Exh. DCG-13C
Dockets UE-170033/UG-170034
Witness: David C. Gomez
CONFIDENTIAL VERSION

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**DOCKETS UE-170033 and UG-170034 (*Consolidated*)**

EXHIBIT TO
TESTIMONY OF

David C. Gomez

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

***WUTC v. PacifiCorp d/b/a Pacific Power & Light Company*, Docket UE-130043, Staff testimony of David C. Gomez, Exhibit DCG-1CT, Section V, Part A, Page 18:8 through 20:3 and Gregory N. Duvall, Exhibit GND-1CT, pages 17:8 through 18:15.**

CONFIDENTIAL PER PROTECTIVE ORDER – CONFIDENTIAL VERSION

modeling to account for reserve capability; and 3) adding the cost of holding reserves to integrate non-owned wind facilities. These modeling changes properly reflect changes in the Company's operations that affect economic dispatch decisions within GRID, thus improving the accuracy of its results in predicting NPC for the WCA.

However, reducing the capacity of Company-owned wind generation and the inclusion of DC Intertie costs should be rejected by the Commission.

A. Reducing Wind Generation Capacity

Q. Please describe the Company's proposal in GRID to reduce the capacity of Company-owned wind projects?

A. Mr. Duvall states that the Company previously relied on a "P50" forecast to project normalized wind generation.[37] The Company, in this case, compared P50 against a 48-month historical production data average for each resource and concluded that the historical data were more representative of the true output of these facilities. The Company, therefore, uses the historical data in GRID, rather than the P50 forecast. This change materially reduces the capacity of its wind generating resources for its 2014 test year GRID run by an average 12 percent.[38]

Q. Has the Company demonstrated that this modeling change is reasonable?

[37] Duvall, Exhibit No. __ (GND-1CT) at 17:15-16 ("A P50 forecast projects generation at a level that is expected to have an equal probability of being higher or lower than forecast.")
[38] Capacity factor reductions: Goodnoe Hills, from 32.4 to 28.9 percent; Leaning Juniper, from 34.7 to 27.9 percent; Marengo I, from 32.0 to 29.0 percent; and Marengo II, from 30.5 to 28.5 percent.

A. No. In Order 09 in Docket UE-090205, the Commission found the Marengo II facility to be "used and useful" and that its acquisition was prudent.[39] In making this finding, the Commission relied, in part, on Company Exhibit No. 5 (MRT-5C), which contained an assessment of energy production for Marengo II that went into service on June 26, 2008.[40]

The assessment predicted a net capacity factor for Marengo II of 30.5 percent with an equal probability of it either being higher or lower than that number. Table 8 of the exhibit also predicted varying net capacity factors over one and 10-year spans and net capacity values at different confidence intervals. As one would expect, the value arrived at by the Company in the current case for the 48-month historical production data average for Marengo II (28.5 percent) is still within the range of net capacity factors predicted in the 2009 rate case.

It is, therefore, inappropriate for the Company to change how it models the capacity of these resources given the relatively short period of time they have been in service.[41] Clearly, future net capacity factors will continue to have an equal chance of performing above and below the mean, independent of historical performance. For purposes of GRID modeling, the net capacity factors should be reviewed after a more significant period of generation history. For example, water-year records used for hydro-normalization in many contested cases use 40-year rolling averages[42] and

[39] *WUTC v. PacifiCorp*, Docket UE-090205, Order 09 at ¶65 (December 16, 2009).
[40] All of the other Company-owned wind facilities modeled in GRID in that prior case also used similar assessments of expected production capacity as part of the prudence review.
[41] Goodnoe Hills (2008), Leaning Juniper (2006) and Marengo I (2007)..http://www.pacificorp.com/es/re.html.
[42] *WUTC v. PacifiCorp*, Docket UE-061546, Order 08 at ¶133 (June 21, 2007).

