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July 23, 2018

***VIA ELECTRONIC FILING
AND OVERNIGHT DELIVERY***

Public Utility Commission of Oregon
201 High Street SE, Suite 100
Salem, OR 97301-3398

Attn: Filing Center

Re: UE 339—PacifiCorp Reply Testimony and Exhibits

PacifiCorp d/b/a Pacific Power hereby submits for filing the Reply Testimony and Exhibits of Michael G. Wilding.

Included with this filing is a CD containing the electronic workpapers. Confidential material in support of the filing has been provided to parties under Order No. 16-128.

Please direct any informal correspondence and questions regarding this filing to Natasha Soares, Manager, Regulatory Affairs, at (503) 813-6583.

Sincerely,

Etta Lockey
Vice President, Regulation

Enclosures

CERTIFICATE OF SERVICE

I certify that I delivered a true and correct copy of PacifiCorp's **Reply Testimony and Exhibits** on the parties listed below via electronic mail and/or or overnight delivery in compliance with OAR 860-001-0180.

Service List UE 339

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Dated this 23rd day of July, 2018.



Katie Savarin
Coordinator, Regulatory Operations

Docket No. UE 339
Exhibit PAC/400
Witness: Michael G. Wilding

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

PACIFICORP

Reply Testimony of Michael G. Wilding

July 2018

REPLY TESTIMONY OF MICHAEL G. WILDING

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1 **Q. Are you the same Michael G. Wilding who previously submitted direct testimony**
2 **in this proceeding on behalf of PacifiCorp d/b/a Pacific Power?**

3 A. Yes.

4 **PURPOSE AND SUMMARY OF TESTIMONY**

5 **Q. What is the purpose of your reply testimony?**

6 A. My testimony has two sections. First, I provide a Transition Adjustment Mechanism
7 (TAM) update (reply update), as allowed under the TAM Guidelines. In the reply
8 update, I explain the reasonableness of the company's revised Oregon TAM including
9 net power costs (NPC) and production tax credits (PTCs) of \$1,422.9 million, or
10 \$366.3 million Oregon-allocated, for the test period of the 12 months ending
11 December 31, 2019.¹ I provide corrections and contract, fuel, and forward prices
12 curve updates to the company's March 30, 2018 filing (initial filing), which was
13 based on the December 29, 2017 Official Forward Price Curve (OFPC), and
14 incorporate the adjustments included in the Partial Stipulation, filed concurrently with
15 my reply testimony.

16 Second, my reply testimony responds to the only issue that remains contested
17 in this case—whether the TAM should continue to include the benefits of
18 PacifiCorp's participation in the energy imbalance market (EIM) net of EIM costs.
19 The Alliance of Western Energy Consumers (AWEC) argues that the TAM should
20 reflect only EIM benefits, disallowing PacifiCorp's EIM costs that enable these
21 benefits.

¹ Unless otherwise specified, references to NPC throughout my testimony are expressed on an Oregon-allocated basis.

1 **Q. Please summarize your reply testimony.**

2 A. The Commission should reject AWEC's recommendation to remove EIM-related
3 costs from the TAM. The company has appropriately matched EIM costs and
4 benefits in every TAM since it joined the EIM, and the Commission has approved
5 this treatment in every case. Indeed, before this case, no party contested the matching
6 of EIM costs and benefits in the TAM until EIM costs are included in base rates.
7 AWEC relies only on its claim that the inclusion of EIM costs was intended to be
8 temporary. But this claim is unsupported by facts—as evidenced by the undisputed
9 inclusion of EIM costs for the last four TAMs. It also fails to provide a compelling
10 basis to violate the matching principle and include significant EIM benefits in rates
11 without also including the costs necessary to obtain these benefits. The company's
12 approach in this case is consistent with the 2015, 2016, 2017, and 2018 TAMs, and
13 aligns with past testimony from Mr. Mullins on behalf of AWEC's predecessor, the
14 Industrial Customers of Northwest Utilities (ICNU).

15 **REPLY UPDATE**

16 **Q. Please summarize PacifiCorp's TAM request for the test period ending**
17 **December 31, 2019, including how your TAM recommendation has changed.**

18 A. Exhibit PAC/401 shows the company's initial filing requested a total TAM of
19 \$381.9 million.² As explained previously, parties have agreed to settle all but one
20 remaining issue. The impact of the Partial Stipulation compared to the initial filing is
21 an \$11.8 million reduction for a total TAM of \$370.0 million. The reply update
22 further reduces the TAM by \$3.7 million for a total TAM of \$366.3 million resulting

² PAC/401, line 42.

1 in an overall rate increase of \$1.3 million, or 0.1 percent.

2 **Q. Please summarize the 2019 forecasted NPC included in PacifiCorp's TAM**
3 **request.**

4 A. The initial filing included NPC of \$386.9 million.³ The Partial Stipulation reduced
5 NPC by \$5.1 million to \$381.8 million, and the reply update further reduced NPC by
6 \$3.7 million to \$378.0 million. PacifiCorp adjusts NPC for loads, Other Revenues,
7 and PTCs to produce the total TAM request noted above.

8 On a total-company basis, NPC decreased by \$35.5 million, from
9 \$1,501 million in the initial filing to \$1,466 million in the reply update. The results
10 of the company's reply update NPC study are provided in Exhibit PAC/402. A list of
11 all corrections and updates made since the initial filing, including the agreed-upon
12 settlement adjustments, along with the approximate impact of each on NPC is
13 provided in Exhibit PAC/403. Exhibit PAC/404 presents updated information for
14 Other Revenue contained in the company's reply update.

15 **Q. Please explain the changes reflected in your revised NPC request.**

16 A. First, the company made the agreed-upon adjustments to NPC from the Partial
17 Stipulation by (1) revising capacity factors for owned wind to reflect a 50/50
18 weighting using the capacity study from the time of development and the historical
19 average; (2) including the 2019 NPC impacts of repowering; (3) making an
20 adjustment to settle AWEC's proposal to include a virtual transmission link from Jim
21 Bridger to Walla Walla; (4) including the benefits of refined coal at the Hunter plant;
22 and (5) updating EIM benefits using the same methodology as the initial filing,

³ PAC/401, line 38.

1 adjusted to reflect the expiration of the West Valley tolling agreement.

2 Second, consistent with the TAM Guidelines adopted in Order No. 09-274
3 and revised in Order Nos. 09-432 and 10-363,⁴ the company made routine updates
4 and corrections to the initial filing and updated the company's proposed NPC with (1)
5 a correction to the Leaning Juniper capacity factor to account for EIM curtailments;
6 (2) a correction to the solar generation from solar qualifying facilities (QFs); (3) the
7 most recent OFPC available when the company prepared the reply update, dated
8 June 29, 2018, and short-term firm transactions; (4) new power, fuel, and
9 transportation/transmission contracts and updates to existing contracts; and (5)
10 updated EIM benefits to reflect historical data through June 2018.

11 **Q. Are there other settlement adjustments that impact rates?**

12 A. Yes. In addition to the settlement items above, the Partial Stipulation updates the
13 PTC rate to 2.5 cents/kWh and includes the 2019 PTC benefits associated with
14 repowering. The Partial Stipulation is discussed in detail in the joint parties'
15 testimony, filed concurrently with this testimony

16 **Q. Is the company's revised NPC recommendation in this case reasonable?**

17 A. Yes. The reply update reflects the most recent information available to the company
18 in the determination of 2018 NPC, incorporates the Partial Stipulation, and sets a
19 reasonable and realistic NPC baseline for 2019.

