BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1355

In the Matter of THE PUBLIC UTILITY COMMISSION OF OREGON Investigation into Forecasting Forced Outage Rates for Electric Generating Units	STAFF'S OPENING BRIEF

1. Introduction

The Public Utility Commission (Commission or PUC) opened this docket to explore issues surrounding the topic generally known as "forced outage rates."[1] More specifically, in opening this generic docket the Commission stated that it sought "...the most accurate forecast of forced outages at the relevant plants." Staff has proposed a method for calculating the forced outage rate for coal-fired units that meets the criteria of increased accuracy. Staff's method relies on objective industry information to define an outlier and is demonstrably superior to the method proposed by PacifiCorp. Staff recommends that the Commission adopt its forced outage rate method or, in the alternative, adopt the method proposed by Industrial Customers of Northwest Utilities (ICNU).

2. Procedural Background

The parties filed opening testimony in this docket on April 7, 2009, followed by reply testimony on May 13, 2009. Throughout testimony, parties raised various issues in this investigation and were able to resolve most of them. With regard to Portland General Electric (PGE) and Idaho Power, the parties have filed two stipulations that resolved all issues in UM 1355 including the adoption of the Collar as currently proposed by staff. Under a third stipulation between the parties and PacifiCorp, all issues have been

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resolved, or transferred to Docket UE 207[2], except for the following: (1) eliminating outlier forced outage rates for coal units in the simple four-year average forced outage rate forecasting methodology; (2) minimum deration of a thermal facility in PacifiCorp's GRID model[3]; and (3) the heat rate curve adjustment. With regard to these three issues staff, ICNU, and PacifiCorp filed supplemental testimony.

Staff's opening brief will address these issues in the order set forth above. For these remaining issues, staff asks the Administrative Law Judge (ALJ) and the Commission to adopt its recommendations concerning the Collar mechanism, and ICNU's proposed adjustments associated with the minimum operating capacity and heat rate curve of a unit.

3. Brief Overview of Forced Outage Rates

A forced outage is an unplanned failure that causes an immediate shutdown of a generating unit.[4] Forced outage rates are calculated by dividing the total number of hours of forced outages by the total hours that a unit is available for operation. *Id.* The forced outage rate is key for ratemaking purposes, particularly for a low-cost resource such as a coal-fired power plant. In the calculation of test period power costs, the forced outage rate determines the availability of a low-cost unit to produce power. The longer these units are forecasted to be out of service, the more the utility will substitute higher-cost resources in its power cost model to calculate the rates it will charge its customers for service. Therefore, it is important that the forecasted forced outage rate for the test period be as accurate as possible.

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[4] *See* Staff/100, Brown/5.

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4. Adjusting forced outage rates for extreme/outlier events

A. Staff's proposed "Collar" method

An extreme outage event (or outlier) is a very long plant outage that falls outside its normal operation.[5] Including such an event, or its resulting forced outage rate, in the calculation of a simple four-year average will inappropriately skew the results. It is statistically unlikely that an abnormal outage year will be repeated every four years.[6] Staff/100, Brown/18; ICNU/300, Falkenberg/1. All parties agree that to make the forecasted forced outage rate more accurate and a better predictor, adjustments for extreme outage events should be made. *See also* Commission Order No. 07-446 at 19-21 (discussing the Commission's concern with inclusion of extreme events).

Staff's proposed solution to the extreme outage issue is to include an adjustment to the forced outage rate calculation, referred to as either a "Benchmark" or "Collar" mechanism. Staff witness Kelcey Brown describes her proposed Collar mechanism in her submitted testimony. Staff's Collar mechanism uses North American Electric Reliability Corporation (NERC) data for plants of comparable fuel type and size to determine when a yearly forced outage rate for a unit should be considered to be an outlier. Using the NERC data and four years worth of information provides numerous advantages. Primarily, it provides a much larger data set, which leads to increased precision and decreased variation from year to year, thus producing a more consistent and accurate result.

