in the 2030 ADS case.

On a motion made by Kevin Harris, the PCDS approved the use of GADS geothermal forced outage rate of 6.88% for all geothermal units.

9. Posting Solved Export Hour

Bharat Vyakaranam, Pacific Northwest National Laboratory (PNNL), gave an update on voltages in the export hour. There were 830 unmapped generators removed from the existing PF case. The PCDS discussed lining up resources from the PF to the PCM for the roundtrip.



With the solved case, there was no need to keep the unmapped resources in the new PF reference case. Mr. Vyakaranam is working on fine tuning voltages in the exported one-hourly case from the PCM that will become the final reference case. The PCDS was encouraged to look at the generation output to make sure that it is consistent. The difference between the cases needs to be documented in the Data Development and Validation Model (DDVM).

10. Public Comment

No comments were offered.

11. Review New Action Items

- Present the results of the 2032 ADS case after changes were made from the yearly summary report average starts.
 - Assigned To: Jon Jensen
 - Due Date: November 2, 2022
- Check that the geothermal units are not modeled as natural gas.
 - Assigned To: Jon Jensen
 - Due Date: November 2, 2022
- Compare the \$20 MWh to the \$1,000 MWh to see how many times a penalty is implemented.
 - Assigned To: Jon Jensen
 - Due Date: November 2, 2022

12. Upcoming Meetings

November 2, 2022Virtual
November 9, 2022Virtual
November 16, 2022Virtual

13. Adjourn

Ms. Austin adjourned the meeting without objection at 11:34 a.m.



Exhibit A: Attendance List

Members in Attendance

Jamie Austin.....PacifiCorp
 Jose Diaz..... Los Angeles Department of Water and Power
 Kevin Harris..... Pacific Northwest National Laboratory
 Anders Johnson.....Bonneville Power Administration—Transmission
 Chelsea Loomis.....Western Power Pool (formerly Northwest Power Pool Corporation)
 Hank McIntosh..... San Diego Gas and Electric
 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
 Christopher Fecke-Stoudt..... Arizona Public Service Company
 Jonathon 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.
 Eliana Ibarra.....Imperial Irrigation District
 Tito Inga-Rojas..... British Columbia Hydro and Power Authority
 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 McClaffertyNorthWestern Energy
Effat Moussa..... San Diego Gas and Electric
Ahlmahz Negash Tacoma Power
Daniel Ramirez..... Energy Strategies
Matthew StajcarNorthWestern Energy
Sirisha TanneeruPublic Service Company of Colorado (Xcel Energy)
Emily TozierSalt River Project
Xiaobo Wang.....California Independent System Operator
Stan WilliamsBonneville Power Administration—Transmission
Di Xiao..... Southern California Edison Company

Others in Attendance

Arkadeep Das.....WECC
Nick HattonWECC
Jon Jensen.....WECC
Nicole LeeWECC
Katie RogersWECC
Alyssa Tavares California Energy Commission
Bharat Vyakaranam..... Pacific Northwest National Laboratory
Byron WoertzWECC