20 **Q. Please summarize the major changes in NPC resulting from the reply update.**

21 A. Figure 1 illustrates the change in total-company NPC by category compared to the

⁴ *In the Matter of PacifiCorp, dba Pacific Power 2009 Transition Adjustment Mechanism*, Docket No. UE 199, Order No. 09-274, Appendix A at 10 (July 16, 2009); *In the Matter of PacifiCorp's 2010 Transition Adjustment Mechanism*, Docket No. UE 207, Order No. 09-432 (Oct. 30, 2009); *In the Matter of PacifiCorp's 2011 Transition Adjustment Mechanism*, Docket No. UE 216, Order No. 10-363 (Sept. 16, 2010).

1 NPC originally filed in this case.

2 **Figure 1**

	(\$ millions)	\$/MWh
OR TAM 2019 Direct Filing	\$1,501	\$25.46
Increase/(Decrease) to NPC:		
Wholesale Sales Revenue	(\$37)	
Purchased Power Expense	\$46	
Coal Fuel Expense	(\$29)	
Natural Gas Fuel Expense	(\$15)	
Wheeling and Other Expense	\$0	
Total Increase/(Decrease) to NPC	(\$35)	
OR TAM 2019 July Update	<u>\$1,466</u>	\$24.85

3 The changes in the components of total-company NPC from the initial filing
 4 are largely driven by a decrease in the forward market prices for electricity and
 5 natural gas. Higher wholesale revenues reduced total-company NPC and lower
 6 electric and natural gas prices resulted in reductions in coal fuel expense and natural
 7 gas fuel expense. Purchased power expense is higher due to increased volume of
 8 market purchases. Finally, wheeling expense is mostly flat from what was originally
 9 filed.

10 **Q. Please explain the corrections included in the company's reply update.**

11 A. The company included two corrections in its reply update (the NPC impacts are based
 12 on the initial filing).

- 13 • The generation losses of Leaning Juniper wind plant due to California
 14 Independent System Operator (CAISO) curtailment in the EIM were
 15 inadvertently excluded from the actual monthly generation history. Adding

1 the monthly curtailment amount back to historical monthly data decreases
2 Oregon-allocated net power costs by approximately \$26,000.

3 • The forecasted solar QF generation in 2019 was calculated based on 2018
4 solar QFs' generation multiplied by a degradation ratio, which incorrectly
5 forecasted the solar QFs' generation for 2019. Correcting this calculation
6 decreased Oregon-allocated net power cost by approximately \$621,000.

7 **Q. Please explain the updates included in the company's reply update.**

8 A. The reply update includes the following updates (the NPC impacts are based on the
9 initial filing):

10 • **QF Contracts Status**—The company renewed three QF contracts and
11 executed one new QF contract, the Three Sisters Hydro QF in Oregon. The company
12 also adjusted the start date of three small QF projects and one large QF project, which
13 were reflected in the initial filing, to match the scheduled commercial operation date
14 defined in the contracts, and terminated six of these contracts: Chevron Wind,
15 Kennecott Refinery, Kennecott Smelter, Monroe Hydro, Roseburg Forest Products –
16 Weed facilities, and Davis County Waste Management. This update increases NPC
17 by approximately \$115,000.

18 • **OFPC and Short-Term Firm Transactions**—The company updated the
19 OFPC from December 29, 2017, to June 29, 2018. On average, market prices for
20 electricity at the Mid-Columbia (Mid-C) and Palo Verde markets decreased by
21 approximately six percent. Similarly, market prices for natural gas decreased, on
22 average, by approximately ten percent. Short-term sales and purchase transactions
23 for electricity and natural gas were also updated through July 1, 2018. These updates

1 decrease NPC by approximately \$5.6 million.

2 • **Long Term Contract Status Changes**—The company has included two long
3 term contract updates, which increased NPC by approximately \$73,000.

4 o **Black Hills Update** - This update reflects the annual update of the
5 fixed and variable charges for the sales contract with Black Hills Corporation.

6 o **Hurricane Purchase and Sales contracts** – This update included the
7 renewed Hurricane Purchase and Sales variable charges based on the most
8 recent contracts.

9 • **Coal Costs**—The company updated coal costs to reflect changes in prices and
10 volumes. The update increase NPC by approximately \$500,000.

11 • **EIM Inter-Regional Transfer Benefit**—The company has updated its
12 benefit calculation based on all available data as proposed by Staff. The updated EIM
13 inter-regional benefits increases the EIM benefits in the case by \$1.7 million
14 compared to the initial filing, to a total of \$35.7 million, on a total-company basis.

15 **REPLY TESTIMONY**

16 **Q. Please describe the only remaining contested issue in the 2019 TAM.**

17 A. The one issue not resolved through the Partial Stipulation is AWEC’s proposed
18 adjustment to remove all costs associated with the company’s participation in the
19 EIM.⁵

20 **Q. How has the company proposed to account for the costs and benefits of the EIM**
21 **in the 2019 TAM?**

22 A. As described above, the company has included total-company net EIM benefits of

⁵ AWEC/100, Mullins/22–24.

1 \$35.7 million as a reduction to NPC, which includes an offset of \$3.1 million in total-
2 company costs incurred to achieve those benefits. The company’s approach to
3 matching EIM costs and benefits in the 2019 TAM is consistent with Commission
4 precedent, as described below.

5 **Q. Has AWEC recommended removing the EIM benefits from the 2019 TAM?**

6 A. No, and that mismatch of EIM costs and benefits is why AWEC’s recommendation
7 should be rejected. AWEC’s proposal would pass on to customers all EIM benefits,
8 while requiring the company bear all EIM costs. The Commission should reject
9 AWEC’s adjustment because it violates the matching principle and is unsupported by
10 any new facts or circumstances that would warrant a departure from this
11 Commission’s consistent inclusion of EIM costs in the TAM. AWEC has provided
12 no principled reason to remove EIM costs.

13 **Q. How have the EIM costs and benefits been addressed in past TAMs?**

14 A. The company has included the EIM costs and benefits in every TAM since it joined
15 the EIM in late 2014. In the first TAM following the EIM, the 2015 TAM, the
16 Commission approved a stipulation that included in the TAM rates both the EIM
17 costs and benefits through 2015. As part of the stipulation, PacifiCorp also
18 “agree[ed] to address EIM-related costs and benefits in its 2016 TAM filing” and
19 hold workshops “to discuss operation of the EIM and the methodology for calculating
20 EIM-related benefits.”⁶

21 **Q. Did the company hold the workshops discussed in the 2015 TAM stipulation?**

22 A. Yes. As described in its direct testimony in the 2016 TAM (docket UE 296), the

⁶ *In the Matter of PacifiCorp, dba Pacific Power, 2015 Transition Adjustment Mechanism*, Docket No. UE 278 and UM 1689, Order No. 14-331 at 5 (Oct. 1, 2014).

1 company “confer[red] with parties to the 2015 TAM in developing its approach to
2 reflecting EIM costs and benefits in rates” through “two workshops . . . to discuss
3 operation of the EIM, the methodology for calculating EIM-related benefits, and
4 potential options for addressing EIM-related costs and benefits from January 1, 2016,
5 forward.”⁷

6 **Q. Did the 2016 TAM include the costs and benefits of the EIM in the NPC
7 forecast?**

8 A. Yes. PacifiCorp’s direct testimony stated that “[c]onsistent with the structure of the
9 settlement reached in the 2015 TAM (which matched costs and benefits of EIM
10 participation), the Company included . . . EIM-related costs in the 2016 TAM.”⁸ The
11 testimony explained that “[i]ncluding all EIM-related costs in the 2016 TAM is
12 necessary to ensure that customer rates reflect a proper matching of EIM benefits and
13 costs,” and that “[u]ntil these costs are included in base rates, EIM benefits included
14 in the Company’s TAM filings should be net of the ongoing cost of participation.”⁹

15 **Q. Did parties object to the inclusion of the EIM-related costs in the 2016 TAM?**

16 A. No. Parties disputed the calculation of EIM benefits, but no party questioned the
17 inclusion of EIM costs as a matching offset to the EIM benefits.

