BEFORE THE OREGON PUBLIC UTILITY COMMISSION

UE 264

In the Matter of	)
	)
PACIFICORP	)
	)
2014 Transition Adjustment Mechanism	)
_____	)

RESPONSIVE TESTIMONY OF MICHAEL C. DEEN

ON BEHALF OF

THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES

REDACTED VERSION

June 4, 2013

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael C. Deen, and my business address is 900 Washington Street, Suite 780, Vancouver, Washington 98660. I am employed by Regulatory and Cogeneration Services, Inc., a utility rate and consulting firm.

Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.

A. I have been involved in the energy industry for over 6 years. During that time, I have served as an analyst and expert on a variety of power supply, cost, ratemaking, and policy topics—primarily regarding the Bonneville Power Administration and Pacific Northwest utilities. I have provided testimony on behalf of the Industrial Customers of the Northwest Utilities ("ICNU") before the Oregon Public Utility Commission (the "Commission" or "OPUC") in various proceedings regarding Portland General Electric Company and PacifiCorp (the "Company"). I have also provided testimony on behalf of ICNU before the Washington Utilities and Transportation Commission ("WUTC") regarding Avista, PacifiCorp, and Puget Sound Energy. I have also provided testimony on natural gas matters regarding Northwest Natural before the OPUC and regarding Avista and Puget Sound Energy on behalf of the Northwest Industrial Gas Users before the WUTC. A further description of my educational background and work experience can be found in Exhibit ICNU/101.

Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A. I am testifying on behalf of ICNU. ICNU is a non-profit trade association whose members are large industrial consumers of electricity throughout the Pacific Northwest, including customers served by PacifiCorp in Oregon.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. The purpose of this testimony is to address PacifiCorp's proposed levels of net power costs ("NPC") included in the 2014 Transition Adjustment Mechanism ("TAM") proposed rates. The TAM is PacifiCorp's annual filing to update the level of NPC in rates and set transition adjustments for direct access customers.

The Company's initial filing in this case is for NPC of approximately $1.457 billion on a Company-wide basis for 2014, with an Oregon allocation of $363.1 million. The Company's 2013 TAM filing included system NPC of $1.473 billion and an Oregon allocation of $362.7 million. Factoring in Oregon's change in load from the last proceeding, this change represents an approximate $1 million decrease to Oregon rates.

Q. PLEASE BRIEFLY SUMMARIZE YOUR RECOMMENDATIONS IN THIS PROCEEDING

A. ICNU recommends the following adjustments to the Company's NPC:

- **Jim Bridger Heat Rate Improvement.** The Company has made a significant capital investment to upgrade to the functionality of Jim Bridger Unit 2. Although the Company has reflected the increased generation capacity as a result of this upgrade, it has not included the increased efficiency of the unit. In 2010, the Company made a similar upgrade to Jim Bridger Unit 1 and has inappropriately used data from prior to that upgrade in determining the heat rate of the unit for 2014. Correcting both of these heat rates results in a reduction of the Oregon revenue requirement by approximately $1.2 million.

- **Coal Fuel Expense.** Oregon rules allow consumers to receive the benefit of "lesser of" cost or market pricing for transactions with utility affiliate suppliers. Moving the price of the Jim Bridger plant coal supply to a market price reduces the Oregon revenue requirement by approximately $7.4 million.

- **Wind Energy Shaping.** The Company has inappropriately proposed to reshape the hourly output of wind resources in GRID based on one year of historical data. Removing this change reduces the Oregon revenue requirement by approximately $1.2 million.

Q. HAVE YOU CONDUCTED A STUDY INCORPORATING ALL OF YOUR PROPOSED ADJUSTMENTS?

A. Yes. Incorporating all of ICNU's proposed adjustments reduces the overall revenue requirement by approximately $9.4 million on an Oregon basis.

II. JIM BRIDGER HEAT RATE IMPROVEMENT

Q. WHAT CAPITAL IMPROVEMENTS FOR JIM BRIDGER UNIT 2 IS THE COMPANY PURSUING RECOVERY FOR IN ITS CONCURRENT GENERAL RATE CASE?

