

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**SECOND REPLY TESTIMONY OF JOHN LOWE**

**January 19, 2022**

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 **A.** My name is John Lowe. I am the Executive Director of the Renewable Energy Coalition  
4 (the “Coalition”). My business address is P.O. Box 25576, Portland, Oregon 97298.

5 **Q. On whose behalf are you appearing in this proceeding?**

6 **A.** I am testifying on behalf of the Coalition, Northwest & Intermountain Power Producers  
7 Coalition (“NIPPC”), and the Community Renewable Energy Association (“CREA”)  
8 (collectively, the “Interconnection Customer Coalition”).

9 **Q. Are you the same John Lowe that previously filed testimony in this proceeding on**  
10 **behalf of the Interconnection Customer Coalition?**

11 **A.** Yes, I am.

12 **Q. To what testimony are you responding?**

13 **A.** My testimony addresses both: 1) the Reply Testimony of PacifiCorp, Portland General  
14 Electric Company (“PGE”), and Idaho Power Company (“Idaho Power” and,  
15 collectively, the “Joint Utilities”); and 2) the Reply Testimony submitted by Caroline  
16 Moore on behalf of the Public Utility Commission of Oregon (the “Commission”) Staff.

17 **Q. Are you responding to everything in the Joint Utilities’ Reply Testimony or in**  
18 **Staff’s Reply Testimony?**

19 **A.** No, my testimony is primarily focused on clarifying some misunderstandings in regard to  
20 the Interconnection Customer Coalition’s position. There are also a few items on which I  
21 note how my understanding differs from the Joint Utilities’ or from Staff’s. However,  
22 my prior testimony discusses my views in greater length, and I am not repeating  
23 everything here. The Interconnection Customer Coalition intends to respond further to  
24 certain items in legal briefing.

1 **Q. What is your understanding of the issues in this proceeding?**

2 **A.** The administrative law judge adopted the following issues:

- 3 1. Who should be required to pay for Network Upgrades necessary to  
4 interconnect the QF to the host utility?  
5 2. Should on-system QFs be required to interconnect to the host utility with  
6 Network Resource Interconnection (NRIS) or should QFs have the option  
7 to interconnect with Energy Resource Interconnection Service (ERIS) or  
8 an interconnection service similar to ERIS?<sup>1</sup>

9 In addition, if there is a second phase, that phase will address the following issue:

- 10 3. If the answer to Issue No. 1 is that users and beneficiaries of Network  
11 Upgrades (which typically are primarily utility customers) should pay for  
12 the Network Upgrades necessary to interconnect the QF to the host utility,  
13 how should that policy be implemented? For example, should utility  
14 customers, and other beneficiaries and/or users, fund the cost of the  
15 Network Upgrades upfront, or should the QF provide the funding for the  
16 Network Upgrade subject to reimbursement from utility customers?  
17 Should the QF, utility customers, and other beneficiaries and users, if any,  
18 share the costs of Network Upgrades?<sup>2</sup>

19 However, it is also my understanding that the issues list for Phase II may change.<sup>3</sup>

20 **II. ISSUE 1: COST ALLOCATION FOR NETWORK UPGRADES**

21 **Q. Please describe the progress made to date in reaching consensus among the parties**  
22 **with regard to the first issue.**

23 **A.** In general, all appear to agree that it is unclear how to implement the Commission's  
24 current "quantifiable system-wide benefits" test for allocating the costs of Network

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1 ALJ Ruling at 2, 4 (May 22, 2020).

2 *Id.*

3 The Joint Utilities, at least, have asserted that Issue No. 3 should be revised. Joint Utilities/300, Wilding-Macfarlane-Williams/21. My testimony does not address any proposed or potential changes to the issues list, which the Interconnection Customer Coalition reserves its right to address at a conference or in a different filing.

1 Upgrades.<sup>4</sup> If there is a Phase II, then all of the parties appear to agree that an  
2 appropriate issue for Phase II could be to explore ways to clarify and improve the  
3 Commission’s test for the benefit of the Joint Utilities, interconnection customers, and  
4 ratepayers.<sup>5</sup>

5 **Q. Please summarize the Interconnection Customer Coalition’s position on this issue.**

6 **A.** The Interconnection Customer Coalition’s position continues to be that “most Network  
7 Upgrades probably provide some benefit to the system and thereby to all customers.”<sup>6</sup>

8 Therefore, the Interconnection Customer Coalition recommends that

9 the Commission [] retain the principle that beneficiaries pay  
10 for benefits, adopt a presumption that QF Network Upgrades  
11 provide system-wide benefits equivalent to the utility-  
12 identified costs for those Network Upgrades, and allow  
13 utilities to rebut that presumption by demonstrating that a  
14 specific QF Network Upgrade does not provide system-wide  
15 benefits at all or in part.<sup>7</sup>

16 Finally, although there may be some disagreement about the scope of this proceeding, I  
17 note that I still believe this presumption would be appropriate for interconnections at  
18 either the transmission or distribution system level.<sup>8</sup>

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4 Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/10 (“It is unclear to us how any party would quantify a specific financial benefit of a Network Upgrade or allocate financial benefits from most upgrades to specific parties.”); Staff/200, Moore/6, 11; NewSun/200, Andrus/16.

5 Staff/100, Moore/35; Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/23; NewSun/200, Andrus/12.

6 Interconnection Customer Coalition/100, Lowe/20.

7 Interconnection Customer Coalition/100, Lowe/21.

8 Although the Joint Utilities assert that “all agree[d]” that the scope of this proceeding is limited to Network Upgrades as defined in the Commission’s Order No. 10-132, in fact the Interconnection Customer Coalition did *not* agree to that definition. See Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/2 (Interconnection Customer

1 **Q. After reading the parties' reply testimony, has this position changed?**

2 **A.** No.

3 **Q. Staff and the Joint Utilities recommend deferring resolution of avoided Network**  
4 **upgrade costs to Docket No. UM 2000.<sup>9</sup> Do you support this recommendation?**

5 **A.** No. The Interconnection Customer Coalition have been raising interconnection-related  
6 issues since 2019 in Docket Nos. UM 2000 and UM 2001. It has been three years with  
7 no resolution. Interconnection is such a vital step in developing projects. Without a fair,  
8 transparent, and functional process, interconnection customers are disadvantaged, and it  
9 creates a major impediment to developing projects. Improvements to the interconnection  
10 process will increase the certainty and predictability of project development in Oregon  
11 and ensure interconnection customers are compensated at accurate avoided costs.

12 **Q. Did the Joint Utilities and Staff correctly characterize the Interconnection Customer**  
13 **Coalition's position on this issue?**

14 **A.** Staff generally characterizes the Interconnection Customer Coalition's position  
15 correctly.<sup>10</sup>

16 The Joint Utilities generally do not. They appear to think the Interconnection  
17 Customer Coalition is promoting a much more aggressive approach than it actually is.

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Coalition Response to PGE DR 1) (stating the proper definition for purposes of scoping is found in Order No. 19-254 and the appended Staff white paper). As I explained previously, the scope of this proceeding is unclear to me, thus I mention this only to reiterate that "[m]y recommendation is not limited to only transmission network upgrades, if that issue [(i.e., distribution-level Network Upgrades)] is within the scope of the proceeding." Interconnection Customer Coalition/100, Lowe/10-11. The Interconnection Customer Coalition reserves its right to address this in legal briefing.

<sup>9</sup> Staff/200, Moore/6; Joint Utilities/300, Wilding-Macfarlane-Williams/6.

<sup>10</sup> Staff/200, Moore/4, 8 (accurately characterizing the Interconnection Customer Coalition's position on this issue); *but see* Staff/200, Moore/7 (omitting some nuances).

1 First, the Joint Utilities describe my testimony on the benefits associated with Network  
2 Upgrades by stating “[Interconnection Customer Coalition] witness John Lowe argues  
3 that the Commission should assume that all system users benefit from system upgrades,  
4 and that all Network Upgrade should be paid by all users of the system.”<sup>11</sup> This is not an  
5 accurate characterization of my earlier testimony.

6 My original testimony stated

7 the Commission should assume that all system users benefit  
8 from system upgrades, and that all Network interconnection  
9 costs should be paid by all users of the system. I agree that,  
10 in rare instances, there may be circumstances in which a  
11 Network interconnection upgrade does not provide any  
12 benefits to other transmission users, and there should be an  
13 opportunity for a utility to rebut this assumption.<sup>12</sup>

14 The Joint Utilities fail to recognize that I stated there could be instances when a  
15 Network Upgrade does not provide any system-wide benefits. The Joint Utilities ignore  
16 this rebuttable presumption. Further, the Joint Utilities have not provided evidence that  
17 Network Upgrades do not generally benefit all users of the system.

18 I do not appreciate the Joint Utilities mischaracterizing and distorting my  
19 testimony, and I hope that their lawyers accurately explain what my position is and what  
20 my testimony states when they refer to it in their legal briefs.

21 Second, the Joint Utilities incorrectly assert that the Interconnection Customer  
22 Coalition is arguing that the benefits provided necessarily *always* equal the Network

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<sup>11</sup> Joint Utilities/300, Wilding-Macfarlane-Williams/6.

<sup>12</sup> Interconnection Customer Coalition/100, Lowe/7; *see also* Interconnection Customer Coalition/100, Lowe/21.

1 Upgrades costs.<sup>13</sup> Our position is that the Commission should adopt a *presumption* that  
2 the benefits equal the costs, but the utility could rebut this presumption by demonstrating  
3 a Network Upgrade does not provide system-wide benefits at all or in part.<sup>14</sup> In reality, I  
4 suppose the benefits could be less than the costs, equal to the costs, or even greater than  
5 the costs. I understand that the Commission measures costs and benefits in many  
6 regulatory contexts like rate cases and integrated resource plans, and I am confident that  
7 the Commission is capable of doing so in the interconnection context as well.

8           Once again, I do not appreciate the Joint Utilities mischaracterizing my testimony  
9 and the position of the Interconnection Customer Coalition. There is a difference  
10 between believing benefits always equal costs and proposing a rebuttable presumption  
11 that benefits equal costs.

12           Third, the Joint Utilities mischaracterize my testimony when discussing a specific  
13 factual situation regarding what to do when the costs of Network Upgrades significantly  
14 exceed the value or benefit from the Network Upgrades.<sup>15</sup> My position is that

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13 Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/11-12 (“Mr. Lowe seems to  
believe the benefit of any given Network Upgrade is equal to its cost and that the only  
question is how to allocate the costs to those who receive the benefits. ... In our view,  
Mr. Lowe’s analysis of this issue has a number of flaws. One critical flaw is Mr. Lowe’s  
assumption that the total value of the Network Upgrade is equal to the total cost of the  
Network Upgrade, no matter what that cost is.”) Confusingly, the Joint Utilities do not  
make the same mistake on the next page of their testimony. Joint Utilities/400, Vail-  
Bremer-Foster-Larson-Ellsworth/12 (correctly describing the proposed presumption).  
14 Interconnection Customer Coalition/100, Lowe/21 (recommending that the Commission  
“adopt a *presumption* that QF Network Upgrades provide system-wide benefits  
equivalent to the utility-identified costs for those Network Upgrades”) (emphasis added).  
15 Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/11-12 (stating “Mr. Lowe does  
not differentiate between the overall value or the costs of these resources to retail  
customers. ... There is no basis for assuming that the cost of any Network Upgrade is  
equal to its value, let alone that that value accrues to retail customers.”).

1 beneficiaries should pay for benefits from Network Upgrades, the Commission should  
2 adopt a presumption that Network Upgrades provide system-wide benefits equivalent to  
3 the cost, but the Joint Utilities would be allowed to rebut that presumption and  
4 demonstrate that the Network Upgrade(s) at issue do not provide system-wide benefits at  
5 all or in part equivalent to the costs.<sup>16</sup> Once again the Joint Utilities misstate or  
6 misunderstand my testimony regarding the rebuttable presumption with regards to costs  
7 and benefits.

8 I further explain this misunderstanding by addressing the Joint Utilities' example:  
9 if there are \$20 million costs in Network Upgrades and a utility is able to adequately  
10 demonstrate that there is only \$2 million in system-wide benefits from those Network  
11 Upgrades, then result under the rebuttable presumption proposed by the Interconnection  
12 Customer Coalition is that the qualifying facility ("QF") would only be refunded \$2  
13 million to account for the benefits to the system. This result is contrary to the Joint  
14 Utilities' assertion that I assume the costs of Network Upgrades will always equal the  
15 value or benefits of Network Upgrades no matter the cost (which I do not do).<sup>17</sup>

16 **Q. Is your recommended approach the only way to fairly allocate the costs of Network**  
17 **Upgrades?**

18 **A.** No, there may be more administratively simple approaches that establish a specific  
19 method to allocate costs. I also support in principle this approach. Staff has made such a  
20 recommendation.

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<sup>16</sup> See Interconnection Customer Coalition/100, Lowe/21.  
<sup>17</sup> Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/11.



1 **Q. Staff’s proposal is for a two-step cost sharing formula for cost allocation of Network**  
2 **Upgrades.<sup>18</sup> What are your thoughts on this proposal?**

3 **A.** This is an issue the Interconnection Customer Coalition views as appropriate for further  
4 discussion in Phase II of this proceeding when item 3 is addressed. However, as I  
5 understand, Staff proposes to first establish an “avoided Network Upgrade cost” for each  
6 utility, with ratepayers responsible for covering Network Upgrade costs up to this  
7 amount.<sup>19</sup> Then, Staff proposes that any remaining Network Upgrade costs be allocated  
8 75 percent to the QF and 25 percent to the Transmission Provider.<sup>20</sup> Adopting this clear  
9 cost-sharing approach could be an acceptable alternative to benefit-based cost allocation  
10 of Network Upgrade costs, and the Commission should balance the values of  
11 transparency and efficiency against the need for accuracy down to the last dollar and  
12 cent. Also, a cost-sharing approach like this is perhaps a middle ground between the  
13 Commission’s current policy (as implemented by the Joint Utilities) and the  
14 Interconnection Customer Coalition’s proposed approach.

15 However, I would recommend that, if the Commission adopts Staff’s two-step  
16 approach, then, at minimum, the Transmission Provider should pay 75 percent, not 25  
17 percent, of Network Upgrade costs above the avoided Network Upgrade costs and QFs  
18 pay the remaining 25 percent, not the remaining 75 percent. Also, the Commission  
19 should retain the protection that if a utility was planning on making the Network  
20 Upgrades regardless of the QF’s interconnection or if the equipment being replaced is so

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18 Staff/200, Moore/11.

19 Staff/200, Moore/11.

20 Staff/200, Moore/11.

1 old that it would need to be replaced in the near term in any event, then the QF should not  
2 be responsible for the associated costs. It is my understanding that even the Joint Utilities  
3 share this view.