18 **Q. Did the Commission approve the company’s undisputed treatment of EIM costs
19 in the 2016 TAM?**

20 A. Yes. In Order No. 15-394, the Commission approved the EIM benefits net of EIM

⁷ Docket No. UE 296, PAC/100, Dickman/9.

⁸ Docket No. UE 296, PAC/100, Dickman/15.

⁹ Docket No. UE 296, PAC/100, Dickman/16.

1 costs.¹⁰

2 **Q. Were EIM costs included in the 2017 TAM as an offset to the EIM benefits?**

3 A. Yes. The company used the same approach approved by the Commission in the 2015
4 and 2016 TAMs and included the EIM costs as an offset to the benefits. The
5 company’s direct testimony reiterated that “including all EIM-related costs in the
6 2017 TAM is necessary to ensure that customer rates reflect a proper matching of
7 EIM benefits” until the EIM costs are reflected in base rates.¹¹

8 **Q. Did any party to the 2017 TAM dispute the inclusion of EIM costs as an offset to**
9 **EIM benefits?**

10 A. No. Just like the 2015 and 2016 TAMs, the inclusion of EIM costs was undisputed.
11 And like the 2015 and 2016 TAMs, the Commission approved the EIM benefits net
12 of EIM costs.¹²

13 **Q. Were additional EIM-related workshops held after the 2017 TAM?**

14 A. Yes. During the 2017 TAM, PacifiCorp offered to hold additional workshops to
15 “discuss the company’s EIM modeling in depth and provide opportunities for parties
16 to propose refinements to those methodologies.”¹³

17 **Q. Did any party raise concerns over the inclusion of EIM-related costs in the TAM**
18 **during the workshops that followed the 2017 TAM?**

19 A. No.

¹⁰ *In the Matter of PacifiCorp, dba Pacific Power, 2016 Transition Adjustment Mechanism*, Docket No. UE 296, Order No. 15-394 at 8 (Dec. 11, 2015).

¹¹ Docket No. UE 307, PAC/100, Dickman/27-28.

¹² *In the Matter of PacifiCorp, dba Pacific Power, 2017 Transition Adjustment Mechanism*, Docket No. UE 307, Order No. 16-482 at 16 (Dec. 20, 2015).

¹³ Order No. 16-482 at 17.

1 **Q. Were EIM-related costs subsequently included as an offset to EIM benefits in**
2 **the 2018 TAM?**

3 A. Yes. The company used the same approach that was approved in the 2015, 2016, and
4 2017 TAMs and matched EIM costs and benefits.

5 **Q. Did any party to the 2018 TAM dispute the inclusion of EIM costs as an offset to**
6 **the EIM benefits?**

7 A. No.

8 **Q. Did the Commission approve the inclusion of the EIM costs as an offset to the**
9 **EIM benefits?**

10 A. Yes. The Commission noted that “PacifiCorp has participated in the EIM since late
11 2014, and includes the benefits *and costs* associated with participation in the EIM in
12 the TAM filing.”¹⁴ The Commission explained that “EIM costs, including capital and
13 operations and maintenance expense, are added to the TAM to match the benefits.”¹⁵

14 **Q. Is the company’s proposal in the 2019 TAM consistent with the treatment of**
15 **EIM costs and benefits in the 2015, 2016, 2017, and 2018 TAMs?**

16 A. Yes. The company proposes no change to the treatment of EIM costs and benefits in
17 the TAM. Thus, the company recommends that the costs continue to be “added to the
18 TAM to match the benefits” until the costs are included in base rates.¹⁶

¹⁴ *In the Matter of PacifiCorp, dba Pacific Power, 2018 Transition Adjustment Mechanism*, Docket No. UE 323, Order No. 17-444 at 14 (Nov. 1, 2017) (emphasis added).

¹⁵ Order No. 17-444 at 14.

¹⁶ Order No. 17-444 at 14.

1 **Q. What is the basis for AWEC’s recommendation to remove the EIM costs in this**
2 **case?**

3 A. AWEC claims that the stipulation in the 2015 TAM that matched EIM costs and
4 benefits “did not specify that such treatment would be the practice forever.”¹⁷ AWEC
5 claims that the workshops following the 2015 TAM did not result in an agreement
6 among the parties regarding the treatment of EIM-related costs and that PacifiCorp
7 “has simply perpetuated the arrangement parties temporarily agreed to in 2015.”¹⁸

8 **Q. Do you agree with AWEC’s characterization of the prior treatment of EIM costs**
9 **and benefits in the TAM?**

10 A. No. Because the EIM costs are not yet included in base rates, PacifiCorp has
11 matched EIM costs and benefits in every TAM since the 2015 TAM *without*
12 *objection* from AWEC or any other party. Moreover, the Commission has approved
13 the matching of costs and benefits in the 2015, 2016, 2017, and 2018 TAMs. AWEC
14 has provided no basis for the Commission to depart from this precedent.

15 **Q. Has AWEC, through its predecessor ICNU, previously sponsored testimony**
16 **about the importance of matching EIM costs and benefits in rates?**

17 A. Yes. In docket UM 1689, which was adjudicated contemporaneously with the 2015
18 TAM and addressed the treatment of EIM costs and benefits,¹⁹ Mr. Mullins testified
19 on behalf of ICNU that it was “inconsistent with the matching principle” for
20 “customers to incur the costs associated with the EIM without receiving any of the

¹⁷ AWEC/100, Mullins/23.

¹⁸ AWEC/100, Mullins/24.

¹⁹ Ultimately, the stipulation that AWEC cites that resolved the 2015 TAM was a joint stipulation that also resolved Docket No. UM 1689.

1 associated benefits.”²⁰ Mr. Mullins stressed the need for matching the EIM costs and
2 benefits in rates throughout his testimony in docket UM 1689.²¹

3 **Q. Has Mr. Mullins testified in any other jurisdictions about the importance of**
4 **matching the costs and benefits of the EIM in rates?**

5 A. Yes. In a 2015 PacifiCorp rate case in Washington, Mr. Mullins testified that if the
6 EIM benefits are not included in base rates, then “consistent with the matching
7 principle,” the costs associated with the EIM must be removed from base rates.”²²
8 Instead, Mr. Mullins recommended that the costs of the EIM should flow through the
9 company’s power cost adjustment mechanism, consistent with the treatment of the
10 EIM benefits. Mr. Mullins justified this approach because he “believe[d] that it
11 would violate the matching principle to include the costs associated with the EIM in
12 base rates, while excluding the corresponding EIM benefits from base net power
13 costs.”²³

²⁰ Docket No. UM 1689, ICNU/100, Mullins/4 (“The Company’s current position in both the TAM docket and this docket will cause customers to incur the costs associated with the EIM without receiving any of the associated benefits. Instead, the benefits will be retained by the Company and its shareholders. This is inconsistent with the matching principle required under ORS § 757.259(2)(e) to justify an application for deferred accounting and the Company’s stated purpose for filing this Application.”).

²¹ See, e.g., Docket No. UM 1689, ICNU/100, Mullins/7 (“Q. Why should operating expenses incurred prior to January 1, 2015, be excluded from the deferral? A. If my proposal in the TAM is adopted, no benefits associated with the EIM will accrue to ratepayers prior to January 1, 2015. It follows that, under the matching principle discussed above, no operating costs associated with EIM operations should be deferred prior to the date that the associated benefits are reflected in rates.”).