A. The Company is seeking cost recovery for a turbine upgrade project at Unit 2 of the Jim Bridger facility. The estimated cost of the project on a total Company basis is $31 million. The primary benefits of the project are an increase in generating capacity of 12 megawatts ("MW") with no additional fuel requirement at maximum output. The Company also anticipates that there will be an efficiency improvement of approximately 500 BTU/kWh over the normal operating range of the plant. The project was anticipated to start service in May of 2013. Full description of the upgrade project and its costs and benefits can be found in Exhibit PAC/400 in Docket UE 264, the testimony of Dana Ralston in PacifiCorp's concurrent general rate case filing.

Q. HAS THE COMPANY INCLUDED BOTH THE CAPACITY AND EFFICIENCY IMPROVEMENTS FROM THE TURBINE UPGRADE PROJECT IN THIS PROCEEDING?

A. No. The Company has not included the anticipated efficiency improvements in its power cost modeling in this case.

Q. IS THIS APPROPRIATE?

A. No. Not including the full benefits of a project while charging customers its full costs is a basic violation of the matching principle. If the Company wishes to seek recovery for the turbine upgrade at Bridger Unit 2, it must include all benefits.

Q. ARE THE EFFICIENCY BENEFITS FROM THE TURBINE UPGRADE PROJECT REASONABLY KNOWN AND LIKELY TO OCCUR?

A. Yes. In ICNU Data Request 2.3 in the UE 263 docket, ICNU requested the Company provide the basis for the expected 500 BTU/kWh heat rate improvement. This data response is attached as Exhibit ICNU/102. As part of this response, the Company provided the results of a study performed for the turbine upgrade project completed on Bridger Unit 1. The Company presumably deemed this responsive as "Bridger Units 1 and 2 are of similar design, capacity and size."

Additionally, in response to ICNU Data Request 2.1 in UE 263, the Company confidentially provided "a summary of the economic analysis for the project as well as the project documentation used in the approval process." ICNU/102, Deen/1. Page four of this documentation cites the Company's expectation for a net heat rate improvement of [redacted] BTU/kWh. Confidential ICNU/102, Deen/2.

Q. DID THE UPGRADES AT BRIDGER UNIT 1 PRODUCE SUBSTANTIAL, MEASURABLE AND IMMEDIATE IMPROVEMENTS IN THE UNIT'S HEAT RATE?

A. Yes. Based on my analysis of Bridger Unit 1 operations from the 48 month period ended June 2012, the unit showed a substantial improvement in average heat rate for the 24 month period during which the turbine upgrade was in effect. Specifically, prior to May 2010 the average heat rate for Unit 1 was [redacted] BTU/kWh. From July 2010 (the first full month after the upgrade) through June 2012 the average heat rate was [redacted] BTU/kWh. This represents an improvement of [redacted] BTU/kWh.

Q. WHAT HEAT RATE DO YOU RECOMMEND BE USED FOR THE BRIDGER 2 UNIT FOR 2014.

A. I recommend that the average heat rate for Bridger Unit 1 since the time of the turbine upgrade be imputed for Unit 2 for power cost modeling purposes for 2014. This value is [redacted] BTU/kWh and represents an improvement of [redacted] BTU/kWh over the value of [redacted] BTU/kWh currently included in the GRID model for Unit 2. This represents a reasonable value in line with the Company's testimony of the expected efficiency improvement, and is also reasonable given the empirical results experienced for Unit 1 and the similarity between Units 1 and 2.

Q. DO YOU ALSO HAVE A PROPOSED ADJUSTMENT TO THE BRIDGER UNIT 1 HEAT RATE INCLUDED IN THE GRID MODEL?

A. Yes. PacifiCorp uses actual results from the most recently available 48 months to develop a scalar adjustment to the design heat rate for use in GRID. PacifiCorp described the necessity for this adjustment to design heat rates in response to ICNU Data Request 2.1 in docket UE 264. The full response is attached as Exhibit ICNU/102, Deen/6:

> 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 use of the 48 month data does not allow for the timely integration of capital improvements that effectively raise the design heat rates. As described previously, the heat rate for Bridger Unit 1 showed substantial improvement in efficiency after May 2010. However, under PacifiCorp's method, customers do not see the full benefit of that improvement because using the date from the months back to July 2008 dilutes the

improvement. Indeed, customers will not see the full improvement due to the turbine upgrade put in service during 2010 until 2015, all the while paying the costs through rates.