Staff proposes a two-step process. First, a generating units calendar year forced outage rate is calculated using the parties' agreed-upon forced outage rate methodology. *See* PacifiCorp Partial Settlement Agreement, Appendix A at Paragraph I (setting forth

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With only four years of data being used in the simple four-year rolling average, it is important that these four years reflect values that are likely to occur. Staff has proposed its Collar methodology consistent with the Commission's goal of attaining the most accurate method in forecasting, and additionally, addressing the Commission's cited reservations in including outage events that are abnormal and cause concern with respect to normalized ratemaking practices. Therefore, staff recommends that the Commission adopt staff's Collar mechanism.[8]

B. PacifiCorp's criticisms of staff's Collar mechanism are unfounded and unpersuasive

In supplemental testimony, PacifiCorp witnesses criticized staff's Collar mechanism. PacifiCorp witness Godfrey criticizes staff's Collar mechanism on three counts: (1) the NERC data used to calculate the discrete probability distribution is "non-verifiable;" (2) Staff inappropriately established the 10 and 90 percent collar boundaries based on "visual interpretation" rather than rigorous statistical analysis; and (3) Staff wrongly compares one year of actual plant data to a four-year Collar when Staff should be comparing four years of plant data to the Collar.[9]

PacifiCorp witness Duvall presents five additional criticisms of staff's Collar proposal: (1) it will decrease the accuracy of the forced outage rate forecast because it

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[9] *See* PPL/102, Godfrey/1.

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relies upon NERC data rather than actual plant performance data; (2) the Collar may apply when it should not and fail to apply when it should; (3) the Collar fails to account for PacifiCorp's lack of a Power Cost Adjustment Mechanism (PCAM); (4) the Collar reduces the Company's net power cost recovery without any demonstration that the outages are imprudent; and (5) the Collar is actually a form of unapproved performance-based ratemaking (PBR).[10]

Staff and ICNU responded and rebutted each of PacifiCorp's criticisms in their respective supplemental testimony.[11] In response to Mr. Duvall's criticism about the use of NERC data rather than actual plant data, staff explained that it relied on four years of NERC industry data because it provides a comparable and much larger data set to calculate the 90/10 percentile boundary values and is superior to using one year's worth of actual plant data.[12] Staff argued that, for example, looking at four-years of NERC data for coal-fired generating plants between 500-599 MW in size gives 372 data points to use to set the Collar's 90/10 percentiles.[13] PacifiCorp's alternative proposal would yield only one data point for each year of actual plant data.[14] So, for this example, for a plant with a 20-year operating history, PacifiCorp's Collar method would be based upon 20 data points as opposed to the 372 data points under Staff's method.

Staff explained in detail why its Collar method that uses multiple data points is superior's to PacifiCorp's alternative proposal. PacifiCorp's limited data set can create erratic results on a year-to-year basis. Ms. Brown illustrated this in her confidential testimony, by showing Colstrip with a XX outlier level and Craig 2 with a YY percent outlier level.[15] Using the data-rich NERC data set produces a more accurate and

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[10] *See* PPL/405, Duvall/2-3, 12.
[11] *See* Staff/300; ICNU/300, 301, 302 and 303.
[12] *See* Staff/200, Brown/9-10.
[13] *Id.*
[14] *See* PPL/102, Godfrey/8-10; Staff/300, Brown/16.
[15] *See* Staff/300, Brown/17, Lines 1-13 (confidential information not reproduced in this brief).

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consistent indication of outlier years than does PacifiCorp's actual historic plant data set. PacifiCorp's historic plant information is extremely limited. Further, for some plants, the necessary information is simply lacking.[16] Staff demonstrated that its method is superior to PacifiCorp's. At the same time, both proposals are superior to the currently-used "simple four-year average" approach.[17]

Turning to Mr. Godfrey's claim that the NERC data is non-verifiable and unreliable, NERC asserts that its data is both reliable and verifiable and supports the usefulness of its data.[18] PacifiCorp has not shown why the assertions by NERC, supporting the veracity of its data, are suspect or false. *See also* ICNU/300, Falkenberg/4-5 (showing PacifiCorp's reliance on NERC data for various purposes in prior dockets).

PacifiCorp further criticized staff for relying solely on plant size and fuel type to select the proper NERC data. Staff witness Brown explains that her selection of the NERC peer group was appropriate because it served to increase the sample size, leading to more precise results.[19]

Mr. Godfrey attacks staff's Collar as suspect because the 90/10 percentile values are based upon staff's "visual interpretation."[20] Staff analyst Brown explained that economists commonly rely upon visual interpretation of data, as illustrated by their frequent use of graphs. Ms. Brown shows that using a visual interpretation of the data presented in graph form is a reasonable and robust method to set the 90/10 percentile values.[21]

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[16] *See* Staff/300, Brown/8.
[17] *See* Staff/300, Brown/3-4.
[18] *See* Staff/300, Brown/8-9.
[19] *See* Staff/300, Brown/10.
[20] *See* PPL/102, Godrey/5.
[21] *See* Staff/300, Brown/5-6.