4 **Q. Staff claims that “many western states, including Washington and Utah, require**  
5 **QFs to bear Network Upgrade costs.”<sup>21</sup> Is this consistent with your understanding?**

6 **A.** No, that is not consistent with my understanding. I am not aware of how most states  
7 address this issue. From my understanding Washington has not resolved the issue of who  
8 is responsible for the costs of Network Upgrades.<sup>22</sup> However, as it is ultimately a legal  
9 question, the Interconnection Customer Coalition will address this in legal briefing. I  
10 will not be responding to those legal arguments.

11 **Q. In the Joint Utilities testimony, their witnesses assert that they agree that QFs**  
12 **should be afforded a refund, or not be assigned the cost of, any transmission**  
13 **upgrade called for in a “either a utility’s transmission plan or a necessary upgrade**  
14 **in a previous service request.”<sup>23</sup> Did the Joint Utilities provide any information in**  
15 **discovery clarifying this position?**

16 **A.** Yes. The utilities each appear to assert that they already exclude from the charges to QFs  
17 the costs of upgrades that are included in certain transmission plans.<sup>24</sup> CREA Data

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<sup>21</sup> Staff/200, Moore/12.

<sup>22</sup> *In re Puget Sound Energy’s Proposed New Schedule 153 Tariff*, Washington Utilities and Transportation Commission (“WUTC”) Docket No. UE-210818, Open Meeting Memo for the December 23, 2021 Open Meeting at 1-2 (Dec. 23, 2021) (stating “the only remaining issue is whether the approval of the instant tariff resolves the issue of whether a qualifying facility could be reimbursed for the network upgrade portions of the interconnection expenses. Staff believes this tariff does not settle the issue of reimbursement.”).

<sup>23</sup> Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/21:6-15.

<sup>24</sup> PacifiCorp 1st Supp. Response to CREA Data Request 5 (Exhibit Interconnection Customer Coalition/302, Lowe/9); Idaho Power Response to CREA Data Request 5 (Exhibit Interconnection Customer Coalition/303, Lowe/11); PGE Updated Response to CREA Data Request 5 (Exhibit Interconnection Customer Coalition/304, Lowe/9).

1 Request No. 4 asked the utilities to each provide the referenced “transmission plans” to  
2 which they referred and how QFs would be able to locate this information in planning  
3 their development.<sup>25</sup> The utilities each referred to several transmission plans available on  
4 their OASIS websites and other locations.<sup>26</sup>

5 However, the utilities’ responses revealed a significant flaw in their proposal –  
6 namely, the referenced transmission plans “do not include all additions to transmission  
7 rate base; for example, transmission maintenance activities would not be included in  
8 these planning documents.”<sup>27</sup> Idaho Power and PacifiCorp both concede this point in  
9 response to CREA Data Request No. 4(d).<sup>28</sup> A high level review of the plans cited in the  
10 responses indicates that they are limited to transmission plans for major transmission  
11 projects. In contrast, the utilities have indicated that there are no plans in place for run-  
12 of-mill maintenance activities which make up much of the additions to transmission and  
13 distribution plant each year, and the utilities further indicated that such maintenance plans  
14 are not publicly available to verify or check whether the upgrades paid for by a QF may

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<sup>25</sup> PacifiCorp Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/302, Lowe/6); Idaho Power Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/303, Lowe/9); PGE Updated Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/304, Lowe/7).

<sup>26</sup> PacifiCorp Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/302, Lowe/6-7); Idaho Power Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/303, Lowe/9-10); PGE Updated Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/304, Lowe/7-8).

<sup>27</sup> PacifiCorp Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/302, Lowe/8); Idaho Power Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/303, Lowe/10).

<sup>28</sup> PacifiCorp Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/302, Lowe/8); Idaho Power Response to CREA Data Request 4 (Exhibit Interconnection Customer Coalition/303, Lowe/10).

1 have been included in such a plan.<sup>29</sup> Thus, for a hypothetical example, if a QF's  
2 interconnection triggered the replacement of aged equipment, such as a set of 50-year old  
3 transmission structures, that were past their useful life and needing to be replaced in the  
4 near term, say within a year, the utilities' suggestion that the Commission could rely  
5 solely on transmission plans and prior interconnection studies would result in no refund  
6 being provided to the QF, even though such a refund would clearly be justified.

7 **Q. Did the Joint Utilities provide any further information that is helpful on these**  
8 **points?**

9 **A.** Yes. To further illustrate, CREA also asked the utilities to quantify the amount that they  
10 have spent on transmission additions which were not included in the transmission plans  
11 they propose to use as the basis to authorize refunds to QFs. Idaho Power reported that it  
12 incurred the following expenditures for additions made that were not included in its  
13 public transmission plans:<sup>30</sup>

<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
\$47,607,420	\$47,189,490	\$38,132,227	\$33,536,168	\$44,359,908

14 PGE provided the following data for expenditures on transmission plant not included in a  
15 public transmission plan:<sup>31</sup>

<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
\$57,102,908	\$14,058,721	\$11,908,911	\$3,382,323	\$20,111,675

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<sup>29</sup> PacifiCorp Response to CREA Data Request 6(b)-(d) (Exhibit Interconnection Customer Coalition/302, Lowe/12); Idaho Power Response to CREA Data Request 6(b)-(d) (Exhibit Interconnection Customer Coalition/303, Lowe/13); PGE Response to CREA Data Request 6(b)-(d) (Exhibit Interconnection Customer Coalition/304, Lowe/11).

<sup>30</sup> Idaho Power Response to CREA Data Request 6(a) (Exhibit Interconnection Customer Coalition/303, Lowe/12-13).

<sup>31</sup> PGE Response to CREA Data Request 6(a) (Exhibit Interconnection Customer Coalition/304, Lowe/11).

1 PacifiCorp provided the following data for expenditures on transmission plant not  
2 included in a public transmission plan:<sup>32</sup>

2016	2017	2018	2019	2020
\$131,208,419	\$168,117,516	\$126,544,695	\$125,325,677	\$506,244,740

3 This data demonstrates that the transmission plans do not adequately capture all additions  
4 to transmission plant that QFs may allow the utilities to avoid incurring.

5 Thus, even if the Commission were to accept the utilities proposal that only  
6 additions that were previously planned, or would occur even without the QF  
7 interconnection, should be subject to refund, the utilities proposal to rely solely on their  
8 publicly available transmission plans is inadequate. The Commission's policy should  
9 certainly provide a refund if the QF replaces equipment that would have been replaced in  
10 the near term even without the interconnection, including the substantial avoided  
11 expenditures on regular maintenance and replacement of any equipment that would be  
12 replaced soon even without the QF interconnection.

13 **III. ISSUE 2: QFS SHOULD HAVE OPTION TO BE STUDIED USING ENERGY**  
14 **RESOURCE INTERCONNECTION SERVICE ("ERIS") OR OTHER**  
15 **ALTERNATIVES INSTEAD OF NETWORK RESOURCE INTERCONNECTION**  
16 **SERVICE ("NRIS")**

17 **Q. Please summarize the Interconnection Customer Coalition's position on this issue.**

18 **A.** The Interconnection Customer Coalition's position continues to be that "allowing QFs to  
19 be studied under ERIS could enable them to have better visibility into viable cost-saving  
20 alternatives to Network Upgrades."<sup>33</sup> "Ultimately, I recommend that the Commission

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<sup>32</sup> PacifiCorp Supp. Response to CREA Data Request 6(a) (Exhibit Interconnection  
Customer Coalition/302, Lowe/13).

<sup>33</sup> Interconnection Customer Coalition/100, Lowe/24:8-12.

1 create space for innovation and investment to occur, and that means allowing QFs to use  
2 non-NRIS options.”<sup>34</sup>

3 **Q. After reading the parties’ reply testimony, has this position changed?**

4 **A.** No.

5 **Q. What is your understanding of the other parties’ positions?**

6 **A.** I understand that NewSun agrees with allowing QFs to select ERIS or a similar service.<sup>35</sup>  
7 My understanding is that Staff agrees that ERIS could be a useful offering, but Staff  
8 would like to condition its availability upon a QF agreeing to certain terms – specifically  
9 only “if the QF selecting ERIS also enters into a non-standard contract, forgoes network  
10 resource status, and accepts curtailment provisions in exchange for fewer deliverability-  
11 driven upgrades.”<sup>36</sup> By contrast, the Joint Utilities appear to believe that ERIS is never  
12 appropriate and the alternatives presented by the Interconnection Customer Coalition are  
13 either inadequate or unlawful.<sup>37</sup>

14 **Q. What is your view of Staff’s proposed conditions?**

15 **A.** I agree that those are potential minimum circumstances in which a QF could select ERIS.  
16 Staff’s proposal would be a significant improvement, although requiring specific terms  
17 would not enable as much innovation and creative problem-solving as I would prefer.  
18 For that reason, I would recommend that the Commission adopt a presumption that QFs

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<sup>34</sup> Interconnection Customer Coalition/200, Lowe/6:18-20.

<sup>35</sup> NewSun/100, Rahman/18.

<sup>36</sup> Staff/200, Moore/13:13-15 (emphasis omitted).

<sup>37</sup> Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/25, 28-29, 31; *see also* PGE Response to NIPPC Data Request No. 032 (Interconnection Customer Coalition/306, Lowe/1-2) (further explaining PGE’s view and historical practice).

1 can select ERIS and allow QFs to negotiate non-standard contracts that allow for ERIS.  
2 If the negotiated terms are reasonable, then the terms should be allowed to deviate from  
3 those adopted in this proceeding.

4 Second, I recommend that the Commission require the utilities to issue new  
5 standard contract forms that allow ERIS and adopt Staff's proposed terms. Having  
6 standard contract forms are essential, particularly for small QFs. If specific contract  
7 terms are deemed acceptable in this proceeding for a QF to obtain ERIS, there should be  
8 no reason to require QFs, especially small QFs, to negotiate them later on.

9 **Q. The Joint Utilities claim there is no straightforward regulatory alternative to**  
10 **NRIS.<sup>38</sup> Do you agree?**

11 **A.** No. I am aware of two alternatives to the NRIS proposals of the utilities in this case: a  
12 voluntary interconnection tariff from Puget Sound Energy ("PSE") in Washington, and  
13 PacifiCorp's past use of third-party point-to-point ("PTP") transmission service to move  
14 power out of "load pockets."

15 **Q. Please explain your understanding on PSE's voluntary interconnection tariff.**

16 **A.** I am aware of PSE's voluntary interconnection tariff, Schedule 153, that was allowed to  
17 go into effect as an operation of law by the Washington Utilities and Transportation  
18 Commission ("WUTC"), but I am not familiar with all the specific details of the tariff.<sup>39</sup>  
19 From my understanding, this tariff creates an optional transmission interconnection  
20 service for QFs. The tariff allows a QF to choose limited curtailments as an alternative to

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<sup>38</sup> Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/25.

<sup>39</sup> See PSE's Schedule 153 QF Transmission Interconnection Service Tariff and additional explanatory materials, and WUTC Staff Memorandum for Dec. 23, 2021 Open Meeting (Exhibit Interconnection Customer Coalition/301, Lowe/1-17).

1 paying full Network Upgrades if PSE has adequate available transmission capacity.

2 Basically, it seems to me that a QF is allowed to choose a lower quality of  
3 interconnection service besides NRIS to avoid expensive Network Upgrades by agreeing  
4 to limited curtailments, as I proposed in my earlier testimony.<sup>40</sup>

5 PSE's interconnection tariff appears to be a workable alternative to the full NRIS  
6 that the Joint Utilities are proposing that could resolve many interconnection-related  
7 disputes. It provides a constructive and creative solution to extremely high  
8 interconnection costs faced by QFs. PSE's interconnection tariff demonstrates there are  
9 workable alternatives to NRIS contrary to the Joint Utilities' assertion. Further, I  
10 understand that the Joint Utilities view allowing voluntary curtailments as unlawful (and I  
11 am not addressing those legal arguments), but clearly at least one utility (PSE) views this  
12 approach as a lawful alternative to NRIS without any curtailments.

13 The Interconnection Customer Coalition believes the Joint Utilities should  
14 develop optional interconnection tariffs similar to PSE's Schedule 153 because it could  
15 help resolve interconnection disputes and reduce the Network Upgrade costs QFs are  
16 required to pay.

17 **Q. Please explain your understanding of PacifiCorp's use of PTP transmission service.**

18 **A.** I want to state that I am not expert on PTP transmission service, and the Interconnection  
19 Customer Coalition will address this issue in legal briefing. From my experience,  
20 PacifiCorp was able to designate QFs as network resources, but PacifiCorp has used  
21 third-party PTP transmission service when a QF interconnected at a so-called "load

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<sup>40</sup> Interconnection Customer Coalition/100, Lowe/25-26.



1 pocket,” which is an area where there is more generation than load. In this circumstance,  
2 PacifiCorp would, historically, use PTP transmission service to transport the power from  
3 the QF to PacifiCorp’s load.

4 From my understanding, PacifiCorp no longer allows QFs to use third-party PTP  
5 transmission service because it has changed its interconnection study process. However,  
6 that does not mean it is not still a viable option. If a utility has allowed a QF to use  
7 network interconnection service in the past but still use PTP transmission service, then I  
8 do not see why a utility could not offer it again. The Interconnection Customer Coalition  
9 believes using third-party PTP transmission service is a viable alternative and should be  
10 an option for QFs.

11 **Q. PacifiCorp claims PTP transmission service is not a practical solution because it**  
12 **would shift costs from the QF’s interconnection process to the utility transmission**  
13 **service request study process.<sup>41</sup> Do you agree?**

14 **A.** No. I am not aware of there being any costs shift when PacifiCorp used PTP  
15 transmission service to get power out of a load pocket. Thus, it is possible to use PTP  
16 transmission service to get power out of a load pocket at lower costs or without incurring  
17 additional costs contrary to the Joint Utilities’ assertion. If PacifiCorp has contrary  
18 information, I will review it.

19  
20  
21  
22  

---

<sup>41</sup> Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/31.

1 **IV. OTHER ISSUES**

2 **Q. The Joint Utilities claim if there is a barrier to interconnection that it is the actual**  
3 **cost of interconnection at a specific location.<sup>42</sup> Do you agree with this claim?**

4 **A.** No. There are several barriers to interconnection as discussed in previous testimony such  
5 as “timing and process for progress payments, unnecessary, unilateral, and expensive  
6 interconnection requirements, inflated and unreliable estimates, excessive utility  
7 management charges, lack of specific cost details, inability to provide full and proper  
8 accounting of costs, and unreasonable refusals to allow customers to hire third parties to  
9 build interconnection facilities and network upgrades or to perform interconnection  
10 studies.”<sup>43</sup>

11 However, costs are also a barrier to interconnection. As discussed in my previous  
12 testimony,<sup>44</sup> costs related to interconnection are mainly driven by a lack of information  
13 from the utilities, not due to a QF’s ill-informed decisions. Transparency regarding the  
14 utility’s system would allow a QF to make informed siting decisions. As previously  
15 stated, the critical decisions QFs face regarding interconnection are ‘where is a good  
16 place to site in an area?’ and ‘do I withdraw from the process now that I see these  
17 exorbitant cost estimate for interconnection?’ not ‘do I site in that area?’ like the Joint  
18 Utilities claim. I agree costs to interconnect can be very expensive, but the Joint Utilities  
19 are refusing to consider options that will lower these interconnection costs such as a tariff  
20 similar to the PSE interconnection mentioned above, ERIS, or use of PTP transmission

---

42 Joint Utilities/300, Wilding-Macfarlane-Williams/39.

43 Interconnection Customer Coalition/100, Lowe/4-5.

44 See Interconnection Customer Coalition/100, Lowe/21-22.

1 service as mentioned above. If the Joint Utilities were actually interested in purchasing  
2 the power from a QF, then they would be more willing to come up with solutions to  
3 lower the costs of interconnection rather than coming up with solutions to increase the  
4 costs.