Q. WHAT HEAT RATE DO YOU RECOMMEND BE USED FOR THE BRIDGER 1 UNIT?

A. I recommend that the average heat rate of [redacted] BTU/kWh derived from July 2010 through June 2012 be used in GRID modeling for this case. This will allow customers to receive the full benefits of capacity projects they are paying for through rates.

Q. ARE THERE ANY OTHER ERRORS IN PACIFICORP'S HEAT RATE CALCULATIONS?

A. Yes. As described in response to ICNU Data Request 2.1 in UE 264, PacifiCorp inadvertently did not include all 48 months of operating data for its thermal plants while calculating the heat rate coefficients for use in GRID. PacifiCorp intends to correct this error for all thermal plants in its next update filing. The overall system impact of this correction is approximately $3.7 million.

Q. HAVE YOU CALCULATED THE COMBINED EFFECT OF YOUR ADJUSTED HEAT RATES ON NPC FOR THE RATE PERIOD?

A. Yes. Correcting both the Bridger Unit 1 and 2 heat rates to reflect the efficiency improvements from the turbine upgrade projects reduces the Oregon revenue requirement by $1.2 million. This adjustment represents the incremental NPC change in GRID after correcting for the heat rate calculation error PacifiCorp acknowledged in response to ICNU Data Request 2.1.

III. COAL FUEL EXPENSE

Q. PLEASE SUMMARIZE THE COAL SUPPLY FOR THE JIM BRIDGER PLANT.

A. The Company supplies approximately two thirds of its fuel needs for the Jim Bridger Plant from the affiliated BCC facilities. The remaining amounts are supplied from the third-party Black Butte coal contract.

Q. DID THE COMPANY COMPARE THE COSTS OF COAL FROM THE AFFILIATED BCC MINES AND THE THIRD PARTY BLACK BUTTE SUPPLY?

A. Yes. On page 15, lines 16-18 of PAC/200, the Company asserts that the prices from the BCC mines and the Black Butte third party supply are comparable. The Company's analysis is that the BCC costs for 2014 are [redacted] per ton and prices under the Black Butte Contract are [redacted] per ton.

Q. IS THE COMPANY'S COMPARISON BETWEEN THE AFFILIATE AND THIRD PARTY PRICES APPROPRIATE?

A. No. There are two significant problems with the Company's analysis. First, the Company's analysis does not include the cost of the allowed return on investment for the affiliated coal supply. In response to ICNU Data Request 1.12 in Docket No. UE 264, the Company provided the following:

> The cost of coal produced by Bridger Coal Company (BCC), as reflected in the Company's TAM filing, includes only production costs. Return on investment is not reflected in the cost of fuel in the TAM. Instead, the Company's general rate case filing includes a normalizing adjustment (Page 8.3 of Exhibit PAC/1002 from UE 263) which adds the net plant investment associated with BCC to rate base.

ICNU/102, Deen/4.

Not including the investment costs associated with the BCC mine, significantly understates the actual cost of the fuel and leads to an inaccurate comparison. Including

the investment costs shows the true costs of the BCC fuel to be [redacted] per ton, an increase of [redacted] per ton or about [redacted] over the value reported by PacifiCorp.

Q. WHAT IS THE OTHER ISSUE WITH PACIFICORP'S COMPARISON OF THE COSTS OF THE BCC AND BLACK BUTTE COAL SUPPLIES?

A. In addition to the price per ton, the heat content of the coal from the two sources is also different. For an accurate comparison, the sources must also be made equivalent on this basis. Black Butte contract coal has an assumed heat content of [redacted] BTU/lb and the BCC coal has an average assumed heat rate of [redacted] BTU/lb. Thus, in addition to being less expensive per ton, the Black Butte coal also provides more energy per unit.