²² *Wash. Utils. & Trans. Comm’n v. PacifiCorp*, Docket UE-152253, Exhibit No. BGM-1CT at 35 (Mar. 17, 2016).

²³ *Wash. Utils. & Trans. Comm’n v. PacifiCorp*, Docket UE-152253, Exhibit No. BGM-1CT at 35 (Mar. 17, 2016) (“Q. Why is this ratemaking appropriate? A. I believe that it would violate the matching principle to include the costs associated with the EIM in base rates, while excluding the corresponding EIM benefits from base net power costs. When asked about this, the Company stated that it disagreed that the matching principle will be violated because ‘energy imbalance market (EIM) benefits will flow through the Company’s net power costs (NPC) and will be reflected in the annual power cost adjustment mechanism (PCAM) filings.’ I agree. In order to be fair, however, I recommend that the costs also be passed through the PCAM.”) (internal citations omitted).

1 **Q. Did AWEC’s testimony in this case reconcile its recommendation to remove the**
2 **EIM costs from the TAM with Mr. Mullins’ prior testimony that the matching**
3 **principle requires the same treatment for EIM costs and benefits?**

4 A. No. AWEC does not address Mr. Mullins’ prior inconsistent testimony.

5 **Q. AWEC also points out that the EIM costs are not tracked in the same FERC**
6 **accounts that the TAM Guidelines allow the company to update in stand-alone**
7 **TAM filings.²⁴ Is this a valid reason to create a mismatch between the EIM costs**
8 **and benefits?**

9 A. No. The TAM Guidelines AWEC references were adopted in 2009 and predated the
10 company’s participation in the EIM. As described above, the Commission has
11 approved—without dispute—the inclusion of EIM benefits net of EIM costs in every
12 TAM since PacifiCorp joined the EIM. While the TAM Guidelines may restrict
13 inclusion of certain non-NPC costs on a stand-alone basis, the Commission has not
14 interpreted the TAM Guidelines to preclude inclusion of such costs in accurately and
15 fairly calculating a specific NPC benefit. Beginning with the stipulation approved in
16 the 2015 TAM, the Commission has construed the TAM Guidelines to allow the
17 Company to calculate EIM benefits in the TAM net of EIM costs.

18 **Q. AWEC claims that the company should just file a general rate case to include the**
19 **EIM costs in base rates. Is this a reasonable recommendation?**

20 A. The company agrees that, once it files a general rate case, it will propose to include
21 the EIM costs in base rates. Until that time, however, fidelity to the matching
22 principle requires that if the EIM costs are included in the TAM, then the benefits

²⁴ AWEC/100, Mullins/22–23.

1 must be included too. AWEC has provided no principled basis to remove the costs
2 but not the benefits.

3 **Q. AWEC also claims that even if the EIM costs are removed from the TAM, the**
4 **company will still recover them because it is currently recovering its overall**
5 **costs.²⁵ Is the level of the company's overall earnings a reasonable basis to**
6 **remove costs from the TAM?**

7 A. No. The Commission has never applied an earnings test when setting the company's
8 NPC in the TAM. Intentionally removing costs simply because of the company's
9 overall earnings frustrates the basic purpose of the TAM, which is to develop an
10 accurate NPC forecast.

11 **Q. Is the treatment of the EIM costs and benefits in the TAM consistent with the**
12 **treatment of the EIM costs and benefits for other utilities?**

13 A. Yes. It is my understanding that the Commission recently approved the same
14 matching of EIM costs and benefits for Idaho Power in its 2018 annual power cost
15 update.²⁶ In addition, I understand that PGE's NPC rate has also included both the
16 costs and benefits of the EIM.²⁷

17 **Q. Does this conclude your reply testimony?**

18 A. Yes.

²⁵ AWEC/100, Mullins/24.

²⁶ *In the Matter of Idaho Power Company's 2018 Annual Power Cost Update*, Docket No. UE 333, Order No. 18-170 at 6 (May 21, 2018).

²⁷ *In the Matter of Portland General Electric Company Request for a General Rate Revision*, Docket No. UE 319, Order No. 17-384 at 2-3 (Oct. 9, 2017) (approved NPC included both EIM costs and benefits).

Docket No. UE 339
Exhibit PAC/401
Witness: Michael G. Wilding

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

PACIFICORP

Exhibit Accompanying Reply Testimony of Michael G. Wilding
2019 TAM Allocation Reply Filing

July 2018

**PacifiCorp
CY 2019 TAM
Reply Update**

Line no	ACCT.	Description	Total Company				Oregon Allocated						
			UE-323 CY 2018 - Final Update	TAM CY 2019 - Initial Filing	CY 2019 - Initial Filing w/ Settlement	TAM CY 2019 - Reply Update	UE-323 CY 2018 - Final Update	TAM CY 2019 - Initial Filing	CY 2019 - Initial Filing w/ Settlement	TAM CY 2019 - Reply Update			
1		Sales for Resale											
2	447	Existing Firm PPL	14,589,272	8,142,702	8,142,702	7,115,322	SG	25.741%	26.725%	3,755,357	2,176,121	2,176,121	1,901,556
3	447	Existing Firm UPL	-	-	-	-	SG	25.741%	26.725%	-	-	-	-
4	447	Post-Merger Firm	416,976,550	315,490,543	316,265,558	353,631,270	SG	25.741%	26.725%	107,332,001	84,314,241	84,521,362	94,507,277
5	447	Non-Firm	-	-	-	-	SE	24.186%	25.322%	-	-	-	-
6		Total Sales for Resale	431,565,821	323,633,245	324,408,260	360,746,591			111,087,358	86,490,363	86,697,484	96,408,833	
7													
8		Purchased Power											
9	555	Existing Firm Demand PPL	4,627,573	3,365,936	3,365,936	3,458,271	SG	25.741%	26.725%	1,191,162	899,540	899,540	924,216
10	555	Existing Firm Demand UPL	23,836,008	2,756,828	2,756,828	3,332,695	SG	25.741%	26.725%	6,135,516	736,757	736,757	890,656
11	555	Existing Firm Energy	30,516,365	17,869,545	17,869,545	18,392,024	SE	24.186%	25.322%	7,380,840	4,524,997	4,524,997	4,657,301
12	555	Post-merger Firm	635,614,579	609,731,622	596,489,901	654,830,316	SG	25.741%	26.725%	163,610,602	162,949,604	159,410,779	175,002,143
13	555	Secondary Purchases	-	-	-	-	SE	24.186%	25.322%	-	-	-	-
14	555	Other Generation Expense	7,552,475	7,091,901	7,124,313	7,131,875	SG	25.741%	26.725%	1,944,047	1,895,297	1,903,959	1,905,980
15		Total Purchased Power	702,146,999	640,815,832	627,606,523	687,145,181			180,262,168	171,006,195	167,476,032	183,380,297	
16													
17		Wheeling Expense											
18	565	Existing Firm PPL	21,359,209	22,380,362	22,380,362	22,380,362	SG	25.741%	26.725%	5,497,975	5,981,109	5,981,109	5,981,109
19	565	Existing Firm UPL	-	-	-	-	SG	25.741%	26.725%	-	-	-	-
20	565	Post-merger Firm	117,589,895	109,568,290	109,569,174	109,561,532	SG	25.741%	26.725%	30,268,270	29,281,915	29,282,151	29,280,109
21	565	Non-Firm	6,273,914	4,447,418	4,447,418	4,447,418	SE	24.186%	25.322%	1,517,440	1,126,193	1,126,193	1,126,193
22		Total Wheeling Expense	145,223,018	136,396,070	136,396,954	136,389,312			37,283,685	36,389,216	36,389,453	36,387,410	
23													
24		Fuel Expense											
25	501	Fuel Consumed - Coal	753,810,234	676,667,893	671,926,269	650,307,080	SE	24.186%	25.322%	182,320,284	171,348,518	170,147,825	164,673,329
26	501	Fuel Consumed - Coal (Cholla)	55,637,424	40,869,237	40,780,754	38,090,258	SE	24.186%	25.322%	13,456,743	10,349,070	10,326,664	9,645,366
27	501	Fuel Consumed - Gas	3,252,700	4,631,939	4,632,077	3,533,709	SE	24.186%	25.322%	786,714	1,172,918	1,172,953	894,820
28	547	Natural Gas Consumed	247,372,678	317,504,511	317,339,160	303,760,595	SE	24.186%	25.322%	59,830,783	80,399,747	80,357,876	76,919,458
29	547	Simple Cycle Comb. Turbines	2,439,959	3,718,622	3,718,646	3,417,989	SE	24.186%	25.322%	590,141	941,644	941,650	865,517
30	503	Steam from Other Sources	5,000,414	4,484,552	4,484,552	4,597,639	SE	24.186%	25.322%	1,209,425	1,135,596	1,135,596	1,184,232
31		Total Fuel Expense	1,067,513,408	1,047,876,754	1,042,881,457	1,003,707,270			258,194,090	265,347,493	264,082,564	254,162,722	
32		TAM Settlement Adjustment**	-	-	(545,317)	(545,317)		As Settled	-	-	(141,911)	(141,911)	
33													
34		Net Power Cost (Per GRID)	1,483,317,604	1,501,455,411	1,481,931,357	1,465,949,855			364,652,585	386,252,542	381,108,654	377,379,685	
35													
36		Net Power Cost (Per GRID)	1,483,317,604	1,501,455,411	1,481,931,357	1,465,949,855			364,652,585	386,252,542	381,108,654	377,379,685	
37		Oregon Sius NPC Adjustments	647,742	645,737	645,737	654,453	OR	100.000%	100.000%	647,742	645,737	645,737	654,453
38		Total NPC Net of Adjustments	1,483,965,346	1,502,101,148	1,482,577,094	1,466,604,308			365,300,327	386,898,278	381,754,391	378,034,138	
39													
40		Non-NPC EIM Costs*	4,944,640	3,414,924	3,414,924	3,052,790	SG	25.741%	26.725%	1,272,777	912,632	912,632	815,852
41		Production Tax Credit (PTC)	(66,634,263)	(22,247,375)	(47,301,476)	(46,799,448)	SG	25.741%	26.725%	(17,152,017)	(5,945,568)	(12,641,228)	(12,507,063)
42		Total TAM Net of Adjustments	1,422,275,724	1,483,268,697	1,438,690,543	1,422,857,650			349,421,087	381,965,342	370,025,795	366,342,928	
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*EIM Benefits for the 2019 TAM are reflected in net power costs

