

## **1. Welcome, Call to Order**

Jamie Austin, Production Cost Data Subcommittee (PCDS) Chair, called the meeting to order at 10:34 a.m. on August 31, 2021. 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 Chelsea Loomis, the PCDS approved the agenda.**

## **4. Review and Approve Previous Meeting Minutes**

Ms. Austin introduced the minutes from the meeting on August 17, 2021.

**On a motion by Chelsea Loomis, the PCDS approved the minutes from August 17, 2021.**

## **5. Variability in Loads and Resource Study Assumptions and Results**

Mr. Butikofer presented the variability in loads and resource study assumptions and results. The purpose of the study was to examine the reliability impacts of heatwave weather events and evaluate the use of battery energy storage system (BESS) to respond to such events. The advisory group used 2030 California Energy Commission's (CEC) forecast to develop one-in-ten and one-in-twenty load shapes simulating heatwaves. The other data used was the same as the 2030 anchor data set (ADS). The load profiles were created for the two-week period, around August 29, the day the peak load occurred. Each BESS had four hours of storage except in CFE which was six hours or an eight-hour battery. The peak unserved load was distributed into multiple buses, to not exceed over 300 MW. Batteries were placed in load centers and on a nearby well-connected high voltage buses. Ms. Austin said this study did not consider market compensation rules. For example, in an Independent System Operator (ISO) market, generators are currently expected to provide inertial and governor response during frequency excursions

without market compensation. Although BESS can provide the same services, currently there is no way for BESS to seek market compensation for doing so.

BK Ketineni, System Adequacy Planning Engineer, presented the production cost model (PCM) results. The one-in-ten and the one-in-twenty heatwave projected loads caused unserved loads in many areas. After adding BESS, unserved load was mitigated.

The subcommittee discussed that there is a pattern for the transmission congestion and where the power is needed in different areas based off coal going into the northwest. Ms. Austin said that accounting for reduced transmission congestion against the corresponding BESS variable and capital costs needs to be considered. This will help so the results won't be misconstrued as being practical.

The subcommittee suggested changes to tables and charts for clarity:

- Use percentage increase instead of load multipliers on presentation; and
- Add locational marginal price (LMP) dash lines to make it easier to read in the report.

The subcommittee also suggested changes for future studies:

- Increase the duration from two weeks to one year or a few months to optimize hydro generation;
- Enhance the battery storage to accommodate the system operations;
- Add extensions to the next study cycle in the final report;
- Compare the capital cost of batteries to the cost of transmission; and
- Increase the battery operating hours to see if more than four-hour batteries could be needed.

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

## 6. Documentation Updates

Jon Jensen, System Adequacy Planning Engineer, gave an update on the ADS documentation. It has been approved and will be presented to PCDS on September 14, 2021. The ADS change, decision tracker, error checking protocol, data development and validation manual (DDVM) are currently in progress. The ad hoc task force is reviewing the structure and process.

Volunteers that want to be part of the ad hoc task force should email Mr. Jensen.

## 7. Public Comment

Yi Zhang, California Independent System Operator (CAISO), suggested that when creating hourly solar profiles, use inverter load ratio of 1.0 and allow GridView enhancement to change the ratio.



**8. Review of Previous Action Items**

Mr. Butikofer reviewed action items carried over from the PCDS meeting on August 17, 2021. Action items that are not closed and will be carried forward can be found [here](#).

**9. Review of New Action Items**

There were no new action items created during this meeting.

**10. Upcoming Meetings**

- September 14, 2021 ..... Webinar
- September 21, 2021 ..... Webinar
- September 28, 2021 ..... Webinar

**11. Adjourn**

Ms. Austin adjourned the meeting without objection at 12:02 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..... Harris PCM  
Effat Moussa..... San Diego Gas and Electric  
Chifong Thomas..... Thomas Grid Advisor  
Stan Williams ..... Bonneville 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.  
Greg Howes..... Colorado Springs Utilities  
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



Hank McIntosh ..... San Diego Gas and Electric  
Ahlmahz Negash ..... Tacoma Power  
Daniel Ramirez..... Energy Strategies  
Sirisha Tanneeru ..... Public Service Company of Colorado (Xcel Energy)  
Xiaobo Wang..... California Independent System Operator  
Di Xiao .....Southern California Edison Company

**Others in Attendance**

Tyler Butikofer ..... WECC  
Jyotsna Chatrati..... NV Energy  
Paul Deaver ..... Public Service Company of Colorado (Xcel Energy)  
Jon Jensen ..... WECC  
Richard Jensen..... California Energy Commission  
Bhavana Katyal..... WECC  
BK Ketineni ..... WECC  
Nicole Lee..... WECC  
Chelsea Loomis..... Northwest Power Pool  
Nadar Samann ..... Pacific Northwest National Library  
Nathalie Voisin ..... Pacific Northwest National Library  
Steven Wallace ..... Comprehensive Power Solutions  
Byron Woertz ..... WECC