Q. TAKING INTO ACCOUNT BOTH OF THESE FACTORS, WHAT IS THE COMPARISON BETWEEN THE BCC AND BLACK BUTTE COAL COSTS?

A. Taking into account both the differential heat rates and the full costs of the BCC coal, the difference in cost between the affiliated mine and third party supply is quite significant. Specifically, the coal supplied by the BCC mines costs approximately [redacted] per MMBTU while coal supplied from the Black Butte contract costs [redacted] per MMBTU. This constitutes a difference of over [redacted] much larger than the difference of only [redacted] represented by PacifiCorp in its testimony.

Q. HOW IS THIS DIFFERENCE RELEVANT FOR RATEMAKING PURPOSES?

A. The Oregon Administrative Rules provide that for a utility's affiliate supply of fuel, rate payers should receive the lower of either the affiliate's cost or market rates. OAR 860-027-0048. This is also referred to as the Commission's Transfer Pricing Policy.

Q. WHAT IS THE SPECIFIC RULE SUPPORTING THE TRANSER PRICING POLICY REGARDING TRANSACTIONS BETWEEN A UTILITY AND ITS AFFILIATED INTERESTS?

A. OAR 860-027-0048, *Allocation of Costs by an Energy Utility*, affirms the Commission's Transfer Pricing Policy. Section 4(e) of the rule states:

> When services or supplies (except for generation) are sold to an energy utility by an affiliate, sales shall be recorded in the energy utility's accounts at the approved rate if an applicable rate is on file with the Commission or with FERC. If services or supplies (except for generation) are not sold pursuant to an approved rate, sales shall be recorded in the energy utility's accounts at the affiliate's cost or the market rate, whichever is lower.

Thus, supplies that are not under an approved rate shall be recorded in the utility's accounts at the lower of the affiliate's cost or the market rate. In this case, this pricing policy applies to coal supply from the affiliate mines of the BCC which supplies coal to the Jim Bridger coal generating facility.

Q. DOES THE BLACK BUTTE CONTRACT REPRESENT A REASONABLE VALUE FOR THE LESSER OF COMPARISON BETWEEN AFFILIATE SUPPLY COSTS AND MARKET COSTS?

A. Yes. The Black Butte contract is a third party supply contract for coal supply at Jim Bridger plant that PacifiCorp obtained through solicitation of the market. Also, the contract is not fixed price but rather its components are escalated annually by a series of third-party cost indices. Thus, the contract price for 2014 will represent a fair and current market value for the year.

Q. WHAT SPECIFIC ADJUSTMENT DO YOU RECOMMEND GIVEN THE LOWER PRICE OF MARKET COAL SUPPLY RELATIVE TO THE AFFILIATED COSTS OF COAL FOR THE JIM BRIDGER FACILITY?

A. To comply with OAR 860-027-0048, I recommend that the coal supply for the Jim Bridger plant in 2014 be priced at the cost of the Black Butte contract coal supply of [redacted] per MMBTU.

Q. HAVE YOU CONDUCTED A GRID MODEL STUDY INCORPORATING THIS PRICE CHANGE?

A. Yes. Using the market-based Black Butte contract price for the Jim Bridger coal cost reduces the Oregon revenue requirement by approximately $7.4 million.

IV. WIND ENERGY SHAPING

Q. HAS THE COMPANY MADE ANY CHANGES TO ITS WIND ENERGY FORECAST IN THIS CASE?

A. Yes. Previously the Company has developed its wind energy forecast for GRID based on a median energy, or "P50", forecast intended to have an equal probability of over or under forecasting wind output in a given year. The Company then input expected wind generation to GRID using this forecast divided into six four-hour blocks.

In this case, the Company has used the same energy forecast, but has used 2011 energy output data from its owned and purchased wind facilities to shape the hourly wind output in GRID to create a more variable hourly wind shape in the model.

Q. IS THIS CHANGE APPROPRIATE?

A. No. There are two problems with this proposed change. First, using a single year of actual wind output data for purposes of modeling is inherently problematic. Wind energy resources display a high level of inter-annual variability in output. For example, a recent technical report titled "Long-Term Wind Power Variability" published by the National

Renewable Energy Laboratory, a national lab of the Department of Energy, concluded that the variation in production at wind power plants between years was most comparable to run-of-river hydro.[1/] Modeling of hydro variability typically takes into account ten years or more of operational experience.