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Mr. Godfrey asserts staff's Collar mechanism, which consists of four years of data, should not be compared to one year of actual plant data. Instead, Mr. Godfrey claims that to avoid a mismatch of data, the comparison should be four years of plant data to the four-year Collar.[22] In response, staff analyst Brown explains that comparing the 90th and 10th percentile values to the four-year average is not the point of the mechanism. The purpose of the Collar is to exclude outlier years from the simple four-year average.[23] PacifiCorp validates this approach by comparing its calculated outlier levels using 20 years worth of data and comparing this to one year of actual plant data.

Turning back to Mr. Duvall's list of five criticisms, his claim is staff's Collar mechanism applies when it should not and does not apply when it should.[24] Mr. Duvall supports this claim based upon work done by Mr. Godfrey.[25] In response to the criticism that the Collar mechanism applies when it should not and does not apply when it should, Ms. Brown showed that PacifiCorp incorrectly applied staff's Collar mechanism. As a result, the foundation for the company's criticism is flawed.[26] However, if a unit were to consistently fall below the worst ten percent of its peer group, staff is open to discussing with the company reasons for that performance and possible solutions.[27]

In the response to the argument that PacifiCorp does not have a PCAM and a collar should therefore not be applied, staff explains it did not tie the need for the Collar mechanism in any respect to the existence of a PCAM. The need for the Collar is to increase the accuracy of the forced outage rate methodology. This purpose exists apart from, and independent of, PacifiCorp's ability to use a PCAM.

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[22] *See* PPL/102, Godfrey/ 1, 6-7.
[23] *See* Staff/300, Brown/7.
[24] *See* PPL/405, Duvall/3, 7-8.
[25] *See* PPL/405, Duvall/5-7.
[26] *See* Staff/300, Brown/13 and accompanying footnote 14.
[27] *See* Staff/300, Brown/14.

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Further, in response to the concern that staff's Collar mechanism may function to "deny recovery of prudent costs" (PPL/405/Duvall/10), staff explained that the forced outage rate is used in PacifiCorp's TAM. The TAM, in turn, is a forward-looking automatic adjustment clause that allows the company to update its variable power costs.[28] The Collar serves to improve the accuracy of the forced outage rate forecast for a forward-looking power cost recovery model. In contrast, a prudence review looks back at the reasonableness of utility decision-making using a standard of what did the utility know, or should have known, at the time it made its decision. Accordingly, PacifiCorp's claim that using the Collar mechanism in a forward-looking manner is the same as conducting a prudence review is not true.

PacifiCorp criticized staff's collar method as a form of performance based ratemaking. Staff responds points out that the sole purpose of the Collar is to increase the accuracy of the forced outage rate methodology. The forced outage rate methodology is employed to forecast the likelihood that a forced outage at a plant for the time period under review will occur in the future.[29] Thus, the Collar is not being proposed, or used, to set performance goals for the Company's generating units.[30]

For all these reasons stated, PacifiCorp's criticisms of staff's Collar mechanism are unpersuasive and unfounded.

C. PacifiCorp's alternative proposal, while an improvement over the current method, is inferior to Staff's Collar mechanism

PacifiCorp proposes an alternative to staff's Collar mechanism.[31] As described by staff, PacifiCorp's proposal involves two steps. First, the company identifies outage events that are greater than 28 days. Those days that are beyond the 28th day are removed

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[28] *See* Staff/300, Brown/14-15.
[29] *See* Staff/100, Brown/4-6.
[30] *See* Staff/300, Brown/13.
[31] *See* PPL/102, Godfrey/8-11; PPL/105; PPL106; PPL/405, Duvall/13-16.

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and replaced with prior period information. Second, PacifiCorp calculates a confidence interval using the mean of the data and the standard deviation. It then uses this mean and two standard deviations to determine the 95th percent confidence level that a forced outage rate will occur.[32]

Both staff and ICNU analyzed the new proposal and explained why it is inferior to staff's proposal and to ICNU's alternative proposal. Staff has already discussed these shortcomings in this brief in the text under Section 2(B), *infra*.[33] But, staff would like to emphasize again that staff's Collar mechanism, ICNU's new approach, and PacifiCorp's new proposal are all superior to the currently used "simple four-year average" approach. Finally, Staff will not repeat ICNU's critique of PacifiCorp's new proposal, but the relevant testimony is found at ICNU/300, Falkenberg/3, 5-13, 14.