**TAM Settlement UE 339 - Partial Stipulation agreed to decrease Oregon-allocated NPC by \$141,911

Oregon-allocated NPC (incl. PTC) Baseline in Rates from UE-323
 \$ Change due to load variance from UE-323 forecast
 2019 Recovery of NPC (incl. PTC) in Rates

Increase Absent Load Change 20,604,707 16,921,841
 \$349,421,087
 15,549,436
 \$364,970,523

Increase Including Load Change 16,894,819 5,055,271 1,372,405

Add Other Revenue Change (28,433) (28,433) (38,719)

Total TAM Increase/Decrease \$ 16,866,386 \$ 5,026,839 \$ 1,333,686

Docket No. UE 339
Exhibit PAC/402
Witness: Michael G. Wilding

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

PACIFICORP

Exhibit Accompanying Reply Testimony of Michael G. Wilding
2019 Results of Updated NPC Study Reply Filing

July 2018

PacifiCorp
12 months ended December 2019

JulyCum ORTAM19 NPC Study 2018.07.12

Net Power Cost Analysis

01/19-12/19 Jan-19 Feb-19 Mar-19 Apr-19 May-19 Jun-19 Jul-19 Aug-19 Sep-19 Oct-19 Nov-19 Dec-19

\$

Special Sales For Resale

	01/19-12/19	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Long Term Firm Sales													
Black Hills	7,115,322	762,263	583,455	417,528	229,737	485,892	642,013	663,577	742,550	632,108	553,971	721,418	670,807
BPA Wind	2,949,348	295,003	296,238	262,330	201,695	188,506	150,760	125,877	96,538	150,415	209,260	222,342	349,762
East Area Sales (WCA Sale)	-	-	-	-	-	-	-	-	-	-	-	-	-
Hurricane Sale	7,830	652	653	652	653	652	653	652	652	653	652	653	652
LADWP (IPP Layoff)	-	4,007	3,689	4,896	2,632	3,183	3,904	7,427	7,355	5,745	4,326	3,546	4,196
Leaning Juniper Revenue	55,006	-	-	-	-	-	-	-	-	-	-	-	-
SMUD	-	-	-	-	-	-	-	-	-	-	-	-	-
UMPA II s45631	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Firm Sales	9,727,506	1,062,525	894,035	685,506	434,716	678,236	797,330	797,534	847,096	788,921	788,210	947,959	1,025,437
Short Term Firm Sales													
COB	-	-	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	-	-	-	-	-	-	-	-	-	-	-
Four Corners	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-	-	-
Mead	-	-	-	-	-	-	-	-	-	-	-	-	-
Mid Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-
Mona	-	-	-	-	-	-	-	-	-	-	-	-	-
NOR	-	-	-	-	-	-	-	-	-	-	-	-	-
Palo Verde	146,704,780	20,120,830	18,314,040	20,120,830	9,797,280	9,925,320	9,568,200	10,846,840	11,077,740	10,228,800	9,185,790	8,688,800	8,830,310
SP15	-	-	-	-	-	-	-	-	-	-	-	-	-
Utah	-	-	-	-	-	-	-	-	-	-	-	-	-
Washington	-	-	-	-	-	-	-	-	-	-	-	-	-
West Main	-	-	-	-	-	-	-	-	-	-	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-	-	-
Electric Swaps Sales	-	-	-	-	-	-	-	-	-	-	-	-	-
SIF Trading Margin	-	-	-	-	-	-	-	-	-	-	-	-	-
SIF Index Trades	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Short Term Firm Sales	146,704,780	20,120,830	18,314,040	20,120,830	9,797,280	9,925,320	9,568,200	10,846,840	11,077,740	10,228,800	9,185,790	8,688,800	8,830,310
System Balancing Sales													
COB	33,815,006	2,841,464	3,997,653	3,649,711	2,245,139	1,495,807	1,235,190	726,783	4,045,219	4,206,041	2,241,949	3,226,423	3,903,626
Four Corners	51,094,625	5,786,115	4,035,835	3,803,660	2,641,183	2,817,702	3,273,145	4,212,472	5,904,423	4,149,893	5,959,258	4,609,012	3,901,929
Mead	31,575,666	4,027,583	3,036,229	1,651,476	1,272,994	814,142	2,042,705	1,480,349	2,886,922	2,933,375	3,827,878	3,459,358	4,142,656
Mid Columbia	44,090,606	6,940,931	5,634,571	4,843,899	1,807,795	1,718,788	1,443,404	2,343,288	4,065,130	3,101,957	4,044,454	5,566,836	2,579,552
Mona	26,336,349	2,862,481	2,059,626	1,292,917	1,204,358	1,650,189	2,217,961	1,165,628	2,412,638	3,705,192	2,679,814	2,613,066	2,472,477
NOR	1,002,922	-	-	-	26,577	32,505	41,872	785,484	116,485	-	-	-	-
Palo Verde	16,386,748	1,513,834	1,086,838	653,120	462,014	858,537	2,822,679	1,838,494	516,846	1,862,908	968,542	1,578,967	2,223,969
Trapped Energy	12,383	7,985	-	-	-	-	-	-	-	-	-	4,397	-
Total System Balancing Sales	204,314,305	23,980,394	19,850,751	15,894,783	9,660,059	9,387,670	13,076,956	12,552,499	19,947,664	19,959,366	19,721,895	21,058,061	19,224,209
Total Special Sales For Resale	360,746,591	45,163,750	39,058,826	36,701,119	19,892,055	19,991,226	23,442,486	24,196,873	31,872,499	30,977,086	29,675,895	30,694,820	29,079,956