Second, the Company has not shown that the previous GRID modeling method of four-hour blocks, combined with the Company's wind integration costs included in GRID, does not fully account for the costs of dealing with the variable output of wind resources. Indeed, the Company has already made extensive modeling efforts in forecasting its NPC to this effect based on its 2012 Wind Study including setting reserve requirements in GRID and including post-hoc inter-hour integration costs for wind output.

Q. WHAT IS THE EFFECT OF REMOVING THE COMPANY'S PROPOSED CHANGE?

A. The effect of removing PacifiCorp's proposed change is to reduce the Oregon revenue requirement by approximately $1.2 million.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

1/ Long-Term Wind Power Variability. Y. H. Wan. Technical Report, NREL/TP-5500-53637. Retrieved online at http://www.nrel.gov/docs/fy12osti/53637.pdf

BEFORE THE OREGON PUBLIC UTILITY COMMISSION

UE 264

In the Matter of	)
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PACIFICORP	)
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2014 Transmission Adjustment Mechanism	)
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EXHIBIT ICNU/101

QUALIFICATIONS OF MICHAEL C. DEEN

June 4, 2013

QUALIFICATION STATEMENT OF

Michael Deen

Q. PLEASE STATE YOUR NAME, EMPLOYER, AND BUSINESS ADDRESS.

A. My name is Michael C. Deen, and my business address is 900 Washington Street, Suite 780, Vancouver, Washington 98660. I am employed by Regulatory and Cogeneration Services, Inc. ("RCS"), a utility rate and consulting firm.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am a consultant for the Industrial Customers of Northwest Utilities ("ICNU") and other consumers. ICNU is a non-profit trade association whose members are large industrial customers served by electric utilities throughout the Pacific Northwest, including PacifiCorp.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I received a B.A. in Psychology from Reed College in May 2006. I have completed coursework in statistics, data analysis, research design, and economics.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.

A. After graduating from Reed, I was employed as a Research Analyst at McCullough Research, a consulting firm in Portland, Oregon specializing in energy policy and litigation support. While at McCullough Research, my duties included the modeling and analysis of both Western and national energy markets. I also provided analysis for use in several proceedings surrounding Enron's role in the Western Energy Crisis of 2000-2001.

From November 2007, through July 2011, I was employed as a policy analyst at the Public Power Council ("PPC"). PPC is a non-profit trade association representing the

interests of consumer-owned utilities buying wholesale power and transmission services from the Bonneville Power Administration ("BPA"). At PPC, I worked extensively on computer modeling relating to the Residential Exchange Program and other BPA rate issues. I also provided analysis and commentary for PPC in a variety of BPA processes. I also was involved in modeling efforts surrounding the potential economic impacts of various greenhouse gas mitigation proposals on Western electricity markets.

Since joining RCS in July 2011 I have served as an analyst and expert witness on a variety of power supply, cost, ratemaking, and policy topics primarily regarding the Bonneville Power Administration ("BPA") and Pacific Northwest utilities.

Q. PLEASE STATE YOUR EXPERIENCE AS A WITNESS IN PREVIOUS PROCEEDINGS.

A. I have previously testified in the BPA WP-07 Supplemental, WP-10, TR-10, BP-12 and REP-12 rate proceedings. I have also testified on behalf of ICNU before the Washington Utilities and Transportation Commission in proceedings regarding Puget Sound Energy, PacifiCorp, and Avista as well as before the Oregon Public Utility Commission in proceedings regarding Portland General Electric and PacifiCorp. Lastly, I have also testified as an expert on behalf of the Northwest Industrial Gas Users ("NWIGU") in proceedings related to Avista regarding natural gas issues.