5 **Q. Have the Joint Utilities provided any additional information in discovery to the QF**  
6 **Parties that is helpful in understanding their position?**

7 **A.** Yes, the Joint Utilities provided responses and data speaking to the extent of transmission  
8 plant that is added every year even without QFs, as part of the normal course of operating  
9 a utility system. In response to CREA Data Request Nos. 1, 2, 3, the utilities provided  
10 data from, or information related to, their annual FERC Form 1, which helps illustrate the  
11 magnitude of the financial expenditures that are generally made on transmission and  
12 distribution plant, even without considering QF interconnections.<sup>45</sup>

13 This data helps to put some of the assertions regarding the potential cost of QF  
14 network upgrades in perspective. For example, Idaho Power spent approximately \$26  
15 million to \$66 million in additions to transmission plant, not including QFs, in each of the  
16 individual years 2011 through 2020.<sup>46</sup> Similarly, it spent \$28 million to \$110 million  
17 annually, not including QF additions, on distribution plant additions in each of those  
18 years.<sup>47</sup> PGE and PacifiCorp declined to provide the data and referred CREA to their

---

<sup>45</sup> PacifiCorp Responses to CREA Data Requests 1-3 (Exhibit Interconnection Customer Coalition/302, Lowe/1-5); Idaho Power Responses to CREA Data Requests 1-3 (Exhibit Interconnection Customer Coalition/303, Lowe/1-8); PGE Updated Responses to CREA Data Requests 1-3 (Exhibit Interconnection Customer Coalition/304, Lowe/1-6).

<sup>46</sup> Idaho Power Response to CREA Data Request 1 (Exhibit Interconnection Customer Coalition/303, Lowe/3-6).

<sup>47</sup> Idaho Power Response to CREA Data Request 1 (Exhibit Interconnection Customer Coalition/303, Lowe/3-6).

1 FERC Form No. 1s available through their websites.<sup>48</sup> I attached exhibits of the relevant  
2 excerpts of the FERC Form 1s of PGE and PacifiCorp, which was retrieved at my  
3 direction.<sup>49</sup> Those data demonstrate that PacifiCorp spent approximately \$139 million to  
4 \$1.175 billion in additions to transmission plant and approximately \$197 million to \$398  
5 million in additions to distribution plant in each of the individual years 2011 through  
6 2020. Similarly, PGE spent approximately \$6 million to \$132 million in additions to  
7 transmission plant and approximately \$118 million to \$322 million in additions to  
8 distribution plant in each of the individual years 2011 through 2020. Both PacifiCorp  
9 and PGE also confirmed those amounts do not include amounts paid by QFs for  
10 upgrades.<sup>50</sup>

## 11 V. CONCLUSION

12 **Q. Does this conclude your testimony?**

13 **A.** Yes.

---

<sup>48</sup> PacifiCorp Response to CREA Data Request 1 (Exhibit Interconnection Customer Coalition/302, Lowe/1-2); PGE Updated Response to CREA Data Request 1 (Exhibit Interconnection Customer Coalition/304, Lowe/3).

<sup>49</sup> *See generally* Excerpts of PacifiCorp and PGE FERC Form 1s from Utility Websites, and Excel Spreadsheet Consolidating FERC Form 1 Data for All Three Utilities (Exhibit Interconnection Customer Coalition/305, Lowe/1-27).

<sup>50</sup> PacifiCorp Supp. Response to CREA Data Request 3 (Exhibit Interconnection Customer Coalition/302, Lowe/5); PGE Updated Response to CREA Data Request 3 (Exhibit Interconnection Customer Coalition/304, Lowe/6).

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**EXHIBIT INTERCONNECTION CUSTOMER COALITION/301**

**PUGET SOUND ENERGY'S SCHEDULE 153 QF TRANSMISSION  
INTERCONNECTION SERVICE TARIFF AND ADDITIONAL EXPLANATORY  
MATERIALS, AND WASHINGTON UTILITY & TRANSPORTATION  
COMMISSION'S STAFF MEMORANDUM FOR DEC. 23, 2021 OPEN MEETING**

**January 19, 2022**









**PUGET SOUND ENERGY  
Electric Tariff G**

**SCHEDULE 153**

**QUALIFYING FACILITY TRANSMISSION INTERCONNECTION SERVICE (Continued)**  
**(Part of Schedule 80, General Rules And Provisions)**

(N)

8. **DEPOSITS:** Any deposit paid will be refunded if the entire amount is not spent on the related study. If actual costs are greater than the amount of the deposit paid, the Interconnection Customer will be charged for the actual additional amount due.

	Small Qualifying Facility	Large Qualifying Facility
Application Deposit	\$1,000	\$10,000
Site Control Deposit with Application (if demonstration of Site Control not provided)	\$1,000	\$10,000
Interconnection Feasibility Study Deposit	Lesser of \$1,000 or 50% of estimated costs	\$10,000
Interconnection System Impact Study Deposit	\$1,000	\$50,000
Interconnection Facilities Study Deposit	\$1,000	Greater of \$100,000 or estimated monthly study costs
Optional Interconnection Facilities Study Deposit	\$10,000	\$10,000
Deposit in lieu of Site Control Demonstration at Time of Execution of QFTIA	\$250,000	\$250,000

9. **TERMS AND CONDITIONS:** The terms, conditions, and technical requirements in this Schedule and the attachments within are intended to mitigate possible adverse impacts caused by the Qualifying Facility on Company's systems, equipment, facilities and personnel and on other Customers. They are not intended to address the protection of the Interconnection Customer's Qualifying Facility itself, Qualifying Facility personnel, or its internal load. It is the responsibility of the owner of the Qualifying Facility to comply with the requirements of all appropriate standards, codes, statutes, and authorities to protect its own facilities, personnel, and loads.

(N)

(Continued on Sheet No. 153-D)

**Issued:** October 29, 2021  
**Advice No.:** 2021-39

**Effective:** January 1, 2022

By: 

**Issued By Puget Sound Energy**

Jon Piliaris

**Title:** Director, Regulatory Affairs

**PUGET SOUND ENERGY**  
**Electric Tariff G**

**SCHEDULE 153**

(N)

**QUALIFYING FACILITY TRANSMISSION INTERCONNECTION SERVICE (Continued)**  
**(Part of Schedule 80, General Rules And Provisions)**

9. **TERMS AND CONDITIONS:** (Continued)

- A. The terms, conditions, and technical requirements provided in this Schedule 153 apply to the Interconnection Customer and Qualifying Facility throughout the Qualifying Facility's installation, testing, commissioning, operation, maintenance, decommissioning, and removal. Company may verify compliance at any time, with reasonable notice.
- B. Codes and Standards: All Interconnections must conform to the procedures, codes, and standards included in Attachment "B" of this Schedule.
- C. In order to ensure Company's system safety and the reliability of Interconnected operations, all Interconnection Facilities shall be constructed, operated, and maintained by the Interconnection Customer in accordance with these rules, with Attachments "B" and "C" of this Schedule, with the applicable manufacturers' recommended maintenance schedules and operating requirements, with Good Utility Practice, and with all other applicable federal, state, and local laws and regulations.
- D. An Interconnection Customer shall promptly furnish Company with copies of such plans, specifications, records, and other information relating to the Qualifying Facility or the ownership, operation, use, or maintenance of the Qualifying Facility, as may be reasonably requested by Company from time to time.
- E. Metering.
  - i. Production metering. Company will require separate metering for production. This meter will record all electricity produced and may be billed separately from any Interconnection Customer usage metering. All costs associated with the installation of production metering will be paid by the Interconnection Customer.
  - ii. Point of Metering. Company shall determine the appropriate type of metering.
  - iii. Company will install all metering equipment at the Interconnection Customer's expense. Primary voltage metering shall be owned and maintained by Company. All costs associated with meter installation, metering for purposes of selling electricity to Company, and meter communications shall be paid by the Interconnection Customer.

(N)

(Continued on Sheet No. 153-E)

**Issued:** October 29, 2021  
**Advice No.:** 2021-39

**Effective:** January 1, 2022

By: 

**Issued By Puget Sound Energy**

Jon Piliaris

**Title:** Director, Regulatory Affairs



**PUGET SOUND ENERGY**  
**Electric Tariff G**

**SCHEDULE 153**

(N)

**QUALIFYING FACILITY TRANSMISSION INTERCONNECTION SERVICE (Continued)**  
**(Part of Schedule 80, General Rules And Provisions)**

9. **TERMS AND CONDITIONS:** (Continued)

M. Taxes. The Interconnection Customer will be subject to any such taxes as outlined in Attachment "C" Qualifying Facility Transmission Interconnection Agreement.

N. Governmental Authority. The manner and type of construction of Interconnection with the Company's Electric System shall be subject to applicable governmental authority or law, and any increase in costs resulting therefrom and not reimbursed by an agency of the government or other person or entity shall be paid by the Interconnection Customer.

10. **DISCONNECTION, OUTAGE, INTERRUPTION, AND CURTAILMENT:** In the instance that any System Emergency or Reliability Condition are met, the Company will have the ability to interrupt or curtail the Interconnection Customer per conditions described in this Schedule Attachment "C" until such time that it is able to safely and reliably restore Interconnection Service to the Interconnection Customer and other electric service Customers.

11. **APPLICATION QUEUE POSITION ASSIGNMENT AND POSTING:** Company will assign a Queue Position based upon the date and time of receipt of a valid Interconnection Request in the order relative to all other pending valid transmission Interconnection requests under this Schedule or Company's Open Access Transmission Tariff ("OATT"). Company will maintain on its Open Access Same-time Information System website the list of all transmission interconnection requests, i.e., all transmission interconnection requests received by Company under both this Schedule and under the Company's OATT shall be assigned Queue Positions in the same queue.

12. **SCHEDULE 87:** Interconnection Customer payment towards the installation or modification of Interconnection facilities, Distribution Upgrades, and Network Upgrades under the provisions of the schedule shall be subject to the provisions of Schedule 87, Income Tax Rider, unless specifically excluded from income in accordance with Section 118 of the Internal Revenue Code and any applicable state income tax laws (see Attachment C, Section 5.17, Taxes).

(N)

(Continued on Sheet No. 153-G)

**Issued:** October 29, 2021  
**Advice No.:** 2021-39

**Effective:** January 1, 2022

By: 

**Issued By Puget Sound Energy**

Jon Piliaris

**Title:** Director, Regulatory Affairs

**PUGET SOUND ENERGY  
Electric Tariff G**

**SCHEDULE 153**

(N)

**QUALIFYING FACILITY TRANSMISSION INTERCONNECTION SERVICE (Continued)**  
**(Part of Schedule 80, General Rules And Provisions)**

13. **GENERAL RULES AND PROVISIONS:** Service under this schedule is subject to the General Rules and Provisions (Schedule 80) contained in this tariff. As provided in Section 32 of Schedule 80, this Schedule 153 is incorporated into the Schedule 80 General Rules and Provisions.


14. **LIST OF THE ATTACHMENTS TO SCHEDULE 153:**

- Attachment "A": Definitions
  
- Attachment "B": Qualifying Facility Transmission Interconnection Procedures
  - List of Appendixes to Attachment "B":
    - Appendix 1: Interconnection Request
    - Appendix 2: Interconnection Feasibility Study Agreement
    - Appendix 3: Interconnection System Impact Study Agreement
    - Appendix 4: Interconnection Facilities Study Agreement
    - Appendix 5: Optional Interconnection Study Agreement
  
- Attachment "C": Qualifying Facility Transmission Interconnection Agreement
  - List of Appendixes to Attachment "C":
    - Appendix A: Interconnection Facilities, Network Upgrades and Distribution Upgrades
    - Appendix B: Milestones
    - Appendix C: Interconnection Details
    - Appendix D: Security Arrangements Details
    - Appendix E: Commercial Operation Date
    - Appendix F: Addresses for Delivery of Notices and Billings
    - Appendix G: Interconnection Requirements for a Wind Qualifying Plant

(N)

**Issued:** October 29, 2021  
**Advice No.:** 2021-39

**Effective:** January 1, 2022

By: 

**Issued By Puget Sound Energy**

Jon Piliaris

**Title:** Director, Regulatory Affairs

Puget Sound Energy (PSE) recognizes that the costs of Network Upgrades can be high for Qualifying Facilities (QFs), especially as a QF is responsible for paying the costs of Network Upgrades without any mechanism in place for the QF to be credited over time for those upgrades. To that end, PSE, when designing its new QF tariff, Schedule 153, developed a process that allows for QFs to stay Fully Deliverable without having to pay for costly upgrades in P6 N-1-1 scenarios.

PSE defines Fully Deliverable as the following:

**Fully Deliverable** shall mean the Qualifying Facility meets all interconnection requirements, including the construction of any and all (i) necessary interconnection facilities to meet interconnection standards and (ii) system upgrades, if necessary, to deliver output from the Qualifying Facility to Company's retail customers, and Company has available transmission capacity, including the construction of any and all necessary facilities to guaranty transfer capacity, necessary to deliver the Net Output to any point on Company's Transmission System.

PSE caveats its requirements of being Fully Deliverable in its definition of Qualifying Facility Transmission Interconnection Service:

**Qualifying Facility Transmission Interconnection Service** shall mean an Interconnection Service that allows the Interconnection Customer to be Fully Deliverable except when System Emergency or Reliability Conditions are met. In the instance that either System Emergency or Reliability Conditions are met, Company shall have the ability to curtail the Interconnection Customer until such time that it is able to safely and reliably restore Interconnection Service to the Interconnection Customer.

Said more simply, if certain conditions are met, namely an N-1-1 outage where an interconnection customer under the FERC process would be required to build a third line out in order to have Network Interconnection Service, the QF can opt for curtailment instead of paying the upfront costs of those Network Upgrades and still maintain a level of service on par with Network Interconnection Service (but for this curtailment). Qualifying Facility Transmission Interconnection Service is the name given to this Network Interconnection Service with curtailments.

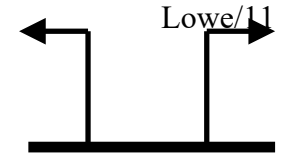
In situations where Network Upgrades are not required to resolve P6 N-1-1 issues, the costs of upgrades a QF may need to pay will be on par with a FERC interconnection customer at the same point of interconnection, however, those Network Upgrade costs are not expected to be high.