Qualifying Facilities	3,592,014	322,880	391,652	410,227	617,193	657,418	505,616	187,276	84,000	68,031	63,240	96,322	188,358
QF California	8,263,545	620,618	579,627	636,491	664,975	764,017	815,759	772,754	673,923	648,685	63,240	664,192	741,347
QF Idaho	59,006,347	3,440,429	5,594,569	4,601,050	5,634,167	6,088,198	6,028,680	5,988,773	5,650,041	4,909,157	4,176,624	3,311,818	3,582,840
QF Oregon	10,577,480	726,788	757,122	898,019	936,404	1,030,454	1,043,072	974,787	967,384	909,232	87,811	766,968	699,440
QF Washington	153,965	-	-	-	5,925	13,958	24,748	33,049	35,353	28,889	12,043	-	-
QF Wyoming	234,402	41,017	22,857	23,501	18,097	16,527	10,304	15,268	14,672	13,623	15,166	21,363	22,007
Biomass One QF	14,499,150	1,183,004	1,312,208	1,281,800	930,978	948,306	916,311	1,573,193	1,272,042	1,331,181	1,269,262	1,253,328	1,227,538
Boswell Wind I QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Boswell Wind II QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Boswell Wind III QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Boswell Wind IV QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Chevron Wind QF	123,551	3,008	5,553	9,122	7,020	6,356	9,669	19,478	21,741	12,223	16,088	9,282	4,009
DCFP QF	12,873,061	631,368	768,323	989,704	1,144,027	1,292,767	1,415,229	1,604,592	1,561,529	1,205,657	979,290	716,774	563,602
Enterprise Solar I QF	11,885,226	578,848	693,387	900,246	1,040,269	1,225,941	1,337,472	1,487,002	1,442,002	1,115,634	894,600	663,539	516,286
Escalante Solar II QF	11,188,314	543,880	650,940	848,142	978,334	1,159,066	1,265,434	1,406,168	1,353,210	1,051,554	838,810	611,331	481,444
Escalante Solar III QF	10,769,184	529,084	636,144	822,929	951,408	1,128,464	1,233,873	1,363,046	1,313,279	1,021,869	767,684	560,067	441,338
Evergreen BioPower QF	-	-	-	-	-	-	-	-	-	-	-	-	-
ExxonMobil QF	7,942,398	485,893	779,877	728,633	764,098	477,885	508,841	550,396	601,691	688,531	699,788	823,169	833,596
Five Pine Wind QF	1,720,831	214,704	164,033	220,176	145,779	93,433	83,751	83,365	95,720	102,014	162,673	170,368	184,815
Foote Creek III Wind QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Glen Canyon A Solar QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Glen Canyon B Solar QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Granite Mountain East Solar QF	11,172,391	560,236	626,980	911,546	1,012,795	1,190,936	1,291,668	1,384,113	1,305,652	995,548	828,418	590,383	474,218
Granite Mountain West Solar QF	7,399,865	370,959	415,122	604,742	672,138	789,095	855,017	917,888	863,927	656,597	548,316	390,514	313,550
Iron Springs Solar QF	11,476,221	647,444	675,187	913,548	1,041,922	1,163,831	1,319,018	1,395,515	1,365,657	1,024,881	835,411	587,237	506,569
Kennebec Refinery QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Kennebec Smelter QF	9,675,473	1,011,726	917,570	1,122,669	897,120	860,620	741,775	673,722	572,323	612,790	802,754	709,690	752,715
Latigo Wind Park QF	1,455,123	1,053,556	917,288	917,288	685,330	597,977	510,066	417,389	476,382	476,971	673,756	905,649	1,079,900
Monticello Wind QF	14,209,699	2,111,611	1,569,973	1,432,311	1,063,510	895,141	908,637	771,489	732,932	732,932	1,004,103	1,399,834	1,595,574
Mountain Wind 1 QF	17,628,391	1,012,679	1,070,405	1,606,013	1,698,892	1,057,722	1,141,425	1,278,285	1,465,160	1,628,124	1,616,050	1,739,932	1,713,705
North Point Wind QF	12,534,975	726,473	993,084	1,156,672	1,298,923	1,277,921	1,156,028	1,280,288	1,105,884	950,540	734,577	779,058	1,075,468
Oregon Wind Farm QF	3,767,978	156,261	193,864	313,517	369,766	404,410	389,347	480,732	464,848	365,687	300,073	182,700	146,774
Pavant II Solar QF	10,549,147	1,294,790	917,432	1,171,763	915,334	697,435	651,445	641,150	679,761	456,775	778,686	1,235,418	1,109,559
Pioneer Wind Park I QF	5,162,643	393,657	501,080	515,727	490,567	341,298	329,392	343,057	363,550	349,547	465,550	503,509	565,504
Power County North Wind QF	4,660,962	352,022	444,106	474,246	461,168	300,013	297,046	306,897	330,033	327,080	411,722	460,172	496,457
Power County South Wind QF	811,529	52,519	48,688	51,469	55,188	57,478	55,307	107,842	109,139	79,500	61,515	64,034	68,849
Roseburg Dillard QF	115,048	-	-	-	-	-	-	-	-	-	-	38,872	76,177
Sage I Solar QF	97,660	-	-	-	-	-	-	-	-	-	-	38,919	76,249
Sage II Solar QF	2,687,788	212,285	166,974	205,864	153,240	150,751	208,586	284,667	306,660	261,965	244,996	32,946	64,714
Spanish Fork Wind 2 QF	29,974,494	2,649,748	2,467,275	2,559,597	1,671,403	2,698,985	2,636,548	2,668,885	2,680,291	2,551,535	2,271,542	240,000	251,802
Summit QF	7,762,303	102,288	380,791	574,250	700,614	830,287	996,961	1,140,075	1,081,376	825,497	640,515	304,954	2,624,961
Sweetwater Solar QF	545,518	14,239	46,988	74,186	50,651	68,701	33,424	28,797	36,003	46,034	42,534	47,208	57,355
Tesoro QF	8,638,631	419,888	481,026	633,344	853,592	883,932	929,425	1,079,534	1,038,694	807,761	687,729	449,177	374,429
Thermite Canyon Wind QF	4,906,287	181,901	232,694	382,486	433,756	462,222	533,768	641,344	639,623	522,274	395,370	248,363	202,486
Three Peaks Solar QF	11,699,113	492,395	626,049	797,079	1,045,639	1,222,505	1,251,567	1,555,578	1,494,375	1,327,953	824,117	594,615	467,242
Utah Pavant Solar QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Utah Red Hills Solar QF	-	-	-	-	-	-	-	-	-	-	-	-	-
Qualifying Facilities Total	337,581,189	23,539,662	26,784,535	28,808,353	29,410,219	30,663,553	31,435,465	33,456,445	32,136,156	28,173,927	25,611,875	23,785,425	23,775,573
Mid-Columbia Contracts	-	-	-	-	-	-	-	-	-	-	-	-	-
Douglas - Wells	-	-	-	-	-	-	-	-	-	-	-	-	-
Grant Reasonable	(123,865)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)	(10,322)
Grant Meaningful Priority	2,037,631	169,803	169,803	169,803	169,803	169,803	169,803	169,803	169,803	169,803	169,803	169,803	169,803
Grant - Priest Rapids	-	-	-	-	-	-	-	-	-	-	-	-	-
Mid-Columbia Contracts Total	1,913,766	159,481	159,481	159,481	159,481	159,481	159,481	159,481	159,481	159,481	159,481	159,481	159,481
Total Long Term Firm Purchases	503,153,567	40,674,293	40,679,969	43,811,592	42,902,250	43,227,871	43,925,341	44,681,702	43,646,818	40,247,886	38,918,878	38,640,919	40,796,649