Q. DOES THIS CONCLUDE THIS TESTIMONY?

A. Yes.

BEFORE THE OREGON PUBLIC UTILITY COMMISSION

UE 264

In the Matter of	)
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2014 Transmission Adjustment Mechanism	)
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EXHIBIT ICNU/102

EXCERPTS OF PACIFICORP'S RESPONSES TO ICNU DATA REQUESTS 2.1 AND 2.3 (UE 263)

PACIFICORP'S RESPONSES TO ICNU DATA REQUESTS 1.12 and 2.1 (UE 264)

REDACTED VERSION

JUNE 4, 2013

UE-263/PacifiCorp
April 17, 2013
ICNU Data Request 2.1

ICNU Data Request 2.1

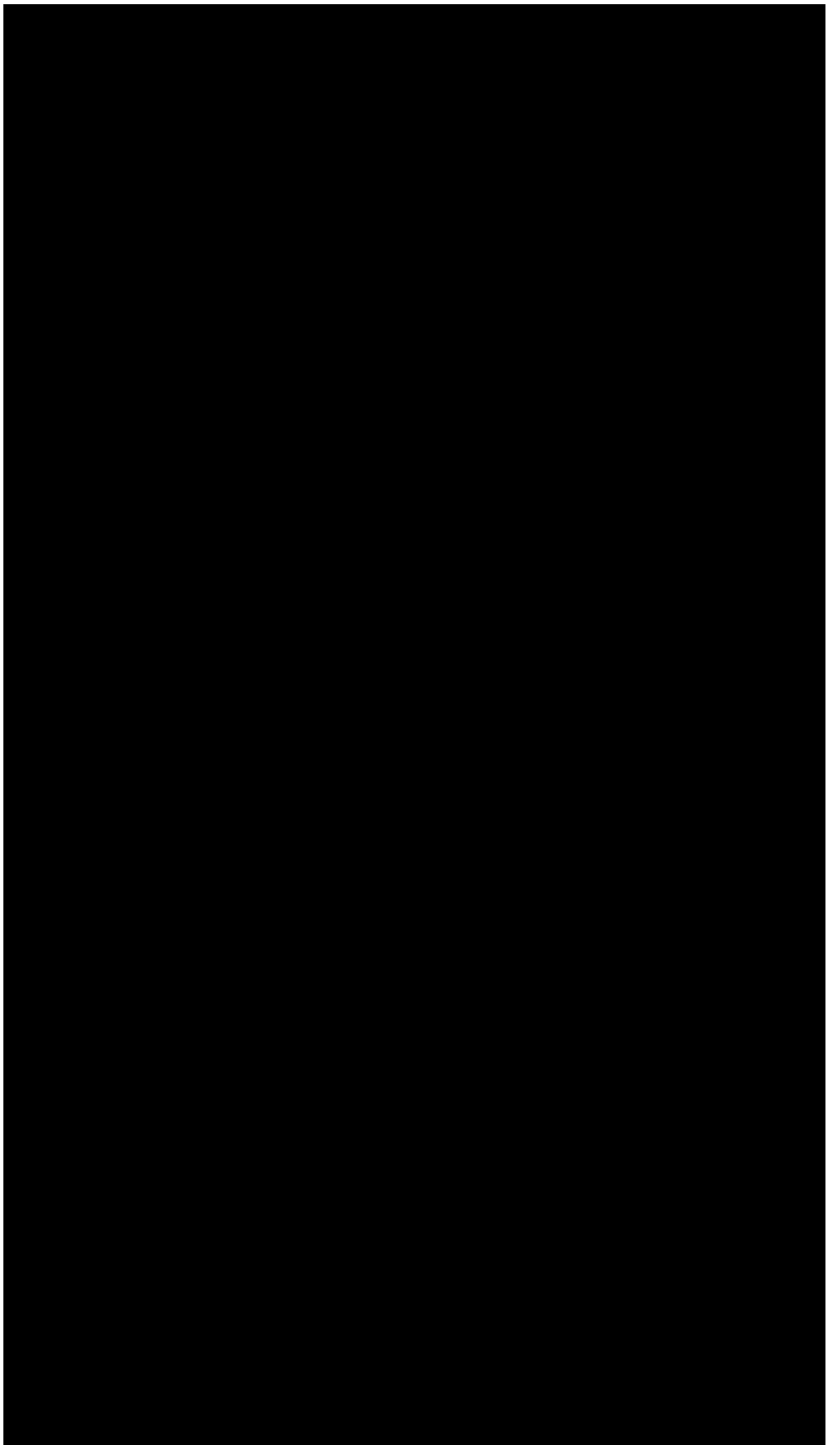
With reference to exhibit PAC/400, Ralston/4, lines 5-9, please provide a copy of all workpapers and documents relied on by the Company to support the claimed PVRR(d) analysis savings value.