PSE has provided corresponding PowerPoint slides that highlight the costs of Interconnection and Transmission for Qualifying Facility Transmission Interconnection Service compared to Energy Resource Interconnection Service and Network Resource Interconnection Service at various points of interconnection.

# Examples

ERIS v. QFTIS v. NRIS

# Example: POI @ sub connected w/ 2 T-lines & part of PSE's aggregate load



## ERIS

### Affected Systems

- Coordinate with Affected Systems to possibly limit output under certain outage scenarios

### Reliability Upgrades

- Protection scheme to trip under outage conditions to mitigate thermal overload violations
- Substation rebuild to 'breaker and a half' or 'double bus double breaker'

## QFTIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios.

### Reliability Upgrades

- RAS to trip under system emergency
- **Rebuild 11 miles of PSE transmission to a higher capacity conductor**
- Substation rebuild to 'breaker and a half' or 'double bus double breaker'

### Transmission Service Upgrades

- None (assumes ATC is available)

## NRIS

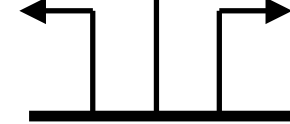
### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios.

### Reliability Upgrades

- **Construct a 12 mile 115 kV transmission line (3<sup>rd</sup> line)**
- **Rebuild 11 miles of PSE transmission to a higher capacity conductor**
- Substation rebuild to 'breaker and a half' or 'double bus double breaker'





# Example: POI @ sub connected w/ 3 T-lines & away from PSE's aggregate load (East of Cascades)

## ERIS

### Affected Systems

- Coordinate with Affected Systems to possibly limit output under certain outage scenarios

### Reliability Upgrades

- RAS to trip under outage conditions to mitigate thermal overload violations

## QFTIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios

### Reliability Upgrades

- RAS to trip under system emergency

### Transmission Service Upgrades

- **Possible options (no ATC is available)?**
  - Upgrade PSE's IP Line from 115 kV to 230 kV or other upgrades
  - Secure transmission service (PTP or Network) through another system (i.e. BPA)
  - Potentially others on case-by-case

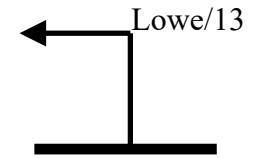
## NRIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios

### Reliability Upgrades

- **Upgrade PSE's IP Line from 115 kV to 230 kV**



# Example: POI @ sub connected w/ 1 T-line & part of PSE's aggregate load

## ERIS

### Affected Systems

- Coordinate with Affected Systems to possibly limit output under certain outage scenarios

### Reliability Upgrades

- Protection scheme to trip under outage conditions to mitigate thermal overload violations

## QFTIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios.

### Reliability Upgrades

- RAS to trip under system emergency
- **Construct a 3 mile 115 kV transmission line (2<sup>rd</sup> line)**
- **Rebuild 33 miles of PSE transmission to a higher capacity conductor**

### Transmission Service Upgrades

- None (assumes ATC is available)

## NRIS

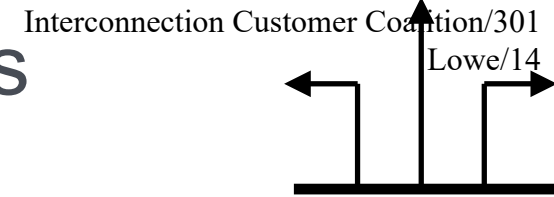
### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios.

### Reliability Upgrades

- **Construct a 12 mile 115 kV transmission line (3<sup>rd</sup> line)**
- **Construct a 3 mile 115 kV transmission line (2<sup>rd</sup> line)**
- **Rebuild 33 miles of PSE transmission to a higher capacity conductor**

# Example: POI @ sub connected w/ 3 T-lines & part of PSE's aggregate load



## ERIS

### Affected Systems

- Coordinate with Affected Systems to possibly limit output under certain outage scenarios

### Reliability Upgrades

- Protection scheme to trip under outage conditions to mitigate thermal overload violations

## QFTIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios

### Reliability Upgrades

- **Rebuild 10 miles of PSE transmission to a higher capacity conductor**

### Transmission Service Upgrades

- None (assumes ATC is available)

## NRIS

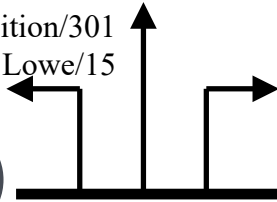
### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios

### Reliability Upgrades

- **Rebuild 10 miles of PSE transmission to a higher capacity conductor**

# Example: POI @ sub connected w/ 3 T-lines & away from PSE's aggregate load (East of Cascades)



## ERIS

### Affected Systems

- Coordinate with Affected Systems to possibly limit output under certain outage scenarios

### Reliability Upgrades

- RAS to trip under outage conditions to mitigate thermal overload violations

## QFTIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios

### Reliability Upgrades

- RAS to trip under system emergency

### Transmission Service Upgrades

- **Upgrade PSE's IP Line from 115 kV to 230 kV (if no ATC is available)**

## NRIS

### Affected Systems

- Coordinate with Affected Systems **to upgrade facilities** or limit output under certain outage scenarios

### Reliability Upgrades

- **Upgrade PSE's IP Line from 115 kV to 230 kV**

Agenda Date: December 23, 2021  
Item Number: A1

**Docket:** UE-210818  
Company Name: Puget Sound Energy

Staff: Deborah Reynolds, Assistant Director, Conservation and Energy Planning

### **Recommendation**

Take no action, thereby allowing the tariff sheets filed by Puget Sound Energy on October 29, 2021, in Docket UE-210818 to become effective on January 1, 2022, by operation of law.

### **Background**

On October 29, 2021, Puget Sound Energy (PSE or Company) filed with the Washington Utilities and Transportation Commission (Commission) revisions to its Tariff WN U-60, adding new Schedule 153, Qualifying Facility Transmission Interconnection Service. The Company requested an effective date of January 1, 2022.

Under the Public Utility Regulatory Policy Act of 1978, renewable energy facilities smaller than 80 megawatts are entitled to interconnect with the utility. PSE states that the proposed transmission level service attempts to mitigate the need for qualifying facilities (QFs) to pay for expensive system upgrades in the first place and eliminates the need for a QF to secure and pay for PSE transmission service. In exchange for eliminating network upgrade costs, the QF would be subject to curtailment if the transmission system needed to shed or reduce the amount of power carried by the system.

### **Discussion**

Staff agrees that removing the requirement for a QF under this tariff to pay for transmission network upgrades supporting network reliability standards of N-1-1 (essentially requiring a generator to build a third transmission line) can significantly reduce a QF's interconnection costs. While the size of the reduction will vary, the Company's proposal should reduce a QF's interconnection costs without negatively impacting system operation. Staff supports the tariff as filed.

Joint comments were filed on November 23, 2021, by the Northwest & Intermountain Power Producers Coalition and the Renewable Energy Coalition. PSE filed a response to the joint comments on December 8, 2021. While both sets of comments address a variety of topics, the only remaining issue is whether the approval of the instant tariff resolves the issue of whether a qualifying facility could be reimbursed for the network upgrade portions of the interconnection

expenses. Staff believes this tariff does not settle the issue of reimbursement. In its rulemaking order under Docket U-161024, when this issue was raised by the joint commenters, the Commission declined to address it. The Commission also clearly stated its support for alternative sources of energy and noted that if it became aware of interconnection issues inhibiting the ability of QFs to effectively provide such alternatives, it would consider initiating a proceeding to address those issues.<sup>1</sup> Staff believes it would be most appropriate to address reimbursement through an individual complaint filed by a QF, which would allow the Commission to consider the specific facts of a particular case.

### **Conclusion**

Take no action, allowing the tariff to go into effect by operation of law.

<sup>1</sup> Docket No. U-161024, General Order R-597 at par. 19 (June 12, 2019).

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**EXHIBIT INTERCONNECTION CUSTOMER COALITION/302  
PACIFICORP RESPONSES TO CREA DATA REQUESTS**

**January 19, 2022**

UM 2032 / PacifiCorp  
 September 17, 2021  
 CREA Data Request 1 – 1st Supplemental

## CREA Data Request 1

For each the last 10 years, provide the data supplied to the Federal Energy Regulatory Commission (FERC) on the FERC Form No. 1 regarding transmission plant in service and distribution plant in service, on lines 47 through 75 of the form. For avoidance of misunderstanding, the data requested for each of the last 10 years is as follows:

47 3. TRANSMISSION PLANT	Balance Beginning of Year (column B)	Additions (column C)
48 (350) Land and Land Rights		
49 (352) Structures and Improvements		
50 (353) Station Equipment		
51 (354) Towers and Fixtures		
52 (355) Poles and Fixtures		
53 (356) Overhead Conductors and Devices		
54 (357) Underground Conduit		
55 (358) Underground Conductors and Devices		
56 (359) Roads and Trails		
57 (359.1) Asset Retirement Costs for Transmission Plant		
58 TOTAL Transmission Plant (Enter Total of lines 48 thru 57)		
59 4. DISTRIBUTION PLANT		
60 (360) Land and Land Rights		
61 (361) Structures and Improvements		
62 (362) Station Equipment		
63 (363) Storage Battery Equipment		
64 (364) Poles, Towers, and Fixtures		
65 (365) Overhead Conductors and Devices		
67 (367) Underground Conductors and Devices		
68 (368) Line Transformers		
69 (369) Services		
70 (370) Meters		
71 (371) Installations on Customer Premises		
72 (372) Leased Property on Customer Premises		
73 (373) Street Lighting and Signal Systems		
74 (374) Asset Retirement Costs for Distribution Plant		
75 TOTAL Distribution Plant (Enter Total of lines 60 thru 74)		

## 1<sup>st</sup> Supplemental Response to CREA Data Request 1

At CREA's request, PacifiCorp provides the following supplemental response, which now includes a sponsor name. The response is otherwise unchanged from the original September 14, 2021 response.

PacifiCorp objects to this request on the grounds it is overly burdensome as it relates to information that is publicly available. Without waiving this objection, PacifiCorp responds as follows:

The information requested by Community Renewable Energy Association (CREA) is publicly available and can be compiled by the requester themselves.

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.



UM 2032 / PacifiCorp  
September 17, 2021  
CREA Data Request 1 – 1st Supplemental

PacifiCorp's Federal Energy Regulatory Commission (FERC) Form is publicly available and can be accessed by utilizing the following PacifiCorp website link and by clicking on "Regulatory Filings" under "Financial Reports" at the following link  
<https://www.pacificorp.com/about/financial-regulatory.html>

This portion of PacifiCorp's website provides the Company's annual filings dating back to 2011 (calendar year 2010 financial data). PacifiCorp's annual FERC Form 1s are also available via FERC's e-library which can be accessed by utilizing the following website link:

[Home Page | Federal Energy Regulatory Commission \(ferc.gov\)](#)

In the FERC Form 1 page 206 lists both the balance at the beginning of the year (for CREA table column B), as well as additions (for CREA table column C).

Sponsor: Etta Lockey

UM 2032 / PacifiCorp  
September 17, 2021  
CREA Data Request 2 – 1st Supplemental

## **CREA Data Request 2**

Please explain how additions to transmission and distribution plant listed in the FERC Form No. 1 (as requested in CREA Data Request No. 1) are recovered by the Company in FERC-jurisdictional transmission rates or in retail rates paid by retail electric customers in Oregon, or both. Also, please explain if the amounts listed on the FERC Form No. 1 are in excess of the amounts recovered from Oregon retail electric customers in Oregon and, if so, explain the reasons why.

### **1<sup>st</sup> Supplemental Response to CREA Data Request 2**

At CREA's request, PacifiCorp provides the following supplemental response, which expands on the original September 14, 2021 response with the addition of the final paragraph and a sponsor name.

The Company's current transmission formula rate (included in PacifiCorp's Open Access Transmission Tariff (OATT)) was approved by the Federal Energy Regulatory Commission (FERC) in Docket ER11-3643. The Company's transmission formula rate is updated annually with the annual transmission revenue requirement (ATRR) that represents the annual total cost of providing firm transmission service over the test year. The ATRR calculation incorporates all transmission system investments by the Company, a return on rate base, income taxes, expenses, and certain revenue credits, among other specific elements and adjustments. Transmission assets, including new transmission capital and transmission network upgrades, are included in the ATRR, weighted by months in service. The ATRR is converted into a rate by dividing the ATRR by firm transmission demand (this demand includes PacifiCorp energy supply management (ESM)). All third-party revenues for transmission service (along with third party revenues for ancillary services) are included as revenue credits in the calculation of rates in each of the Company's state retail jurisdictions.

In setting retail rates, the Company's distribution plant are allocated "Situs" to the specific jurisdictions they serve and are included in rate base under electric plant in service, and the transmission plant is allocated to all states using the currently approved 2020 Protocol allocation method. FERC Form 1 reports electric plant in-service on a total company basis. For amounts allocated to Oregon retail electric customers please refer to the most recent Oregon general rate case (GRC), docket UE 374. The GRC includes all transmission plant, with an offset for all OATT revenues received.

Transmission rate base and operations and maintenance costs are allocated using the System Generation (SG) factor as approved in the 2020 Protocol. The offsetting OATT revenues are also allocated using the SG factor. Allocation factors are dynamic and will vary over time. The SG allocation factor for Oregon used in the most recent GRC was 26.0226 percent.

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.

UM 2032 / PacifiCorp  
September 17, 2021  
CREA Data Request 2 – 1st Supplemental

Sponsor: Etta Lockey

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UM 2032 / PacifiCorp  
September 17, 2021  
CREA Data Request 3 – 1st Supplemental

### **CREA Data Request 3**

Please confirm that network upgrades constructed as a consequence of a QF's interconnection would be included in the FERC Form No. 1 lines 47 through 75 (as requested in CREA Data Request No. 1) and, if not, please identify what other categories of QF network upgrade costs might exist.

### **1<sup>st</sup> Supplemental Response to CREA Data Request 3**

At CREA's request, PacifiCorp provides the following supplemental response, which now includes a sponsor name. The response is otherwise unchanged from the original September 14, 2021 response.

The plant balances in the Federal Energy Regulatory Commission (FERC) Form 1, page 206, lines 47 through 75 are net of qualifying facility (QF) customer payments. More specifically, QF-driven costs are included in the FERC Form 1, page 206, however, those costs are offset by the amounts directly paid by the QF customers (within the same FERC plant account). When the QF pays for the cost in its entirety, it brings the net cost reported down to zero.

Sponsor: Etta Lockey

UM 2032 / PacifiCorp  
 September 17, 2021  
 CREA Data Request 4 – 1st Supplemental

### **CREA Data Request 4**

Reference Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/20:6-15, asserting that the Joint Utilities propose system wide benefits for which a QF would be entitled to a refund should be limited to upgrades identified in “either a utility’s transmission plan or a necessary upgrade in a previous service request”.