4. Heat rate curve and minimum operating capacity adjustments

Staff supports ICNU's recommendation that PacifiCorp adjust the heat rate curve of its thermal facilities so that "...it produces the same heat consumption at the derated maximum and minimum capacities as the unit would actually experience in normal operations."[34] Currently, in its Grid model, when PacifiCorp derates the maximum capacity of a unit for forced outages, it also reduces the corresponding heat rate at that unit (as if the unit is actually less efficient than it is at operating maximum). ICNU rightly points out that the derating of a unit for forced outages in the GRID model should have no effect on the unit's conversion efficiency. Underscoring ICNU's point, PGE's model makes no such adjustment to the heat rate of a derated unit. In its recommendation Staff is not attempting to address the issue of the technical application of this concept in

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[32] *See* Staff/300, Brown/16.

[33] Staff adds to its prior discussion that it performed an analysis in response to PacifiCorp's assertion that its new proposal is superior, in part, because it takes into the account the age of generating units. *See* PPL/102, Godfrey/2. Staff's analysis showed Mr. Godfrey's claim is not supported by the company's own factual information. *See* Staff/300, Brown/11-12.

[34] *See* Staff/300, Brown/18; ICNU/100, Falkenberg/55.

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the Company GRID model. Staff is willing to work with PacifiCorp, ICNU, and CUB to properly implement this concept in GRID.

Staff also supports ICNU's recommendation that the minimum operating capacity of a unit be adjusted to reflect the correct availability rating.[35] Currently, Pacific does not adjust the minimum operating capacity of a unit for forced outages. As a result, the GRID model overstates the minimum operating capacity of a unit. PGE makes such an adjustment, as described by Mr. Falkenberg, and PacifiCorp should as well. Again, for clarity, staff is not attempting to address the issue of the technical application of this concept in the Company GRID model. Staff is willing to work with PacifiCorp, ICNU, and CUB to properly implement this concept in GRID.

5. Conclusion

For the reasons stated, staff requests the ALJ and the Commission adopt its recommendations for the remaining issues in this docket.

DATED this 16th day of September 2009.

Respectfully submitted,

JOHN R. KROGER
Attorney General

Michael T. Weirich, #82425
Assistant Attorney General
Of Attorneys for Staff of the Public
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[35] *See* Staff/300, Brown/18-21.

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CERTIFICATE OF SERVICE

I certify that on September 16, 2009, I served the foregoing Staff's Opening Brief upon all parties of record in this proceeding by delivering a copy by electronic mail and by mailing a copy by postage prepaid first class mail or by hand delivery/shuttle mail to the parties accepting paper service.

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relies upon NERC data rather than actual plant performance data; (2) the Collar may apply when it should not and fail to apply when it should; (3) the Collar fails to account for PacifiCorp's lack of a Power Cost Adjustment Mechanism (PCAM); (4) the Collar reduces the Company's net power cost recovery without any demonstration that the outages are imprudent; and (5) the Collar is actually a form of unapproved performance-based ratemaking (PBR).[10]

Staff and ICNU responded and rebutted each of PacifiCorp's criticisms in their respective supplemental testimony.[11] In response to Mr. Duvall's criticism about the use of NERC data rather than actual plant data, staff explained that it relied on four years of NERC industry data because it provides a comparable and much larger data set to calculate the 90/10 percentile boundary values and is superior to using one year's worth of actual plant data.[12] Staff argued that, for example, looking at four-years of NERC data for coal-fired generating plants between 500-599 MW in size gives 372 data points to use to set the Collar's 90/10 percentiles.[13] PacifiCorp's alternative proposal would yield only one data point for each year of actual plant data.[14] So, for this example, for a plant with a 20-year operating history, PacifiCorp's Collar method would be based upon 20 data points as opposed to the 372 data points under Staff's method.