Response to ICNU Data Request 2.1

The Company objects to this request as overly broad, unduly burdensome, and not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, the Company responds as follows:

Please refer to Confidential Attachment ICNU 2.1 which includes a summary of the economic analysis for the project as well as the project documentation used in the approval process.

Information in Confidential Attachment ICNU 2.1 is designated as confidential under the protective order in these proceedings and may only be disclosed to qualified persons as defined in that order.



UE-263/PacifiCorp
April 17, 2013
ICNU Data Request 2.3

ICNU Data Request 2.3

With reference to exhibit PAC/400, Ralston/5, lines 15-16, please provide a copy of all workpapers and documents relied on by the Company to support the claimed 500 BTU/kWh heat rate reduction.

Response to ICNU Data Request 2.3

The Company objects to this request as overly broad, unduly burdensome, and not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, the Company responds as follows:

Please refer to Confidential Attachment ICNU 2.3, which is an analysis performed for the turbine upgrade completed on Bridger Unit 1. Bridger Units 1 and 2 are of similar design, capacity, and size.

Information in Confidential Attachment ICNU 2.3 is designated as confidential under the protective order in these proceedings and may only be disclosed to qualified persons as defined in that order.

UE-264/PacifiCorp
April 11, 2013
ICNU Data Request 1.12

ICNU Data Request 1.12

With reference to the prefiled testimony of Ms. Crane, page 15, lines 16-18, it appears the cost comparison does not include a return on the investment associated with the Bridger mine. Please provide a complete cost comparison by including the return on the mine investment. As part of this response, please provide all associated workpapers in electronic form.

Response to ICNU Data Request 1.12

The cost of coal produced by Bridger Coal Company (BCC), as reflected in the Company's TAM filing, includes only production costs. Return on investment is not reflected in the cost of fuel in the TAM. Instead, the Company's general rate case filing includes a normalizing adjustment (Page 8.3 of Exhibit PAC/1002 from UE 263) which adds the net plant investment associated with BCC to rate base.

UE-264/PacifiCorp
May 2, 2013
ICNU Data Request 2.1

ICNU Data Request 2.1

With regard to the eleven EXCEL spreadsheet workpaper files used in deriving each coal unit heat rate equation for GRID (provided as part of the TAM Support Set 2_Confidential Workpapers Duvall NPC Workpapers) contained in the zipped file entitled *5-B2 - ORTAM13w_Heat Rate Curve Backup (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 ICNU Data Request 2.1

Referencing the Company's confidential workpapers provided as TAM Support Set 2; specifically the 11 coal unit worksheets provided in the folder entitled "5-B2 - ORTAM13w_Heat Rate Curve Backup (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 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.

UE-264/PacifiCorp
May 2, 2013
ICNU Data Request 2.1

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. In the Naughton file, some hourly generation and offline heat input values were incorrect or missing and have been corrected.

Please refer to Confidential Attachment ICNU 2.1, 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 reply testimony.

The information provided in Confidential Attachment ICNU 2.1 is designated as confidential under the protective order in these proceedings and may only be disclosed to qualified persons as defined in that order.

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June 4, 2013

Via Electronic Mail and Federal Express

Public Utility Commission of Oregon
Attn: Filing Center
550 Capitol St. NE #215
P.O. Box 2148
Salem OR 97308-2148

Re: In the Matter of PACIFICORP 2014 Transition Adjustment Mechanism
Docket No. UE 264

Dear Filing Center:

Enclosed for filing in the above-referenced docket, please find the original and five (5) copies of the Confidential Responsive Testimony and Exhibits of Michael C. Deen on behalf of the Industrial Customers of Northwest Utilities, and the original and five (5) copies of the redacted version of same.

Thank you for your assistance, and please do not hesitate to contact our office with any questions.

Sincerely,

/s/ Jesse Gorsuch
Jesse Gorsuch

Enclosures
cc: Service List

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the foregoing documents upon all parties in this proceeding by causing the same to be sent via electronic mail to each individual's last-known email address, as listed below.

Dated at Portland, Oregon, this 4th day of June, 2013.

Sincerely,

/s/ Jesse Gorsuch
Jesse Gorsuch

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