- (a) Provide the each “transmission plan”, meeting the criteria as described in the quoted testimony, which was completed by your utility in the past 10 years and supply a copy of each such plan.
- (b) For each transmission plan referred to in subpart a., identify the page numbers of the plan that identify the specific transmission projects that a QF developer would be able to locate to ascertain the upgrades that would qualify for a system wide benefits refund.
- (c) For each transmission plan referred to in subpart a., identify the publicly available web address or location where a QF developer would be able to locate such transmission plan. If the plan is not publicly available at a public website, please state so.
- (d) For each transmission plan referred to in subpart a., please explain whether the plan contains all additions to transmission rate base that the utility will complete in the planning period covered by the plan.

### **1<sup>st</sup> Supplemental Response to CREA Data Request 4**

At CREA’s request, PacifiCorp provides the following supplemental response, which expands on the original September 14, 2021 response and includes sponsor names.

- (a) PacifiCorp’s OASIS website (<http://www.oasis.oati.com/ppw/index.html>) contains significant, publicly available information about PacifiCorp’s transmission plans. For example:
  - PacifiCorp’s Local Transmission Plan (“LTP”) reports can be found on OASIS under the “Attachment K” information folder, and then the “Transmission System Plan Reports” subfolder. The following summarizes the location of proposed projects in the LTP reports (sorted by date):
    - i. 2020-2021 (final available Dec. 30, 2021) LTP: PACE page 31, Appendix 2, PACW page 42 Appendix 3.
    - ii. 2018-2019 LTP: PACE page 30 Appendix 2, PACW page 41 Appendix 3.
    - iii. 2016-2017 LTP: PACE page 28 Appendix 2, PACW page 43 Appendix 3.

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.

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- iv. 2014-2015 LTP: PACE page 27 Appendix 2, PACW page 32 Appendix 3.
  - v. 2012-2013 LTP: PACE page 28 Appendix 2, PACW page 34 Appendix 3.
  - vi. 2010-2011 LTP: PACE page 24 Appendix 2, PACW page 30 Appendix 3.
- Information about PacifiCorp’s Energy Gateway project can be found on OASIS under the “Energy Gateway” folder. Additional information is available on the Energy Gateway website, for which PacifiCorp has provided a link on OASIS under the “Energy Gateway” folder.
  - Information about the Boardman-to-Hemmingway project can be found on OASIS under the “Energy Gateway” folder, and then the “PacifiCorp B2H and Cascade Crossing” subfolder.
  - PacifiCorp coordinates its regional planning processes with other transmission providers through its membership in NorthernGrid in accordance with PacifiCorp’s Attachment K process. Information about NorthernGrid is available:
    - i. In PacifiCorp’s OATT, Attachment K, which can be found on OASIS under the “PacifiCorp OASIS Tariff/Company Information” folder;
    - ii. Under the “NorthernGrid” folder on OASIS and, relatedly, for information about NorthernGrid predecessor’s (NTTG), under the “NTTG Information” folder on OASIS; and
    - iii. On NorthernGrid’s website: [www.northerngrid.net](http://www.northerngrid.net).
  - Additional transmission planning study work, including PacifiCorp’s Local Area Studies, are available under the “Transmission Planning” folder on OASIS.
  - PacifiCorp’s generator interconnection studies and transmission service studies are posted to OASIS.
- (b) See the Company’s response to subpart (a). PacifiCorp offers two clarifying points:
- The generator interconnection studies and transmission service studies described in subpart (a) identify whether upgrades required for the requested service are in PacifiCorp’s transmission plan or were necessary for a previous service request, so a QF developer would not need to “locate” those upgrades in a transmission plan “to ascertain the upgrades that would qualify for a system wide benefits refund.” This is the case, for example, in the studies associated with the QF interconnection requests listed in PacifiCorp’s Response to CREA Data Request 5.
  - Upgrades identified in either a utility’s transmission plan or as a necessary upgrade in a previous service request do not result in a “refund” as described in CREA Data Request 4. Rather, if those upgrades are identified as necessary to grant a QF’s interconnection request, then the QF would not be responsible for funding the upgrade cost in the first instance.
- (c) See the Company’s responses to subparts (a) and (b).

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UM 2032 / PacifiCorp  
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- (d) These plans do not include all additions to transmission rate base; for example, transmission maintenance activities would not be included in these planning documents.

Sponsors: Richard A. Vail and Kris Bremer

UM 2032 / PacifiCorp  
September 17, 2021  
CREA Data Request 5 – 1st Supplemental

## CREA Data Request 5

Reference Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/20:16 to /21:1, asserting that the utilities' current practice is to not "allocate cost responsibility in their interconnection studies or agreement for Network Upgrades already identified in a utility's transmission plan or as necessary for a previous request".

- (a) Identify each instance where your utility has explained to a QF developer that a refund would be offered, or costs of an upgrade not assigned to the QF, because the network upgrade identified in an interconnection study was also identified in a "transmission plan" as alleged in the testimony quoted above. If no such instances have occurred, please confirm.
- (b) Provide all documents supporting the response to subpart a., including any interconnection studies or other correspondence communicating to a QF developer that it will not be responsible for certain upgrades because such upgrades are included in the utility's transmission plan.

## 1<sup>st</sup> Supplemental Response to CREA Data Request 5

At CREA's request, PacifiCorp provides the following supplemental response, which now includes sponsor names. The response is otherwise unchanged from the original September 14, 2021 response.

- (a) The qualifying facility (QF) interconnection customers with the following queue numbers have received interconnection studies identifying network upgrades that were a component of PacifiCorp's transmission plan or necessary to accommodate a previous request and, therefore, were not directly assigned to the QF interconnection customer for funding:
  - Q0409
  - Q0719
  - Q0838
  - TCS-06
  - TCS-43
  - TCS-44
  - TCS-45
  - TCS-52
  - TCS-53
  - TCS-54
- (b) All interconnection studies associated with these interconnection requests are provided on PacifiCorp's Open Access Same-Time Information System (OASIS)

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.



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webpage, which can be accessed at the following website link:

<https://www.oasis.oati.com/ppw/index.html>

Sponsors: Richard A. Vail and Kris Bremer

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.

UM 2032 / PacifiCorp  
October 7, 2021  
CREA Data Request 6

## **CREA Data Request 6**

Reference PacifiCorp's 1st Supplemental Response to CREA Data Request No. 4(d), stating that the transmission plans proposed in Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/21:6-15 as the source of upgrades entitled to systemwide benefits treatment in a qualifying facility interconnection "do not include all additions to transmission rate base; for example, transmission maintenance activities would not be included in these planning documents."

- a. For each of the last five years, provide the annual amount (\$) of additions to transmission rate base that were not identified in a transmission plan of the nature of those identified in PacifiCorp's Response to CREA's Data Request No. 4. Exclude from the figure supplied any additions to transmission rate base for qualifying facility interconnections.
- b. Please explain whether there are any advance written plans prepared by the Company for regular maintenance projects on the transmission system that are not included in transmission plans of the nature of those identified in the Company's Response to CREA's Data Request No. 4. Please also explain whether any advance written plans responsive to this subpart are publicly available to a prospective qualifying facility, and the location (e.g., website address) where the plans are publicly located.
- c. If the answer to subpart b. is that no advance written plans are created for certain transmission maintenance projects, please explain the Company's process for identifying and planning for such maintenance projects.
- d. If the answer to subpart b. is that no plans are created for certain transmission maintenance projects, or that such plans are not publicly available, please explain the Company's proposal for how a prospective qualifying facility would be able to know of such transmission maintenance projects.

## **Response to CREA Data Request 6**

- a. The Company objects to this request as unduly burdensome and because it requests information not maintained during the ordinary course of business or that would require preparation of a special study. The Company estimates it would take thousands of hours of manual review to complete this analysis. Without waiving these objections, the Company responds as follows:

The Company has not completed this analysis. PacifiCorp does not track costs associated with additions to transmission rate base in a manner that would allow it to readily identify the costs specified in this request. PacifiCorp has conferred with CREA's counsel on this issue and is working to determine whether PacifiCorp can provide some more general information responsive to this request. PacifiCorp will supplement this response if it is reasonably able to do so.

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.

UM 2032 / PacifiCorp  
October 7, 2021  
CREA Data Request 6

- b. Maintenance plans are not prepared in advance of transmission assets being placed in service. Maintenance plans are attached to transmission assets once placed in service.
- c. A detailed plan documenting the scheduled maintenance activities is prepared and updated annually by PacifiCorp's asset management group for transmission lines, and substation facilities associated with the transmission paths. This plan is compiled in spreadsheet format and documented as the PacifiCorp FAC-501 Plan Status Report. This internal document contains the planned line patrols and inspections, circuit breaker, transformer, regulator, and reactive device maintenance requirements for the upcoming year. The plan is prepared based on the individual inspection and maintenance policies and procedures that are developed and maintained by asset management, technical support services and informed by mandatory federal North American Electric Reliability Corporation and Western Electricity Coordinating Council requirements, such as FAC-501-WECC-1-Transmission Maintenance, and state requirements, such as OAR 860-0010, OAR 024-011, and OAR 860-0012.
- d. Transmission maintenance plans described in subpart c are not publicly available.

Sponsor: Richard A. Vail

UM 2032 / PacifiCorp  
 December 16, 2021  
 CREA Data Request 6 – 1st Supplemental Response

**CREA Data Request 6**

Reference PacifiCorp’s 1st Supplemental Response to CREA Data Request No. 4(d), stating that the transmission plans proposed in Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/21:6-15 as the source of upgrades entitled to systemwide benefits treatment in a qualifying facility interconnection “do not include all additions to transmission rate base; for example, transmission maintenance activities would not be included in these planning documents.”

- a. For each of the last five years, provide the annual amount (\$) of additions to transmission rate base that were not identified in a transmission plan of the nature of those identified in PacifiCorp’s Response to CREA’s Data Request No. 4. Exclude from the figure supplied any additions to transmission rate base for qualifying facility interconnections.
- b. Please explain whether there are any advance written plans prepared by the Company for regular maintenance projects on the transmission system that are not included in transmission plans of the nature of those identified in the Company’s Response to CREA’s Data Request No. 4. Please also explain whether any advance written plans responsive to this subpart are publicly available to a prospective qualifying facility, and the location (e.g., website address) where the plans are publicly located.
- c. If the answer to subpart b. is that no advance written plans are created for certain transmission maintenance projects, please explain the Company’s process for identifying and planning for such maintenance projects.
- d. If the answer to subpart b. is that no plans are created for certain transmission maintenance projects, or that such plans are not publicly available, please explain the Company’s proposal for how a prospective qualifying facility would be able to know of such transmission maintenance projects.

**1<sup>st</sup> Supplemental Response to CREA Data Request 6**

In further support of PacifiCorp’s October 7, 2021 Response to CREA Data Request 6, and following discussions with CREA, PacifiCorp provides the following fuller response to subpart (a) to the data request.

- a. The following table shows the estimated total additions to transmission plant in service that were not part of a transmission plan identified in the Company’s Response to CREA’s Data Request No. 4, for each of the last five years.

<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
\$131,208,419	\$168,117,516	\$126,544,695	\$125,325,677	\$506,244,740

Sponsor: Richard A. Vail

Despite PacifiCorp's diligent efforts, certain information protected from disclosure by the attorney-client privilege or other applicable privileges or law may have been included in its responses to these data requests. PacifiCorp did not intend to waive any applicable privileges or rights by the inadvertent disclosure of protected information, and PacifiCorp reserves its right to request the return or destruction of any privileged or protected materials that may have been inadvertently disclosed. Please inform PacifiCorp immediately if you become aware of any inadvertently disclosed information.

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**EXHIBIT INTERCONNECTION CUSTOMER COALITION/303  
IDAHO POWER RESPONSES TO CREA DATA REQUESTS**

**January 19, 2022**

Idaho Power Company's Supplemental Responses to CREA's First Set of Data Requests  
Data Request Nos. 1-5

**TOPIC OR KEYWORD:**

**CREA'S DATA REQUEST NO. 1:** For each the last 10 years, provide the data supplied to the Federal Energy Regulatory Commission ("FERC") on the FERC Form No. 1 regarding transmission plant in service and distribution plant in service, on lines 47 through 75 of the form. For avoidance of misunderstanding, the data requested for each of the last 10 years is as follows:

47 3. TRANSMISSION PLANT	Balance Beginning of Year	Additions
48 (350) Land and Land Rights		
49 (352) Structures and Improvements		
50 (353) Station Equipment		
51 (354) Towers and Fixtures		
52 (355) Poles and Fixtures		
53 (356) Overhead Conductors and Devices		
54 (357) Underground Conduit		
55 (358) Underground Conductors and Devices		
56 (359) Roads and Trails		
57 (359.1) Asset Retirement Costs for Transmission Plant		
8 TOTAL Transmission Plant (Enter Total of lines 48 thru 57)		
59 4. DISTRIBUTION PLANT		
60 (360) Land and Land Rights		
61 (361) Structures and Improvements		
62 (362) Station Equipment		
63 (363) Storage Battery Equipment		

Idaho Power Company's Supplemental Responses to CREA's First Set of Data Requests  
Data Request Nos. 1-5

64 (364) Poles, Towers, and Fixtures		
65 (365) Overhead Conductors and Devices		
67 (367) Underground Conductors and Devices		
68 (368) Line Transformers		
69 (369) Services		
70 (370) Meters		
71 (371) Installations on Customer Premises		
72 (372) Leased Property on Customer		
73 (373) Street Lighting and Signal Systems		
74 (374) Asset Retirement Costs for Distribution Plant		
75 TOTAL Distribution Plant (Enter Total of lines 60 thru 74)		

**IDAHO POWER COMPANY'S SUPPLEMENTAL RESPONSE TO CREA'S DATA REQUEST NO. 1:**

Idaho Power objects that this request is overly broad, unduly burdensome, requests information that is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, and requests information that is publicly available. Subject to and without waiving the foregoing objection, Idaho Power responds as follows: The information requested can be found in the attached Excel spreadsheet.

The response to this request is sponsored by Alison Williams, Regulatory Policy and Strategy Advisor, Idaho Power.