Storage & Exchange											
APS Exchange	-	-	-	-	-	-	-	-	-	-	-
Black Hills CTS	-	-	-	-	-	-	-	-	-	-	-
BPA Exchange	-	-	-	-	-	-	-	-	-	-	-
BPA FC II Wind	-	-	-	-	-	-	-	-	-	-	-
BPA FC IV Wind	-	-	-	-	-	-	-	-	-	-	-
BPA So. Idaho	-	-	-	-	-	-	-	-	-	-	-
Cowlitz Swift	-	-	-	-	-	-	-	-	-	-	-
EWEB FC I	-	-	-	-	-	-	-	-	-	-	-
PSCO Exchange	5,400,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000
PSCO FC III	-	-	-	-	-	-	-	-	-	-	-
Redding Exchange	-	-	-	-	-	-	-	-	-	-	-
SCL State Line	-	-	-	-	-	-	-	-	-	-	-
Tri-State Exchange	-	-	-	-	-	-	-	-	-	-	-
Total Storage & Exchange	5,400,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000
Short Term Firm Purchases											
COB	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	-	-	-	-	-	-	-	-	-
Four Corners	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	-	-	-
Mead	-	-	-	-	-	-	-	-	-	-	-
Mid Columbia	45,990,980	8,079,400	7,368,480	953,660	953,660	917,000	3,086,080	3,215,160	2,857,920	3,625,860	3,440,220
Mona	-	-	-	-	-	-	-	-	-	-	-
NOB	-	-	-	-	-	-	-	-	-	-	-
Palo Verde	31,946,281	9,520,658	7,255,811	655,418	673,167	931,744	1,364,607	1,446,848	1,028,048	763,045	771,992
SP15	-	-	-	-	-	-	-	-	-	-	-
Utah	-	-	-	-	-	-	-	-	-	-	-
Washington	-	-	-	-	-	-	-	-	-	-	-
West Main	-	-	-	-	-	-	-	-	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-
Total Short Term Firm Purchases	77,940,261	17,600,258	14,624,291	1,609,098	1,626,847	1,848,744	4,460,687	4,662,008	3,865,968	4,388,905	4,097,373
STF Electric Swaps											
STF Index Trades	-	-	-	-	-	-	-	-	-	-	-
Total Short Term Firm Purchases	77,940,261	17,600,258	14,624,291	1,609,098	1,626,847	1,848,744	4,460,687	4,662,008	3,865,968	4,388,905	4,097,373
System Balancing Purchases											
COB	7,014,687	117,397	334,800	779,775	423,507	1,338,707	1,237,425	1,609,108	93,903	110,065	386,942
Four Corners	9,946,658	373,079	1,394,938	511,522	442,283	747,519	1,462,464	1,485,127	854,734	776,044	86,419
Mead	2,645,304	-	107,934	346,053	63,407	403,887	591,733	762,942	54,348	1,526	131,299
Mid Columbia	60,213,595	3,211,708	3,382,987	7,589,917	9,647,225	4,701,608	8,594,055	10,747,134	3,262,196	2,945,362	1,428,792
Mona	7,493,576	776,686	1,180,690	685,991	461,260	91,603	539,313	401,110	263,202	185,452	687,732
NOB	3,228,322	-	-	42,388	43,057	82,857	2,762,827	297,093	2,987,930	1,935,606	976,213
Palo Verde	38,395,500	4,477,650	5,902,502	2,568,960	2,588,527	2,346,206	3,704,787	3,150,594	(3,062,036)	(3,097,617)	1,848,708
Elimi Imports/Exports	(35,677,065)	(2,177,405)	(2,812,864)	(2,864,143)	(2,919,722)	(2,965,301)	(2,990,660)	(3,026,459)	(3,062,036)	(3,097,617)	(3,168,776)
Emergency Purchases	347,921	93,745	-	22,843	11,145	-	38,151	-	146,821	1,384	723
Total System Balancing Purchases	93,519,478	6,272,872	9,490,877	9,663,417	10,730,690	6,757,086	15,939,974	15,426,579	4,601,096	2,867,821	289,615
Total Purchased Power & Net Interchange	680,013,306	64,997,423	65,244,536	54,624,765	56,035,407	52,981,172	65,532,364	64,185,405	49,184,950	46,625,604	44,477,907
											48,622,092

Wheeling & U. of F. Expense

Firm Wheeling	134,907,501	11,781,482	11,319,734	11,250,054	11,124,378	11,145,777	10,820,464	10,918,586	11,426,025	11,557,153	11,652,719
C&T EIM Admin fee	1,429,782	123,704	116,049	127,527	122,037	125,247	108,962	99,828	123,079	118,018	117,595
ST Firm & Non-Firm	52,029	5,999	7,105	109	614	1,694	5,745	4,854	6,305	7,012	6,369

Total Wheeling & U. of F. Expense

Coal Fuel Burn Expense

Carbon	38,090,258	4,983,688	1,432,756	-	-	4,096,010	4,698,741	4,077,275	4,405,359	4,150,171	3,669,260
Cholla	15,052,738	842,803	1,293,223	1,447,959	1,237,726	1,358,222	1,452,475	1,345,619	1,448,250	1,319,861	1,441,233
Colstrip	26,278,933	1,804,581	2,216,752	2,411,037	2,330,696	2,344,986	2,414,986	1,770,082	1,667,626	2,376,874	2,345,319
Craig	57,774,405	4,468,889	4,501,291	4,275,445	4,942,783	5,028,485	5,202,238	4,948,617	4,876,804	4,796,060	4,610,469
Dave Johnston	11,204,682	1,130,379	907,988	541,617	594,979	1,010,157	1,005,352	1,055,833	1,135,556	799,801	986,589
Hayden	96,252,503	13,958,292	7,071,608	2,259,556	1,949,164	2,802,983	8,000,981	11,058,377	9,662,762	8,109,526	7,878,310
Hunter	105,154,890	12,335,305	11,017,369	6,686,800	6,447,594	10,709,831	10,395,723	9,688,844	6,016,871	7,607,595	11,461,873
Huntington	234,179,360	23,704,531	21,267,492	17,641,691	13,697,442	16,921,253	17,372,882	23,874,011	18,281,105	18,374,876	20,298,978
Jim Bridger	75,649,972	6,602,824	5,571,868	6,625,203	6,307,987	5,268,000	6,771,054	6,342,753	6,660,786	6,603,473	6,381,763
Naughton	28,761,598	2,440,693	2,177,875	2,604,324	997,193	2,438,547	2,728,038	2,641,458	2,694,325	2,597,835	2,260,141
Wyodak	688,397,339	72,271,996	57,458,223	44,493,631	38,505,562	45,013,908	69,652,764	59,161,748	55,836,195	56,504,857	63,259,057