Staff explained in detail why its Collar method that uses multiple data points is superior's to PacifiCorp's alternative proposal. PacifiCorp's limited data set can create erratic results on a year-to-year basis. Ms. Brown illustrated this in her confidential testimony, by showing Colstrip with a XX outlier level and Craig 2 with a YY percent outlier level.[15] Using the data-rich NERC data set produces a more accurate and

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[10] *See* PPL/405, Duvall/2-3, 12.
[11] *See* Staff/300; ICNU/300, 301, 302 and 303.
[12] *See* Staff/200, Brown/9-10.
[13] *Id.*
[14] *See* PPL/102, Godfrey/8-10; Staff/300, Brown/16.
[15] *See* Staff/300, Brown/17, Lines 1-13 (confidential information not reproduced in this brief).

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consistent indication of outlier years than does PacifiCorp's actual historic plant data set. PacifiCorp's historic plant information is extremely limited. Further, for some plants, the necessary information is simply lacking.[16] Staff demonstrated that its method is superior to PacifiCorp's. At the same time, both proposals are superior to the currently-used "simple four-year average" approach.[17]

Turning to Mr. Godfrey's claim that the NERC data is non-verifiable and unreliable, NERC asserts that its data is both reliable and verifiable and supports the usefulness of its data.[18] PacifiCorp has not shown why the assertions by NERC, supporting the veracity of its data, are suspect or false. *See also* ICNU/300, Falkenberg/4-5 (showing PacifiCorp's reliance on NERC data for various purposes in prior dockets).

PacifiCorp further criticized staff for relying solely on plant size and fuel type to select the proper NERC data. Staff witness Brown explains that her selection of the NERC peer group was appropriate because it served to increase the sample size, leading to more precise results.[19]

Mr. Godfrey attacks staff's Collar as suspect because the 90/10 percentile values are based upon staff's "visual interpretation."[20] Staff analyst Brown explained that economists commonly rely upon visual interpretation of data, as illustrated by their frequent use of graphs. Ms. Brown shows that using a visual interpretation of the data presented in graph form is a reasonable and robust method to set the 90/10 percentile values.[21]

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[16] *See* Staff/300, Brown/8.
[17] *See* Staff/300, Brown/3-4.
[18] *See* Staff/300, Brown/8-9.
[19] *See* Staff/300, Brown/10.
[20] *See* PPL/102, Godrey/5.
[21] *See* Staff/300, Brown/5-6.

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Mr. Godfrey asserts staff's Collar mechanism, which consists of four years of data, should not be compared to one year of actual plant data. Instead, Mr. Godfrey claims that to avoid a mismatch of data, the comparison should be four years of plant data to the four-year Collar.[22] In response, staff analyst Brown explains that comparing the 90th and 10th percentile values to the four-year average is not the point of the mechanism. The purpose of the Collar is to exclude outlier years from the simple four-year average.[23] PacifiCorp validates this approach by comparing its calculated outlier levels using 20 years worth of data and comparing this to one year of actual plant data.

Turning back to Mr. Duvall's list of five criticisms, his claim is staff's Collar mechanism applies when it should not and does not apply when it should.[24] Mr. Duvall supports this claim based upon work done by Mr. Godfrey.[25] In response to the criticism that the Collar mechanism applies when it should not and does not apply when it should, Ms. Brown showed that PacifiCorp incorrectly applied staff's Collar mechanism. As a result, the foundation for the company's criticism is flawed.[26] However, if a unit were to consistently fall below the worst ten percent of its peer group, staff is open to discussing with the company reasons for that performance and possible solutions.[27]

In the response to the argument that PacifiCorp does not have a PCAM and a collar should therefore not be applied, staff explains it did not tie the need for the Collar mechanism in any respect to the existence of a PCAM. The need for the Collar is to increase the accuracy of the forced outage rate methodology. This purpose exists apart from, and independent of, PacifiCorp's ability to use a PCAM.

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[22] *See* PPL/102, Godfrey/ 1, 6-7.
[23] *See* Staff/300, Brown/7.
[24] *See* PPL/405, Duvall/3, 7-8.
[25] *See* PPL/405, Duvall/5-7.
[26] *See* Staff/300, Brown/13 and accompanying footnote 14.
[27] *See* Staff/300, Brown/14.