Line	Account	2011	2011	2012	2012	2013	2013
		Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
47	<b>3. TRANSMISSION PLANT</b>						
48	(350) Land and Land Rights	34,253,938	877,421	35,130,605	445,557	35,576,162	511,568
49	(352) Structures and Improvements	55,667,437	2,493,112	57,994,797	12,150,635	70,136,891	23,515
50	(353) Station Equipment	349,451,391	8,846,585	351,924,749	14,049,079	365,354,962	25,033,247
51	(354) Towers and Fixtures	144,723,540	2,767,876	147,491,416	7,679,305	155,095,726	6,908,886
52	(355) Poles and Fixtures	101,621,493	7,282,014	107,026,913	13,764,963	120,356,581	9,126,774
53	(356) Overhead Conductors and Devices	169,165,595	4,102,430	171,801,963	13,274,942	184,492,014	3,912,965
54	(357) Underground Conduit						
55	(358) Underground Conductors and Devices						
56	(359) Roads and Trails	318,351	94,995	413,346	(23,080)	390,266	-
57	(359.1) Asset Retirement Costs for Transmission Plant						
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>855,201,745</b>	<b>26,464,433</b>	<b>871,783,789</b>	<b>61,341,401</b>	<b>931,402,602</b>	<b>45,516,955</b>
59	<b>4. DISTRIBUTION PLANT</b>						
60	(360) Land and Land Rights	4,745,189	683,210	5,423,471	(648,228)	4,775,243	93,250
61	(361) Structures and Improvements	29,485,862	2,881,866	32,336,183	(956,431)	31,354,167	1,497,008
62	(362) Station Equipment	182,593,962	12,192,049	194,190,240	(3,641,870)	189,664,902	7,531,450
63	363) Storage Battery Equipment						
64	(364) Poles, Towers, and Fixtures	225,059,905	5,449,895	228,880,444	2,946,117	230,356,006	6,383,564
65	(365) Overhead Conductors and Devices	120,135,601	3,972,582	122,536,891	3,105,791	124,012,452	3,461,596
66	(366) Underground Conduit	48,215,714	(143,831)	47,989,345	(1,002,615)	46,833,883	(430,208)
67	(367) Underground Conductors and Devices	191,494,213	6,029,113	196,700,971	1,730,268	197,732,139	10,432,428
68	(368) Line Transformers	414,782,133	19,583,109	429,419,556	26,406,882	451,211,644	25,491,015
69	(369) Services	57,319,909	149,486	57,225,209	(73,102)	56,853,354	301,238
70	(370) Meters	95,697,525	17,507,437	112,429,849	570,493	70,932,527	2,819,895
71	(371) Installations on Customer Premises	2,750,899	84,107	2,754,620	166,375	2,865,154	110,864
72	(372) Leased Property on Customer Premises						-
73	(373) Street Lighting and Signal Systems	4,370,514	58,890	4,394,855	130,714	4,505,211	83,638
74	(374) Asset Retirement Costs for Distribution Plant	587,980	55,659	643,639	-	643,639	(109,927)
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>1,377,239,406</b>	<b>68,503,572</b>	<b>1,434,925,273</b>	<b>28,734,394</b>	<b>1,411,740,321</b>	<b>57,665,811</b>



Line	Account	2014	2014	2015	2015	2016	2016
		Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
47	<b>3. TRANSMISSION PLANT</b>						
48	(350) Land and Land Rights	36,087,730	102,069	36,146,124	232,955	36,379,079	814,143
49	(352) Structures and Improvements	70,075,081	2,716,121	72,737,991	5,128,194	77,780,246	1,851,599
50	(353) Station Equipment	388,935,103	13,971,575	399,787,968	11,017,730	407,602,629	7,067,324
51	(354) Towers and Fixtures	162,004,612	6,341,023	168,186,852	16,612,039	184,628,055	13,550,729
52	(355) Poles and Fixtures	129,115,202	14,311,741	142,597,655	16,669,245	158,380,194	17,657,509
53	(356) Overhead Conductors and Devices	188,088,876	9,279,054	196,360,600	16,587,047	211,904,657	8,556,373
54	(357) Underground Conduit						
55	(358) Underground Conductors and Devices						
56	(359) Roads and Trails	390,266	-	390,266	-	390,266	-
57	(359.1) Asset Retirement Costs for Transmission Plant						
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>974,696,870</b>	<b>46,721,583</b>	<b>1,016,207,456</b>	<b>66,247,210</b>	<b>1,077,065,126</b>	<b>49,497,677</b>
59	<b>4. DISTRIBUTION PLANT</b>						
60	(360) Land and Land Rights	4,859,147	316,069	5,175,131	125,393	5,300,524	647,447
61	(361) Structures and Improvements	32,820,611	913,719	33,716,699	493,837	34,175,353	2,842,549
62	(362) Station Equipment	196,765,816	5,794,037	202,030,200	16,141,880	216,853,729	6,762,998
63	363) Storage Battery Equipment						
64	(364) Poles, Towers, and Fixtures	235,549,416	7,425,968	241,088,379	8,202,243	246,985,666	11,415,269
65	(365) Overhead Conductors and Devices	126,034,768	3,619,432	128,008,024	3,488,928	129,331,468	3,739,895
66	(366) Underground Conduit	46,289,611	1,157,996	47,294,326	1,240,181	48,322,609	1,861,831
67	(367) Underground Conductors and Devices	207,476,280	12,302,488	218,656,607	13,091,098	230,143,168	15,383,360
68	(368) Line Transformers	471,882,211	28,734,467	494,614,876	28,686,286	515,652,279	27,403,469
69	(369) Services	56,858,427	1,369,592	57,867,385	1,245,760	58,770,764	1,191,980
70	(370) Meters	73,143,443	7,766,427	80,528,574	4,777,999	85,247,458	6,296,981
71	(371) Installations on Customer Premises	2,901,563	94,180	2,914,525	111,792	2,954,458	127,799
72	(372) Leased Property on Customer Premises	(38,361)	2,302	(84,348)			
73	(373) Street Lighting and Signal Systems	4,588,849	-	4,588,849	89,586	4,543,249	74,540
74	(374) Asset Retirement Costs for Distribution Plant	533,712	-	533,712	(369,521)	164,191	-
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>1,459,665,493</b>	<b>69,496,677</b>	<b>1,516,932,939</b>	<b>77,325,462</b>	<b>1,578,444,916</b>	<b>77,748,118</b>

Line	Account	2017 Balance- Beginning of Year	2017 Additions	2018 Balance- Beginning of Year	2018 Additions	2019 Balance- Beginning of Year
47	<b>3. TRANSMISSION PLANT</b>					
48	(350) Land and Land Rights	37,193,222	115,120	37,127,446	1,796,147	38,923,537
49	(352) Structures and Improvements	79,539,883	849,041	80,263,617	779,590	81,023,794
50	(353) Station Equipment	411,289,120	20,101,853	428,949,669	14,651,950	441,025,698
51	(354) Towers and Fixtures	198,102,599	8,760,019	206,552,729	4,834,230	211,357,840
52	(355) Poles and Fixtures	175,172,643	9,490,063	183,335,657	14,396,763	195,207,683
53	(356) Overhead Conductors and Devices	219,214,808	8,705,363	226,621,106	8,673,207	233,163,083
54	(357) Underground Conduit					
55	(358) Underground Conductors and Devices					
56	(359) Roads and Trails	390,266	-	390,266	-	390,266
57	(359.1) Asset Retirement Costs for Transmission Plant					
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>1,120,902,541</b>	<b>48,021,459</b>	<b>1,163,240,490</b>	<b>45,131,887</b>	<b>1,201,091,901</b>
59	<b>4. DISTRIBUTION PLANT</b>					
60	(360) Land and Land Rights	5,947,971	104,648	6,052,619	500,666	6,553,285
61	(361) Structures and Improvements	36,984,366	577,575	37,463,373	2,929,310	40,283,756
62	(362) Station Equipment	222,356,864	17,225,163	237,332,109	18,934,953	254,363,384
63	363) Storage Battery Equipment					
64	(364) Poles, Towers, and Fixtures	256,158,912	11,240,685	265,381,383	9,083,493	271,695,898
65	(365) Overhead Conductors and Devices	131,275,340	6,400,542	136,069,938	6,625,653	140,485,165
66	(366) Underground Conduit	49,794,768	1,439,022	50,759,070	1,932,118	52,238,001
67	(367) Underground Conductors and Devices	243,650,263	16,625,202	258,499,754	20,485,907	275,969,031
68	(368) Line Transformers	536,550,475	30,689,434	560,033,828	35,074,016	587,592,181
69	(369) Services	59,471,387	1,720,471	60,786,068	1,715,228	61,919,728
70	(370) Meters	87,259,555	5,341,004	90,021,168	6,730,337	93,327,295
71	(371) Installations on Customer Premises	3,016,977	86,705	3,057,356	120,491	3,124,332
72	(372) Leased Property on Customer Premises					
73	(373) Street Lighting and Signal Systems	4,500,453	64,475	4,526,921	112,690	4,588,885
74	(374) Asset Retirement Costs for Distribution Plant	164,191	(21,561)	142,630	-	142,630
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>1,637,131,522</b>	<b>91,493,365</b>	<b>1,710,126,217</b>	<b>104,244,862</b>	<b>1,792,283,571</b>

Line	Account	2019 Additions	2020 Balance- Beginning of Year	2020 Additions
47	<b>3. TRANSMISSION PLANT</b>			
48	(350) Land and Land Rights	86,564	39,010,101	168,828
49	(352) Structures and Improvements	1,199,316	81,631,852	4,088,297
50	(353) Station Equipment	15,662,807	437,090,965	27,294,211
51	(354) Towers and Fixtures	3,749,251	215,107,091	7,743,485
52	(355) Poles and Fixtures	13,875,825	206,989,944	11,119,620
53	(356) Overhead Conductors and Devices	9,112,908	240,482,589	5,320,331
54	(357) Underground Conduit			
55	(358) Underground Conductors and Devices			
56	(359) Roads and Trails	-	390,266	-
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>43,686,671</b>	<b>1,220,702,808</b>	<b>55,734,772</b>
59	<b>4. DISTRIBUTION PLANT</b>			
60	(360) Land and Land Rights	831,412	7,384,697	46,447
61	(361) Structures and Improvements	7,626,265	47,760,416	3,310,881
62	(362) Station Equipment	18,088,390	269,467,878	20,069,470
63	363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	14,246,292	283,516,948	12,502,639
65	(365) Overhead Conductors and Devices	5,534,717	144,332,885	5,321,226
66	(366) Underground Conduit	2,346,727	54,244,353	(339,073)
67	(367) Underground Conductors and Devices	18,221,495	291,640,376	13,210,495
68	(368) Line Transformers	33,854,487	614,852,926	39,118,328
69	(369) Services	1,528,445	63,190,275	2,036,799
70	(370) Meters	7,740,607	97,890,964	9,819,235
71	(371) Installations on Customer Premises	86,066	3,195,799	919,429
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	100,244	4,658,210	489,705
74	(374) Asset Retirement Costs for Distribution Plant	(142,630)	-	
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>110,062,517</b>	<b>1,882,135,727</b>	<b>106,505,581</b>

Idaho Power Company's Supplemental Responses to CREA's First Set of Data Requests  
Data Request Nos. 1-5

**TOPIC OR KEYWORD:**

**CREA'S DATA REQUEST NO. 2:** Please explain how additions to transmission and distribution plant listed in the FERC Form No. 1 (as requested in CREA Data Request No. 1) are recovered by the Company in FERC-jurisdictional transmission rates or in retail rates paid by retail electric customers in Oregon, or both. Also, please explain if the amounts listed on the FERC Form No. 1 are in excess of the amounts recovered from Oregon retail electric customers in Oregon and, if so, explain the reasons why.

**IDAHO POWER COMPANY'S SUPPLEMENTAL RESPONSE TO CREA'S DATA REQUEST NO. 2:**

**Transmission Plant:**

Transmission-related plant balances are a component of Idaho Power's transmission formula rate under the Company's Open Access Transmission Tariff ("OATT"). Under the FERC-authorized methodology, Idaho Power updates the transmission formula rate annually using FERC Form No. 1 data from the previous calendar year. Therefore, transmission plant additions reflected on lines 47 through 58 of page 206 of the FERC Form No. 1 and referenced in CREA's Data Request No. 1, are included in the annual computation of the transmission revenue requirement. Idaho Power's FERC jurisdictional transmission customers pay their load ratio share of this transmission revenue requirement.

The portion of the transmission revenue requirement attributable to Idaho Power's Load-Serving Entity is ultimately paid by Idaho Power's retail customers in the jurisdiction(s) where it was authorized. Within those jurisdictions (Idaho and Oregon), additions to transmission plant are typically recovered through general rate cases. The Company has not implemented a general rate increase in Oregon since 2012. Balances have grown since then, meaning, transmission plant balances listed on the FERC Form exceed the amounts currently recovered from Oregon retail electric customers.

**Distribution Plant:**

The OATT transmission formula rate does not include distribution plant investments, so distribution plant additions are typically recovered from the Company's retail customers in the Idaho and Oregon jurisdictions. The Company has not implemented a general rate increase in Oregon since 2012. Plant balances have grown since then, meaning distribution plant balances listed on the FERC Form 1 are in excess of the amounts currently recovered from Oregon retail electric customers.

The response to this request is sponsored by Alison Williams, Regulatory Policy and Strategy Advisor, Idaho Power.

**TOPIC OR KEYWORD:**

**CREA'S DATA REQUEST NO. 3:** Please confirm that network upgrades constructed as a consequence of a QF's interconnection would be included in the FERC Form No. 1 lines 47 through 75 (as requested in CREA Data Request No. 1) and, if not, please identify what other categories of QF network upgrade costs might exist.

**IDAHO POWER COMPANY'S SUPPLEMENTAL RESPONSE TO CREA'S DATA REQUEST NO. 3:**

Network upgrade costs are included in FERC Form No. 1 Page 206 lines 47 through 75. However, in both Oregon (Schedule 85) and Idaho (Rate Schedule 72), QF's are required to pay all network upgrade costs associated with their project. Idaho Power's investments in network upgrades are recorded to FERC Account 101 – Electric Plant in Service ("Account 101") with an equivalent offset to Contributions in Aid of Construction within Account 101, resulting in a zero impact to FERC Form No. 1 Page 206 lines 47 through 75 and no rate impact to Idaho Power's retail or transmission customers.

The response to this request is sponsored by Alison Williams, Regulatory Policy and Strategy Advisor, Idaho Power.

Idaho Power Company's Supplemental Responses to CREA's First Set of Data Requests  
Data Request Nos. 1-5**TOPIC OR KEYWORD:**

**CREA'S DATA REQUEST NO. 4:** Reference Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/20:6-15, asserting that the Joint Utilities propose systemwide benefits for which a QF would be entitled to a refund should be limited to upgrades identified in "either a utility's transmission plan or a necessary upgrade in a previous service request."

- a) Provide each "transmission plan," meeting the criteria as described in the quoted testimony, which was completed by your utility in the past 10 years and supply a copy of each such plan.
- b) For each transmission plan referred to in subpart a., identify the page numbers of the plan that identify the specific transmission projects that a QF developer would be able to locate to ascertain the upgrades that would qualify for a systemwide benefits refund.
- c) For each transmission plan referred to in subpart a., identify the publicly available web address or location where a QF developer would be able to locate such transmission plan. If the plan is not publicly available at a public website, please state so.
- d) For each transmission plan referred to in subpart a., please explain whether the plan contains all additions to transmission rate base that the utility will complete in the planning period covered by the plan.