in the multi-party settlement in the 2009 rate case, the agreed upon temperature normalization methodology employs a 20-year period of daily temperature records.[43]

B. DC Intertie Transmission Line

Q. What is the DC Intertie transmission line?

A. The DC Intertie is a BPA-owned transmission line that sends power from the Pacific Northwest to the Los Angeles area using high voltage direct current. The DC Intertie can transmit power in either direction, but power flows mostly from north to south. The DC Intertie takes advantage of differing power demand patterns between the Northwest and Southwest. When the Company models GRID purchases (or sales) of power transmitted over the DC Intertie, the point of transfer is reflected at the Nevada-Oregon Border ("NOB") market hub.

Q. Please explain the previous ratemaking treatment of the DC Intertie.

A. In the 2010 rate case, the Company attempted to allocate to the WCA the cost of this transmission resource, but did not include any purchases at the NOB market hub. As a result, the Commission rejected the cost of the intertie in Order 06 in that case.[44]

Q. What is the Company's proposal in this case with respect to the DC Intertie?

A. In this case, the Company updates the GRID topology to include the DC Intertie capacity and the NOB market hub, which results in $970,410 ($34.81 per MWh x

[43] *WUTC v. PacifiCorp*, Docket UE-090205, Order 09 at ¶60 (December 16, 2009).
[44] *WUTC v. PacifiCorp*, Docket UE-100749, Order 06 at ¶152 (March 25, 2011).

Company will have the necessary capital upgrades and contractual arrangements with BPA to enable the Company to operate each plant within PACW. For the wind plants, this change avoids expenses previously paid to BPA for wind integration and avoids potential curtailment by BPA under Dispatch Standing Order (DSO) 216 and Oversupply Management Protocol (OMP). For Chehalis, this change allows PacifiCorp to avoid certain transmission-related expenses and utilize the plant to provide reserve capacity.

Adjustment of the Monthly Capacity Factor for Wind Generation to Match the Average 48-Month History of Wind Generation Output

Q. Please explain how the Company used historical wind output to calculate the wind generation in this case.

A. In this case, the Company is using historical monthly wind capacity factors, where available, to project the normalized wind generation for calendar year 2014. In past cases, wind generation was included in GRID based on a "P50" forecast. A P50 forecast projects generation at a level that is expected to have an equal probability of being higher or lower than forecast. The Company used this approach because it did not have enough historical data upon which to base a forecasted level of wind generation.

For many of the Company's owned plants and power purchase agreements (PPAs), the Company now has enough data to use average actual output to calculate normalized generation levels. Where possible, the Company used the 48-month average historical generation at each wind facility in the PACW to determine the generation level. If 48 months of historical data was not available,

the Company used the P50 forecast to fill in missing data. The Company produced the generation profile by applying the ratio of actual and forecast capacity factors to the generation profile of the P50 forecast.

Q. Did the Company make any adjustments to the historical data for Leaning Juniper and Goodnoe Hills?

A. Yes. To date, the Leaning Juniper and Goodnoe Hills wind projects have been operated in BPA's balancing authority area and subject to curtailment by BPA under DSO 216 and OMP. Moving these two plants into PACW means they will no longer be subject to DSO 216 and OMP curtailments. To compute the 48-month history for these plants, the Company removed curtailment events.

Q. What is the impact of using the adjusted historical generation rather than the P50 forecast?

A. For Company-owned facilities, wind generation is approximately 12 percent lower than the 2011 Rate Case, which increases Washington NPC by approximately $1.0 million.

Changes to the Modeling of Hydro Generation

Q. Please explain why the Company input hydro generation into GRID on a weekly basis rather than hourly.

A. In the 2010 Rate Case, the Company used an hourly hydro generation forecast that was shaped by the Vista model based on market price. This method optimized the value of hydro energy, but did not account for the value of hydro reserve capability. In this case, the Vista model continues to determine the optimal weekly hydro generation based on market price. This captures the value