

1. Welcome, Call to Order

Jamie Austin, Production Cost Data Subcommittee (PCDS) Chair, called the meeting to order at 10:35 a.m. MT on April 12, 2022. A quorum was present to conduct business. A list of attendees is attached as Exhibit A.

2. 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.

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

The minutes from the meeting on April 5, 2022 will be approved during the next meeting.

5. Validating the GridView Software

Ms. Austin gave an update on validating the GridView software. She clarified that the hydro weekly will not be included in this week's validation.

Kostas Oikonomou, Pacific Northwest National Laboratory (PNNL), presented on validating the GridView (GV) software, covering enhancements to thermal units modeling. Software updates for thermal included adding summer derating values and VOM costs. The program will remove the monthly scheduled cost, and put in the generic thermal data. The VOM can be adjusted if needed. Mr. Oikonomou confirmed that the comparison of the new, and old GV version with the updated hydro weekly will be presented next week.

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

6. CO2 Price Forecast

Lynn Marshall, California Energy Commission (CEC), presented on the CO2 price forecast, consistent with post-2020 cap, and trade regulations. Containment points were added to balance the need for a high enough price to drive emission reductions with adverse impacts on economy and risk of emission leakage. She presented the cap and trading pricing structure, and carbon price forecast assumptions.

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

Ms. Austin presented on how the CO2 pricing will be forecasted in the 2032 Anchor Data Set (ADS). The PCDS reviews price forecasts available publicly, and determines what to use in the ADS. The 2032 ADS comparisons of CO2 prices were made by using the CEC 2021 IEPR, and the council's 2021 transmission plan estimates that were in closed proximity.

Kevin Harris, Pacific Northwest National Lab (PNNL), presented the methodology for the CO2 cost in GV. The CO2 cost is essentially a fuel cost adder. Mr. Harris explained what needs to be modified in the workbook that he provided to WECC staff.

Motion made by Kevin Harris, the PCDS approved to use the CO2 pricing in the 2032 ADS workbook with the updated 2021 CEC IEPR (Mid Case) CO2 case, 77.95, inflated to 2022. It is subjected to check, and approve after the calculations are complete. The PCDS approved the methodology, and it will be presented by WECC staff next week with the numbers.

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

7. Developing the Loads Hourly Forecast

Mr. Butikofer presented on developing the loads hourly forecast. He summarized a few issues that were found. WECC is researching them. They are being fixed prior to the final version being complete. It should be available by the end of the week with the BTM shapes.

Ms. Austin explained that it was intended to align BTM data from the L&R submission with the composite model, but the idea was tabled due to the lack of data. Instead, NREL has a database available named dGen that has BTM forecasted at the city level, from 2014 through 2050. PNNL provided information to enable mapping from the city to the load bus. NREL will provide hourly shapes as well as BTM capacity data at the city, county, BAA and load bus level by sector (residential, commercial and residential) and blended. The PCDS discussed data sources, EIA versus using the NREL dGen BTM hourly profiles (year 2018) to add to the load hourly profiles for developing gross loads for the PCM. The consensus was to use the NREL dGen data.



8. Public Comment

No comments were received.

9. Review of New Action Items

- Present an update on the weekly hydro enhancements during the April 19, 2022 meeting.
 - Assigned To: Kostas Oikonomou, PNNL
 - Due Date: April 19, 2022
- Update the California CO2 workbook with updated 2021 CEC IEPR (Mid Case) CO2 case, 77.95, inflate to 2022. Present the numbers on April 19, 2022.
 - Assigned To: Tyler Butikofer, and Byron Woertz
 - Due Date: April 19, 2022
- Present the final version developing the loads hourly forecast and present April 19, 2022 or the following week.
 - Assigned To: Tyler Butikofer
 - Due Date: April 19, 2022

10. Upcoming Meetings

April 19, 2022,.....Virtual
April 26, 2022,.....Virtual
May 3, 2022.....Virtual

11. Adjourn

Ms. Austin adjourned the meeting without objection at 12:06 p.m.



Exhibit A: Attendance List

Members in Attendance

Jamie Austin.....PacifiCorp
 Jose Diaz..... Los Angeles Department of Water and Power
 Michael Granados..... Los Angeles Department of Water and Power
 Kevin Harris Pacific Northwest National Lab
 Hank McIntosh San Diego Gas and Electric
 Chifong Thomas Thomas Grid Advisor
 Steven Wallace Comprehensive Power Solutions, LLC
 Stan WilliamsBonneville Power Administration—Transmission
 Yi Zhang.....California Independent System Operator

Members not in Attendance

Lee Alter..... Tucson Electric Power
 Hazel Aragon California Energy Commission
 Ben Brownlee Energy Strategies
 Christopher Fecke-Stoudt..... Arizona Public Service Company
 Monica Garcia El Paso Electric Company
 Manuel Gomez..... El Paso Electric Company
 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 LeeSalt 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



Effat Moussa..... San Diego Gas and Electric
Ahlmahz Negash Tacoma Power
Daniel Ramirez..... Energy Strategies
Sirisha TanneeruPublic Service Company of Colorado (Xcel Energy)
Xiaobo WangCalifornia Independent System Operator
Di Xiao..... Southern California Edison Company

Others in Attendance

Tyler ButikoferWECC
Jon Jensen.....WECC
Richard Jensen.....WECC
Bhavana KatyalWECC
BK Ketineni.....WECC
Mark Kootsra..... California Energy Commission
Mark Kostas..... California Energy Commission
Nicole LeeWECC
Lynn Marshall California Energy Commission
Kostas Oikonomou Pacific Northwest National Lab
Nader Samaan..... Pacific Northwest National Lab
Alyssa Tavares California Energy Commission
Emily TozierSalt River Project
Jin Zhu.....Hitachi