**IDAHO POWER COMPANY'S SUPPLEMENTAL RESPONSE TO CREA'S DATA REQUEST NO. 4:**

The following responds to subparts a) through c):

As part of Transmission System Planning performance requirements (NERC TPL-001), a report is generated that, among other things, outlines proposed projects to mitigate thermal or voltage violations. These reports contain Critical Energy/Electric Infrastructure Information and are available upon request with an executed Non-Disclosure Agreement. The following outline the assessment and page numbers that contain proposed projects:

- 2021-2030 Assessment pg. 24-26
- 2020-2029 Assessment pg. 27-29
- 2019-2028 Assessment pg. 28-30
- 2018-2027 Assessment pg. 28-31

Idaho Power's Local Transmission Plan ("LTP") is publicly available on the Company's OASIS website: <http://www.oasis.oati.com/ipco/>. The following summarizes the location of proposed projects in the LTP reports (sorted by date):

- 2020-2021 LTP pg. 31 & Appendix B
- 2018-2019 LTP pg. 25 & Appendix B
- 2016-2017 LTP pg. 25 & Appendix B
- 2014-2015 LTP pg. 21 & Appendix B
- 2012-2013 LTP Appendix B
- 2010-2011 LTP Appendix B

Idaho Power coordinates its planning processes with other transmission providers through membership in NorthernGrid. Idaho Power uses the NorthernGrid process for regional planning, coordination with adjacent sub-regional groups and other planning entities. Additional regional coordination information is located in Idaho Power's OATT Attachment K and on NorthernGrid's website at [www.northerngrid.net](http://www.northerngrid.net).

Idaho Power Company's Supplemental Responses to CREA's First Set of Data Requests  
Data Request Nos. 1-5

Idaho Power posts internal regional plans on its public website. These plans are located of at the following website:

<https://www.idahopower.com/energy-environment/energy/planning-and-electrical-projects/regional-electric-plans/> and also in the Western Treasure Valley Electrical Plan, pg. 93-99. Potential projects identified in regional plans that are included in Idaho Power's budget and/or design and construction process are included in interconnection studies.

d) These plans do not include all additions to transmission rate base; for example, transmission maintenance activities would not be included in these planning documents.

The response to this request is sponsored by Jared Ellsworth, Transmission, Distribution & Resource Planning Director, Idaho Power.

Idaho Power Company's Supplemental Responses to CREA's First Set of Data Requests  
Data Request Nos. 1-5

**TOPIC OR KEYWORD:**

**CREA'S DATA REQUEST NO. 5:** Reference Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/20:16 to /21:1, asserting that the utilities' current practice is to not "allocate cost responsibility in their interconnection studies or agreement for Network Upgrades already identified in a utility's transmission plan or as necessary for a previous request."

- a. Identify each instance where your utility has explained to a QF developer that a refund would be offered, or costs of an upgrade not assigned to the QF, because the network upgrade identified in an interconnection study was also identified in a "transmission plan" as alleged in the testimony quoted above. If no such instances have occurred, please confirm.
- b. Provide all documents supporting the response to subpart a., including any interconnection studies or other correspondence communicating to a QF developer that it will not be responsible for certain upgrades because such upgrades are included in the utility's transmission plan.

**IDAHO POWER COMPANY'S SUPPLEMENTAL RESPONSE TO CREA'S DATA REQUEST NO. 5:**

During the interconnection study process, Idaho Power assumes in its planning models that planned transmission facilities, like those described in the cited testimony, will be in service by the commercial in-service date requested by the developer. Contrary to the premise of the data request, Idaho Power does not separately identify planned transmission system investments and then indicate that the interconnection customer will not have to pay for the planned investment. Therefore, there would be no reason to specifically notify a QF of a planned transmission system investment because the costs of the planned investment are never assigned to the QF in the first instance.

The response to this request is sponsored by Jared Ellsworth, Transmission, Distribution & Resource Planning Director, Idaho Power.



**TOPIC OR KEYWORD:****STAFF'S DATA REQUEST NO. 6:**

Reference Idaho Power's Response to CREA Data Request No. 4(d), stating that the transmission plans proposed in Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/21:6-15 as the source of upgrades entitled to systemwide benefits treatment in a qualifying facility interconnection "do not include all additions to transmission rate base; for example, transmission maintenance activities would not be included in these planning documents."

- a. For each of the last five years, provide the annual amount (\$) of additions to transmission rate base that were not identified in a transmission plan of the nature of those identified in Idaho Power's Response to CREA's Data Request No. 4. Exclude from the figure supplied any additions to transmission rate base for qualifying facility interconnections.
- b. Please explain whether there are any advance written plans prepared by the Company for regular maintenance projects on the transmission system that are not included in transmission plans of the nature of those identified in the Company's Response to CREA's Data Request No. 4. Please also explain whether any advance written plans responsive to this subpart are publicly available to a prospective qualifying facility, and the location (e.g., website address) where the plans are publicly located.
- c. If the answer to subpart b. is that no advance written plans are created for certain transmission maintenance projects, please explain the Company's process for identifying and planning for such maintenance projects.
- d. If the answer to subpart b. is that no plans are created for certain transmission maintenance projects, or that such plans are not publicly available, please explain the Company's proposal for how a prospective qualifying facility would be able to know of such transmission maintenance projects.

**IDAHO POWER COMPANY'S RESPONSE TO STAFF'S DATA REQUEST NO. 6:**

- a. The following table shows the estimated total additions to transmission plant in service that were not part of a transmission plan identified in the Company's Response to CREA's Data Request No. 4, for each of the last five years.

2016	2017	2018	2019	2020
<b>\$47,607,420</b>	<b>\$47,189,490</b>	<b>\$38,132,227</b>	<b>\$33,536,168</b>	<b>\$44,359,908</b>

- b. Regular maintenance-type projects will generally not be identified in publicly available planning documents such as Transmission System Planning or Local Transmission Plan studies, as they are simply required to maintain the existing system.
- c. Each project will be identified, budgeted, scoped, designed, and built through the Company's asset management processes. The timeframe over which the Company identifies, budgets, scopes, designs, and builds maintenance projects can be spread over a 3- to 5-year window. The Company identifies these projects through periodic inspection of various equipment across its system.
- d. Plans are not publicly available. If such projects were relevant to the requested interconnection, they would be identified in the proposed interconnection customer's interconnection studies.

The response to this request is sponsored by Jared Ellsworth, Transmission, Distribution & Resource Planning Director, Idaho Power.

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**EXHIBIT INTERCONNECTION CUSTOMER COALITION/304**

**PORTLAND GENERAL ELECTRIC RESPONSES TO CREA DATA REQUESTS,  
EXCLUDING ATTACHMENT TO CREA DATA REQUEST 5**

**January 19, 2022**

September 14, 2021

To: Gregory M. Adams  
 Community Renewable Energy Association

From: Robert Macfarlane  
 Manager, Pricing & Tariffs

Sponsor: Robert Macfarlane

Portland General Electric Company  
 UM 2032  
 PGE Response to CREA Data Request 001  
 Dated September 1, 2021

**Request:**

For each the last 10 years, provide the data supplied to the Federal Energy Regulatory Commission (“FERC”) on the FERC Form No. 1 regarding transmission plant in service and distribution plant in service, on lines 47 through 75 of the form. For avoidance of misunderstanding, the data requested for each of the last 10 years is as follows:

47 3. TRANSMISSION PLANT	Balance Beginning of Year	Additions
48 (350) Land and Land Rights		
49 (352) Structures and Improvements		
50 (353) Station Equipment		
51 (354) Towers and Fixtures		
52 (355) Poles and Fixtures		
53 (356) Overhead Conductors and Devices		
54 (357) Underground Conduit		
55 (358) Underground Conductors and Devices		
56 (359) Roads and Trails		

57 (359.1) Asset Retirement Costs for Transmission Plant		
58 TOTAL Transmission Plant (Enter Total of lines 48 thru 57)		
59 4. DISTRIBUTION PLANT		
60 (360) Land and Land Rights		
61 (361) Structures and Improvements		
62 (362) Station Equipment		
63 (363) Storage Battery Equipment		
64 (364) Poles, Towers, and Fixtures		
65 (365) Overhead Conductors and Devices		
67 (367) Underground Conductors and Devices		
68 (368) Line Transformers		
69 (369) Services		
70 (370) Meters		
71 (371) Installations on Customer Premises		
72 (372) Leased Property on Customer Premises		
73 (373) Street Lighting and Signal Systems		
74 (374) Asset Retirement Costs for Distribution Plant		
75 TOTAL Distribution Plant (Enter Total of lines 60 thru 74)		

**Response:**

PGE objects that this request is overly broad, unduly burdensome, and that some of the requested information (for example, “Street Lighting and Signal Systems”) is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. Notwithstanding and without waiving these objections: After conferring with counsel for CREA, PGE understands that providing complete copies of PGE’s annual FERC Form 1 filings is an acceptable response to this request. PGE’s FERC Form 1 filings for the last 10 years are publicly available on PGE’s website here: [FERC Filings | Portland General Electric Company](#). The requested information can be found on pages 204-207.

September 14, 2021

To: Gregory M. Adams  
Community Renewable Energy Association

From: Robert Macfarlane  
Manager, Pricing & Tariffs

Sponsor: Robert Macfarlane

Portland General Electric Company  
UM 2032  
PGE Response to CREA Data Request 002  
Dated September 1, 2021

**Request:**

Please explain how additions to transmission and distribution plant listed in the FERC Form No. 1 (as requested in CREA Data Request No. 1) are recovered by the Company in FERC-jurisdictional transmission rates or in retail rates paid by retail electric customers in Oregon, or both. Also, please explain if the amounts listed on the FERC Form No. 1 are in excess of the amounts recovered from Oregon retail electric customers in Oregon and, if so, explain the reasons why.

**Response:**

PGE objects that some of the requested information (for example, “Street Lighting and Signal Systems”) is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. Notwithstanding and without waiving this objection:

Increases in plant are recovered in rates when they are included in rate base as part of rate cases submitted to the OPUC and FERC. PGE’s last OPUC rate case was Docket No. UE 335 with a 2019 test year, and PGE recently filed a 2022 test year rate case (Docket No. UE 394). PGE’s most recent FERC rate case was approved in 2001 and was based on year 2000 data.

Distribution plant is OPUC jurisdictional but not FERC jurisdictional, so it is only incorporated in PGE’s retail rates. Transmission plant is incorporated in both OPUC and FERC jurisdictional rates. Consequently, to avoid double collection, PGE records revenue from third-party transmission customers in Other Revenue, which reduces PGE’s retail rates as charged to cost-of-service customers.

The FERC Form 1 asset balances are as of the end of the period for the year specified in the Form 1. The asset balances included in amounts recovered from PGE’s retail electric customers are based on a forecasted test year amount in the most recent rate case. For example, if new customer prices are effective 1/1/2022, the asset balances would be forecasted balances as of

12/31/2021. Any differences between the FERC Form 1 and the amounts recovered from PGE's retail electric customers would be based on the timing of their inclusion in a future rate case.



September 14, 2021

To: Gregory M. Adams  
Community Renewable Energy Association

From: Robert Macfarlane  
Manager, Pricing & Tariffs

Sponsor: Robert Macfarlane

Portland General Electric Company  
UM 2032  
PGE Response to CREA Data Request 003  
Dated September 1, 2021

**Request:**

Please confirm that network upgrades constructed as a consequence of a QF's interconnection would be included in the FERC Form No. 1 lines 47 through 75 (as requested in CREA Data Request No. 1) and, if not, please identify what other categories of QF network upgrade costs might exist.

**Response:**

PGE objects that some of the requested information (for example, "Street Lighting and Signal Systems") is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. Notwithstanding and without waiving this objection:

PGE has not constructed any Network Upgrades on its transmission system associated with QF interconnection. If PGE did construct Network Upgrades associated with QF interconnection, then the amounts would be included in FERC Form No. 1 lines 47 through 75. However, any Network Upgrades involving communications would be included in line 94. The costs reflected would be PGE's construction cost reduced by any contributions in aid of construction received from the QFs.

September 14, 2021

To: Gregory M. Adams  
Community Renewable Energy Association

From: Robert Macfarlane  
Manager, Pricing & Tariffs

Sponsor: Shaun Foster

Portland General Electric Company  
UM 2032  
PGE Response to CREA Data Request 004  
Dated September 1, 2021

**Request:**

Reference Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/20:6-15, asserting that the Joint Utilities propose systemwide benefits for which a QF would be entitled to a refund should be limited to upgrades identified in “either a utility’s transmission plan or a necessary upgrade in a previous service request.”

- a. Provide the each “transmission plan”, meeting the criteria as described in the quoted testimony, which was completed by your utility in the past 10 years and supply a copy of each such plan.
- b. For each transmission plan referred to in subpart a., identify the page numbers of the plan that identify the specific transmission projects that a QF developer would be able to locate to ascertain the upgrades that would qualify for a systemwide benefits refund.
- c. For each transmission plan referred to in subpart a., identify the publicly available web address or location where a QF developer would be able to locate such transmission plan. If the plan is not publicly available at a public website, please state so.
- d. For each transmission plan referred to in subpart a., please explain whether the plan contains all additions to transmission rate base that the utility will complete in the planning period covered by the plan.

**Response:**

PGE objects that the referenced page number does not contain the quoted testimony. PGE assumes this request is intended to reference Joint Utilities/400, Vail-Bremer-Foster-Larson Ellsworth/21:6-15. PGE also objects that the referenced testimony does not purport to outline the limits of the system-wide benefits standard. Notwithstanding and without waiving these objections:

- a. Please see PGE’s OASIS “Transmission Planning” > “Local Transmission Plans” folder. PGE also participates in the Northern Grid Regional Planning process.
- b. Appendix A to each plan describes the projects included.

c. [oasis.oati.com/pge](https://oasis.oati.com/pge)

d. PGE may construct transmission upgrades not included in its Local Transmission Plan if circumstances change after the plan is completed. For example, PGE may need to conduct emergency repairs after significant weather events or major equipment failure. Additionally, PGE may not construct all projects previously identified in Local Transmission Plans and/or the timing for projects identified in transmission plans may change.

September 14, 2021

To: Gregory M. Adams  
Community Renewable Energy Association

From: Robert Macfarlane  
Manager, Pricing & Tariffs

Sponsor: Shaun Foster

Portland General Electric Company  
UM 2032  
PGE Response to CREA Data Request 005  
Dated September 1, 2021

**Request:**

Reference Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/20:16 to /21:1, asserting that the utilities' current practice is to not "allocate cost responsibility in their interconnection studies or agreement for Network Upgrades already identified in a utility's transmission plan or as necessary for a previous request."

- a. Identify each instance where your utility has explained to a QF developer that a refund would be offered, or costs of an upgrade not assigned to the QF, because the network upgrade identified in an interconnection study was also identified in a "transmission plan" as alleged in the testimony quoted above. If no such instances have occurred, please confirm.
- b. Provide all documents supporting the response to subpart a., including any interconnection studies or other correspondence communicating to a QF developer that it will not be responsible for certain upgrades because such upgrades are included in the utility's transmission plan.

**Response:**

- a. To the best of PGE's knowledge, PGE has not explained to a QF developer that a refund would be offered because a network upgrade identified in the QF's interconnection study was also identified in a transmission plan. However, PGE removed communication upgrades that had originally been assigned to the Madras Solar QF from the Facilities Study after PGE's detailed engineering review during the Facilities Study phase determined that the necessary communications equipment would already be installed by PGE in separate, unrelated projects.
- b. Attachment A contains the Madras Solar QF Facilities Study. Please refer to page 16, which states "During the Facilities Study phase, PGE undertook a detailed engineering review of the facilities that would be required for the RAS, and determined that much of the equipment previously envisioned for the RAS would already be installed, either in separate unrelated projects, or as necessary equipment for the POI Substation...."