Total Coal Fuel Burn Expense

Gas Fuel Burn Expense

Chehalis	1,551,306	1,551,306	1,360,331	5,752,632	3,241,073	2,039,521	3,283,691	4,033,859	4,000,376	5,834,410	1,742,712
Current Creek	55,930,301	5,294,625	5,485,842	5,283,870	3,252,024	3,794,519	4,548,487	4,668,942	4,720,683	4,808,989	5,575,489
Gadsby	2,637,522	-	10,034	35,084	64,737	156,131	766,990	839,460	-	2,861	163,699
Gadsby CT	1,957,051	92,694	104,413	180,313	222,402	75,711	367,508	385,123	43,842	32,849	110,359
Hermiston	23,071,031	2,511,088	2,421,843	2,468,221	1,342,411	1,980,438	1,996,677	1,893,978	2,081,546	2,332,851	2,223,183
Lake Side 1	61,372,929	5,604,779	4,946,511	5,867,578	4,671,750	3,371,086	4,675,534	5,231,641	5,164,372	5,487,038	6,190,856
Lake Side 2	64,758,791	5,410,919	4,557,008	5,372,635	4,696,456	4,944,673	5,618,839	5,406,204	5,573,242	5,844,223	6,774,212
Little Mountain	-	-	-	-	-	-	-	-	-	-	-
Naughton - Gas	-	-	-	-	-	-	-	-	-	-	-
Not Used	-	-	-	-	-	-	-	-	-	-	-
Total Gas Fuel Burn	247,865,712	20,465,412	18,885,983	24,960,334	17,490,853	15,200,988	17,947,939	21,237,727	21,264,027	24,343,220	22,780,510
Gas Physical	-	-	-	-	-	-	-	-	-	-	-
Gas Swaps	28,852,488	1,365,395	1,792,070	3,711,088	2,552,550	2,521,950	2,907,258	2,871,600	2,534,715	1,986,750	1,059,115
Clay Basin Gas Storage	(50,102)	(62,941)	(38,598)	51,438	-	-	-	-	-	-	-
Pipeline Reservation Fees	34,004,185	2,847,471	2,721,887	2,855,914	2,820,683	2,849,249	2,820,196	2,891,825	2,895,059	2,845,735	2,856,902

Total Gas Fuel Burn Expense

Other Generation

Blundell	4,597,639	408,213	381,137	409,102	332,864	376,265	382,871	374,782	411,391	413,177	406,099
Blundell Bottoming Cycle	-	-	-	-	-	-	-	-	-	-	-
Dunlap Wind	-	-	-	-	-	-	-	-	-	-	-
Footo Creek I Wind	-	-	-	-	-	-	-	-	-	-	-
Glenrock Wind	-	-	-	-	-	-	-	-	-	-	-
Glenrock III Wind	-	-	-	-	-	-	-	-	-	-	-
Goose Wind	-	-	-	-	-	-	-	-	-	-	-
High Plains Wind	-	-	-	-	-	-	-	-	-	-	-
Learning Juniper I	-	-	-	-	-	-	-	-	-	-	-
Marango I Wind	-	-	-	-	-	-	-	-	-	-	-
Marango II Wind	-	-	-	-	-	-	-	-	-	-	-
McFadden Ridge Wind	-	-	-	-	-	-	-	-	-	-	-
Rolling Hills Wind	-	-	-	-	-	-	-	-	-	-	-
Seven Mile Wind	-	-	-	-	-	-	-	-	-	-	-
Seven Mile II Wind	-	-	-	-	-	-	-	-	-	-	-
Black Cap Solar	-	-	-	-	-	-	-	-	-	-	-

Integration Charge
Settlement Adjustment

Integration Charge	7,131,875	631,079	553,135	597,967	561,591	591,990	651,350	559,795	561,806	583,248	635,926
Settlement Adjustment	(545,317)	(45,443)	(45,443)	(45,443)	(45,443)	(45,443)	(45,443)	(45,443)	(45,443)	(45,443)	(45,443)
Net Power Cost	1,465,949,855	129,626,039	119,336,791	119,212,281	108,198,400	113,667,967	120,379,778	150,289,991	112,233,579	112,063,677	122,270,985

Net Power Cost/Net System Load

Net Power Cost/Net System Load	24.85	24.54	25.95	25.00	24.14	24.31	26.90	24.85	24.24	23.50	23.16
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Docket No. UE 339
Exhibit PAC/403
Witness: Michael G. Wilding

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

PACIFICORP

Exhibit Accompanying Reply Testimony of Michael G. Wilding
2019 Corrections and Updates Summary Reply Filing

July 2018

Oregon TAM 2019 (March 2018 Initial Filing)	NPC (\$) =	1,501,455,411
	\$/MWh =	25.46

	Impact (\$) Oregon Allocated Basis	NPC (\$) Total Company
Corrections		
C01 - Leaning Juniper Curtailment	(25,951)	
C02 - Solar QFs	(621,365)	
Settlement Adjustments		
S01 - Wind Capacity Factor 50/50 (P50-Actuals)	(634,314)	
S02 - Wind Repower	(894,585)	
S03 - Settlement Adjustment	(141,911)	
S04 - Hunter Coal	(895,517)	
S05 - EIM Benefit	(2,525,453)	
Updates		
U01 - QF Contract Status	115,388	
U02 - Official Forward Price Curve and Short Term Firm Transactions	(5,600,755)	
U03 - Long Term Contract Status	73,186	
U04 - Coal Costs	500,222	
U05 - EIM Benefits	838,841	
Total Updates + Settlements =	(9,812,214)	
Total Change from March 2018 Initial Filing		(35,505,556)
Oregon TAM 2019 (July 2018 Filing)	NPC (\$) =	1,465,949,855
	\$/MWh =	24.85

Docket No. UE 339
Exhibit PAC/404
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**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

PACIFICORP

Exhibit Accompanying Reply Testimony of Michael G. Wilding
2019 Other Revenue Reply Filing

July 2018

PacifiCorp
 CY 2019 TAM
 Other Revenues - Stand Alone TAM Adjustment
 Reply Update

Line no	Total Company				Oregon Allocated			
	UE-323 Final	CY 2019 Initial	CY 2019 Initial w/ Settlement	CY 2019 Reply	UE-323 Final	CY 2019 Initial	CY 2019 Initial w/ Settlement	CY 2019 Reply
1	(10,861,266)	(11,086,374)	(11,086,374)	(11,108,533)	(2,795,748)	(2,962,812)	(2,962,812)	(2,968,734)
2	(905,486)	(881,309)	(881,309)	(897,640)	(241,989)	(235,528)	(235,528)	(239,893)
3	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-
7	(11,766,752)	(11,967,683)	(11,967,683)	(12,006,173)	(3,037,737)	(3,198,340)	(3,198,340)	(3,208,627)
8								
9								
10								
11								
12								
13								
14								
15								
					Decrease (Increase) in Other Revenues Absent Load Change	(160,603)	(160,603)	(170,889)
					Baseline Other Revenues in Rates	(3,037,737)		
					\$ Change due to load variance from UE 323 CY 2018 forecast	(132,170)		
					Other Revenues in Rates using 2019 load forecast	(3,169,908)		
					Decrease (Increase) in Other Revenues Including Load Change	(28,433)	(28,433)	(38,719)

Line no	Factors CY 2018		Factors CY 2019	
	%	Factor	%	Factor
1	25.741%	SG	26.725%	SG
2	25.741%	SG	26.725%	SG
3	25.741%	SG	26.725%	SG
4	25.741%	SG	26.725%	SG
5	25.741%	SG	26.725%	SG
6	25.741%	SG	26.725%	SG