Exhibit No.___ (MCD-8)
Docket No. UE-130043
Witness: Michael C. Deen

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PACIFICORP D/B/A PACIFIC POWER & LIGHT COMPANY, Respondent.	)	Docket Nos. UE-130043

EXHIBIT NO.___(MCD-8)

PACIFICORP RESPONSE TO BOISE DATA REQUEST 4.1

June 21, 2013

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Boise Data Request 4.1

With regard to the EXCEL spreadsheet workpaper files used in deriving the coal plant heat rate equations for GRID (provided in response to Bench Request Duvall NPC Workpapers Set 2 Confidential folder) entitled *Jim Bridger 12Jun HR (Conf)* and *Colstrip 12Jun HR (Conf)*, please provide a complete explanation of the method used by the Company to derive the heat rate equations, including an explanation of the source of the unit heat rate coefficients in EXCEL rows 4-6 of each spreadsheet, the monthly and hourly data and the basis for the discrepancy between the monthly generation values generally contained in EXCEL rows 17-64 for each unit versus the summation of the hourly values for a given month shown in EXCEL rows 81-35,144. As part of this response, please explain why the Company did not use all the hourly data in deriving the heat rate coefficients for each unit and provide revised spreadsheets.

Response to Boise Data Request 4.1

Referencing the Company's response to Administrative Law Judge (ALJ) Bench Request 2; specifically the folder entitled "NPC Workpapers Set 2\Confidential\5-B2_WAGRCw_Heat Rate Curve Backup (Jun12) (Conf)," the confidential spreadsheets entitled "*Jim Bridger 12Jun HR (Conf)* and *Colstrip 12Jun HR (Conf).*" the Company responds as follows:

The Company's heat rates are designed to determine the fuel input (in MMBTUs) as a function of unit output, specifically online net generation (in MWh). Negative "generation," or station service, results from auxiliary loads while units are offline and is handled elsewhere in the Company's modeling. Both offline generation and estimated offline fuel consumption are therefore removed from the heat rate calculation.

The heat rate coefficients in rows 4 to 6 of each spreadsheet are the unit design heat rate coefficients and provide the expected variance in heat rate over the unit's operating range. Small differences can occur when summing the hourly meter data compared to the more accurate monthly revenue meter results, thus the hourly generation data is scaled so that the total matches the sum of the monthly results. Hourly heat input volumes are calculated using the design heat rate coefficients and online net generation in rows 81 and beyond. Because heat input is only tracked on a monthly basis, the hourly heat input results for the period are scaled so that the sum of the calculated hourly values and the sum of the actual monthly values match. This same scaling factor is applied to the design heat rate coefficients and the result is the adjusted 48-month average heat rate coefficients in rows 10 to 12. These adjusted heat rate coefficients could result in a higher or lower average heat rate in the test period, depending on unit capacity factor; however, if the hourly generation exactly matched historical levels, total fuel

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consumption would also match historical levels. This method is used for the Company's steam units, which include all of its coal plants as well as Gadsby 1-3.

The heat rate coefficient scalar is necessary because online net generation heat rates can change over time, depending on a unit's age, operating time since overhaul, and changes in auxiliary loads (such as coal mills and scrubbers). The design heat rate coefficients capture the variance in heat rate as a function of unit output, but cannot capture the complex relationship of these other factors. The expected heat rate impact of different operating levels is accounted for by using the historical hourly generation data. For instance, frequently running a unit near its minimum in the historical period will result in a higher average heat rate for that period because it is less efficient than operating near its maximum, but will not affect the heat rate coefficients unless the heat rate during operation at lower levels is different from the level predicted by the design coefficients.

The Company inadvertently excluded a portion of the 48-month historical hourly data in determining the scaling factor for the 48-month historical heat rate coefficients for each unit. In addition, the Colstrip spreadsheet had pasted values for the 48-month heat rate coefficients in rows 10-12; these have been replaced with the appropriate calculations.

Please refer to Confidential Attachment Boise 4.1, which provides the revised heat rate coefficient spreadsheets. Corrected data is highlighted in yellow. The Company will include the corrected heat rate coefficients with its rebuttal testimony.

Confidential information is provided subject to the terms and conditions of the protective order in this proceeding.

PREPARER: Dan MacNeil / Teresa Tang

SPONSOR: Gregory N. Duvall