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Further, in response to the concern that staff's Collar mechanism may function to "deny recovery of prudent costs" (PPL/405/Duvall/10), staff explained that the forced outage rate is used in PacifiCorp's TAM. The TAM, in turn, is a forward-looking automatic adjustment clause that allows the company to update its variable power costs.[28] The Collar serves to improve the accuracy of the forced outage rate forecast for a forward-looking power cost recovery model. In contrast, a prudence review looks back at the reasonableness of utility decision-making using a standard of what did the utility know, or should have known, at the time it made its decision. Accordingly, PacifiCorp's claim that using the Collar mechanism in a forward-looking manner is the same as conducting a prudence review is not true.

PacifiCorp criticized staff's collar method as a form of performance based ratemaking. Staff responds points out that the sole purpose of the Collar is to increase the accuracy of the forced outage rate methodology. The forced outage rate methodology is employed to forecast the likelihood that a forced outage at a plant for the time period under review will occur in the future.[29] Thus, the Collar is not being proposed, or used, to set performance goals for the Company's generating units.[30]

For all these reasons stated, PacifiCorp's criticisms of staff's Collar mechanism are unpersuasive and unfounded.

C. PacifiCorp's alternative proposal, while an improvement over the current method, is inferior to Staff's Collar mechanism

PacifiCorp proposes an alternative to staff's Collar mechanism.[31] As described by staff, PacifiCorp's proposal involves two steps. First, the company identifies outage events that are greater than 28 days. Those days that are beyond the 28th day are removed

[28] *See* Staff/300, Brown/14-15.
[29] *See* Staff/100, Brown/4-6.
[30] *See* Staff/300, Brown/13.
[31] *See* PPL/102, Godfrey/8-11; PPL/105; PPL106; PPL/405, Duvall/13-16.

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and replaced with prior period information. Second, PacifiCorp calculates a confidence interval using the mean of the data and the standard deviation. It then uses this mean and two standard deviations to determine the 95th percent confidence level that a forced outage rate will occur.[32]

Both staff and ICNU analyzed the new proposal and explained why it is inferior to staff's proposal and to ICNU's alternative proposal. Staff has already discussed these shortcomings in this brief in the text under Section 2(B), *infra*.[33] But, staff would like to emphasize again that staff's Collar mechanism, ICNU's new approach, and PacifiCorp's new proposal are all superior to the currently used "simple four-year average" approach. Finally, Staff will not repeat ICNU's critique of PacifiCorp's new proposal, but the relevant testimony is found at ICNU/300, Falkenberg/3, 5-13, 14.

4. Heat rate curve and minimum operating capacity adjustments

Staff supports ICNU's recommendation that PacifiCorp adjust the heat rate curve of its thermal facilities so that "...it produces the same heat consumption at the derated maximum and minimum capacities as the unit would actually experience in normal operations."[34] Currently, in its Grid model, when PacifiCorp derates the maximum capacity of a unit for forced outages, it also reduces the corresponding heat rate at that unit (as if the unit is actually less efficient than it is at operating maximum). ICNU rightly points out that the derating of a unit for forced outages in the GRID model should have no effect on the unit's conversion efficiency. Underscoring ICNU's point, PGE's model makes no such adjustment to the heat rate of a derated unit. In its recommendation Staff is not attempting to address the issue of the technical application of this concept in

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[32] *See* Staff/300, Brown/16.

[33] Staff adds to its prior discussion that it performed an analysis in response to PacifiCorp's assertion that its new proposal is superior, in part, because it takes into the account the age of generating units. *See* PPL/102, Godfrey/2. Staff's analysis showed Mr. Godfrey's claim is not supported by the company's own factual information. *See* Staff/300, Brown/11-12.

[34] *See* Staff/300, Brown/18; ICNU/100, Falkenberg/55.

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the Company GRID model. Staff is willing to work with PacifiCorp, ICNU, and CUB to properly implement this concept in GRID.

Staff also supports ICNU's recommendation that the minimum operating capacity of a unit be adjusted to reflect the correct availability rating.[35] Currently, Pacific does not adjust the minimum operating capacity of a unit for forced outages. As a result, the GRID model overstates the minimum operating capacity of a unit. PGE makes such an adjustment, as described by Mr. Falkenberg, and PacifiCorp should as well. Again, for clarity, staff is not attempting to address the issue of the technical application of this concept in the Company GRID model. Staff is willing to work with PacifiCorp, ICNU, and CUB to properly implement this concept in GRID.

5. Conclusion

For the reasons stated, staff requests the ALJ and the Commission adopt its recommendations for the remaining issues in this docket.

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Respectfully submitted,

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[35] *See* Staff/300, Brown/18-21.

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