October 5, 2021

To: Gregory M. Adams  
Community Renewable Energy Association

From: Robert Macfarlane  
Manager, Pricing & Tariffs

Portland General Electric Company  
UM 2032  
PGE Response to CREA Data Request 006  
Dated September 23, 2021

**Request:**

Reference PGE's Response to CREA Data Request No. 4, which identified certain transmission plans proposed in Joint Utilities/400, Vail-Bremer-Foster-Larson- Ellsworth/21:6-15 as the source of upgrades entitled to systemwide benefits treatment in a qualifying facility interconnection. PGE stated in response to Request No. 4(d): "PGE may construct transmission upgrades not included in its Local Transmission Plan if circumstances change after the plan is completed. For example, PGE may need to conduct emergency repairs after significant weather events or major equipment failure."

- a. For each of the last five years, provide the annual amount (\$) of additions to transmission rate base that were not identified in a transmission plan of the nature of those identified in the PGE's Response to CREA's Data Request No. 4. Exclude from the figure supplied any additions to transmission rate base for qualifying facility interconnections.
- b. Please explain whether all of the additions included in response to subpart a., were needed to conduct emergency repairs, or whether PGE also incurs additional expenditures for regular maintenance of its system that are not included the referenced transmission plans.
- c. Please explain whether there are any advance written plans prepared by the Company for regular maintenance projects on the transmission system that are not included in transmission plans of the nature of those identified in the Company's Response to CREA's Data Request No. 4. Please also explain whether any advance written plans responsive to this subpart are publicly available to a prospective qualifying facility, and the location (e.g., website address) where the plans are publicly located.
- d. If the answer to subpart c. is that no advance written plans are created for certain transmission maintenance projects, please explain the Company's process for identifying and planning for such maintenance projects.
- e. If the answer to subpart c. is that no plans are created for certain transmission maintenance projects, or that such plans are not publicly available, please explain the Company's proposal for how a prospective qualifying facility would be able to know of such transmission maintenance projects.

**Response:**

- A. The table below provides the total annual net addition to transmission rate base that were not included in a transmission plan. This amount includes projects that generally did not create additional capacity on PGE’s system, including, for example: generation-related projects, emergency repairs, and maintenance or replacement of aging assets.

2016	2017	2018	2019	2020
\$57,102,908	\$14,058,721	\$11,908,911	\$3,382,323	\$20,111,675

- B. As explained in subpart A, the additions to transmission rate base included in the response to subpart A stem from a variety of causes—not just emergency repairs or regular system maintenance.
- C. The Company does have advance written plans for regular maintenance projects on the transmission system that are not included in transmission plans of the nature of those identified in the Company’s response to CREA’s Data Request No. 4. These maintenance plans are used for internal planning purposes and are not publicly available. PGE notes that regular maintenance projects on the transmission system generally do not add capacity to PGE’s transmission system.
- D. N/A
- E. The information contained in these plans would not be useful to a prospective QF because these plans do not contain information about additions that would increase capacity.

October 5, 2021

To: Gregory M. Adams  
Community Renewable Energy Association

From: Robert Macfarlane  
Manager, Pricing & Tariffs

Portland General Electric Company  
UM 2032  
PGE Response to CREA Data Request 007  
Dated September 23, 2021

**Request:**

Reference PGE's Response to CREA Data Request No. 4, which identified certain transmission plans proposed in Joint Utilities/400, Vail-Bremer-Foster-Larson- Ellsworth/21:6-15 as the source of upgrades entitled to systemwide benefits treatment in a qualifying facility interconnection. PGE stated as follows: "PGE also objects that the referenced testimony does not purport to outline the limits of the system-wide benefits standard." Please explain what other types of upgrades PGE proposes should be included as qualifying for refund or other payment exemption to the qualifying facility under the system-wide benefits standard.

**Response:**

Please see Joint Utilities/300, Wilding-Macfarlane-Williams/18:18-20:7; Joint Utilities/300, Wilding-Macfarlane-Williams/31:2-32:5 (providing the Joint Utilities' understanding regarding the quantifiable system-wide benefit standard, explaining that the Joint Utilities do not understand precisely what the Commission intended when adopting this standard, and supporting Staff's recommendation to address the issue in Phase II of docket UM 2032).

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**EXHIBIT INTERCONNECTION CUSTOMER COALITION/305**

**EXCERPTS OF PACIFICORP AND PORTLAND GENERAL ELECTRIC FERC FORM  
1S FROM UTILITY WEBSITES, AND EXCEL SPREADSHEET CONSOLIDATING  
FERC FORM 1 DATA FOR ALL THREE UTILITIES**

**January 19, 2022**



Name of Respondent		This Report Is:	Date of Report	Year/Period of Report
PacifiCorp		(1) <input type="checkbox"/> An Original (2) <input checked="" type="checkbox"/> A Resubmission	(Mo, Da, Yr) 06/28/2012	End of 2011/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	181,517,465	6,585,489	
49	(352) Structures and Improvements	122,948,592	1,889,271	
50	(353) Station Equipment	1,549,843,309	120,843,402	
51	(354) Towers and Fixtures	863,436,957	121,134,025	
52	(355) Poles and Fixtures	686,565,486	-36,751,094	
53	(356) Overhead Conductors and Devices	912,469,174	-9,563,095	
54	(357) Underground Conduit	3,259,452	166	
55	(358) Underground Conductors and Devices	7,475,095		
56	(359) Roads and Trails	11,598,703	-12,022	
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	4,339,114,233	204,126,142	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	52,837,393	2,627,987	
61	(361) Structures and Improvements	74,675,982	3,939,729	
62	(362) Station Equipment	817,421,421	43,613,791	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	942,088,822	52,031,610	
65	(365) Overhead Conductors and Devices	648,849,674	20,286,125	
66	(366) Underground Conduit	302,216,890	11,766,173	
67	(367) Underground Conductors and Devices	718,645,076	22,802,968	
68	(368) Line Transformers	1,097,798,842	46,967,729	
69	(369) Services	581,777,749	23,644,523	
70	(370) Meters	179,453,205	12,983,820	
71	(371) Installations on Customer Premises	8,801,076	83,800	
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	60,795,839	1,697,847	
74	(374) Asset Retirement Costs for Distribution Plant	1,937,045	698,180	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	5,487,299,014	243,144,282	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	16,200,395	3,338,399	
87	(390) Structures and Improvements	235,540,153	13,161,250	
88	(391) Office Furniture and Equipment	77,219,598	10,829,521	
89	(392) Transportation Equipment	98,768,642	8,925,864	
90	(393) Stores Equipment	13,766,183	845,084	
91	(394) Tools, Shop and Garage Equipment	61,822,342	3,356,837	
92	(395) Laboratory Equipment	36,594,299	3,968,841	
93	(396) Power Operated Equipment	132,526,576	28,146,900	
94	(397) Communication Equipment	259,841,810	32,852,979	
95	(398) Miscellaneous Equipment	6,906,051	833,772	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	939,186,049	106,259,447	
97	(399) Other Tangible Property	274,422,093	24,292,229	
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,213,647,890	130,551,676	
100	TOTAL (Accounts 101 and 106)	21,780,071,841	1,350,737,702	
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)	4,484,801	779,590	
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	21,775,587,040	1,349,958,112	

Name of Respondent PacifiCorp		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2012/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	189,547,944	8,885,370	
49	(352) Structures and Improvements	147,332,899	3,547,184	
50	(353) Station Equipment	1,613,127,173	161,767,856	
51	(354) Towers and Fixtures	984,782,939	7,293,362	
52	(355) Poles and Fixtures	646,562,331	42,144,868	
53	(356) Overhead Conductors and Devices	896,743,379	24,195,286	
54	(357) Underground Conduit	3,259,618	56,007	
55	(358) Underground Conductors and Devices	7,475,095	14,084	
56	(359) Roads and Trails	11,586,681		
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	4,500,418,059	247,904,017	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	55,701,416	4,172,303	
61	(361) Structures and Improvements	83,116,060	1,773,758	
62	(362) Station Equipment	847,652,682	46,485,145	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	987,694,151	35,859,072	
65	(365) Overhead Conductors and Devices	665,402,916	17,097,660	
66	(366) Underground Conduit	312,231,842	11,904,186	
67	(367) Underground Conductors and Devices	738,536,581	23,037,978	
68	(368) Line Transformers	1,135,844,771	38,119,095	
69	(369) Services	604,680,445	25,185,585	
70	(370) Meters	175,522,842	4,187,547	
71	(371) Installations on Customer Premises	8,787,057	133,085	
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	61,094,426	1,366,327	
74	(374) Asset Retirement Costs for Distribution Plant	2,635,225		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	5,678,900,414	209,321,741	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	19,537,440	58,406	
87	(390) Structures and Improvements	248,411,354	4,353,138	
88	(391) Office Furniture and Equipment	80,884,267	9,086,454	
89	(392) Transportation Equipment	104,525,735	2,136,448	
90	(393) Stores Equipment	14,124,139	718,756	
91	(394) Tools, Shop and Garage Equipment	63,134,822	1,497,809	
92	(395) Laboratory Equipment	38,028,514	687,313	
93	(396) Power Operated Equipment	150,984,026	13,001,121	
94	(397) Communication Equipment	298,389,515	46,031,518	
95	(398) Miscellaneous Equipment	7,308,855	306,015	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,025,328,667	77,876,978	
97	(399) Other Tangible Property	291,200,775	9,443,628	
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,316,569,190	87,320,606	
100	TOTAL (Accounts 101 and 106)	22,770,303,572	1,213,829,118	
101	(102) Electric Plant Purchased (See Instr. 8)		124,000	
102	(Less) (102) Electric Plant Sold (See Instr. 8)	779,590		
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	22,769,523,982	1,213,953,118	

Name of Respondent PacifiCorp		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2013/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	198,218,069	26,830,476	
49	(352) Structures and Improvements	170,949,185	2,454,073	
50	(353) Station Equipment	1,735,328,437	102,719,775	
51	(354) Towers and Fixtures	992,008,798	226,035,308	
52	(355) Poles and Fixtures	686,214,770	22,197,850	
53	(356) Overhead Conductors and Devices	919,805,558	140,800,705	
54	(357) Underground Conduit	3,312,843	27,261	
55	(358) Underground Conductors and Devices	7,489,179	10,281	
56	(359) Roads and Trails	11,586,681	336,114	
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	4,724,913,520	521,411,843	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	59,625,027	1,953,555	
61	(361) Structures and Improvements	89,144,237	2,823,009	
62	(362) Station Equipment	884,422,143	34,439,329	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	1,015,605,530	41,474,798	
65	(365) Overhead Conductors and Devices	679,910,311	16,227,790	
66	(366) Underground Conduit	322,706,767	8,701,790	
67	(367) Underground Conductors and Devices	759,050,565	18,756,758	
68	(368) Line Transformers	1,165,115,776	42,891,258	
69	(369) Services	628,986,472	25,907,953	
70	(370) Meters	176,687,115	5,148,695	
71	(371) Installations on Customer Premises	8,827,913	76,676	
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	60,443,784	1,289,956	
74	(374) Asset Retirement Costs for Distribution Plant	2,459,448		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	5,852,985,088	199,691,567	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	19,478,606	1,995,376	
87	(390) Structures and Improvements	227,482,706	8,525,002	
88	(391) Office Furniture and Equipment	89,904,683	12,843,359	
89	(392) Transportation Equipment	103,227,297	3,808,692	
90	(393) Stores Equipment	14,568,536	323,811	
91	(394) Tools, Shop and Garage Equipment	62,887,623	1,897,471	
92	(395) Laboratory Equipment	37,053,335	889,654	
93	(396) Power Operated Equipment	155,194,085	6,930,033	
94	(397) Communication Equipment	344,747,037	40,183,598	
95	(398) Miscellaneous Equipment	7,929,038	274,366	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,062,472,946	77,671,362	
97	(399) Other Tangible Property	296,636,099	14,112,209	
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,359,148,793	91,783,571	
100	TOTAL (Accounts 101 and 106)	23,734,113,296	997,836,086	
101	(102) Electric Plant Purchased (See Instr. 8)	124,000		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		4,235	
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	23,734,237,296	997,831,851	

Name of Respondent	This Report Is:	Date of Report (Mo, Da, Yr)	Year/Period of Report
PacifiCorp	(1) <input type="checkbox"/> An Original (2) <input checked="" type="checkbox"/> A Resubmission	12/01/2015	End of 2014/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	225,631,404	4,661,601
49	(352) Structures and Improvements	184,174,369	3,191,210
50	(353) Station Equipment	1,813,896,299	103,221,884
51	(354) Towers and Fixtures	1,218,917,978	2,631,301
52	(355) Poles and Fixtures	706,210,382	39,618,286
53	(356) Overhead Conductors and Devices	1,059,513,463	25,619,465
54	(357) Underground Conduit	3,340,104	-1,100
55	(358) Underground Conductors and Devices	7,499,460	
56	(359) Roads and Trails	11,922,795	14,405
57	(359.1) Asset Retirement Costs for Transmission Plant		
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	5,231,106,254	178,957,052
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	62,028,583	1,318,226
61	(361) Structures and Improvements	97,377,014	2,458,813
62	(362) Station Equipment	906,249,058	30,807,276
63	(363) Storage Battery Equipment		
64	(364) Poles, Towers, and Fixtures	1,052,968,133	38,012,995
65	(365) Overhead Conductors and Devices	693,804,415	16,695,558
66	(366) Underground Conduit	330,194,141	12,134,599
67	(367) Underground Conductors and Devices	776,602,508	20,568,877
68	(368) Line Transformers	1,200,818,543	41,991,053
69	(369) Services	654,161,585	26,466,667
70	(370) Meters	177,965,016	5,767,721
71	(371) Installations on Customer Premises	8,822,747	89,214
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	60,769,235	1,066,268
74	(374) Asset Retirement Costs for Distribution Plant	1,651,393	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	6,023,412,371	197,377,267
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	21,472,385	7,532
87	(390) Structures and Improvements	233,694,751	8,204,632
88	(391) Office Furniture and Equipment	87,147,440	12,215,804
89	(392) Transportation Equipment	105,016,260	4,986,063
90	(393) Stores Equipment	14,884,798	600,188
91	(394) Tools, Shop and Garage Equipment	63,129,288	1,714,310
92	(395) Laboratory Equipment	35,461,262	873,136
93	(396) Power Operated Equipment	158,392,929	9,677,000
94	(397) Communication Equipment	384,826,535	22,677,764
95	(398) Miscellaneous Equipment	8,030,164	394,660
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,112,055,812	61,351,089
97	(399) Other Tangible Property	305,657,640	874,375
98	(399.1) Asset Retirement Costs for General Plant	39,748	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,417,753,200	62,225,464
100	TOTAL (Accounts 101 and 106)	24,578,892,585	1,433,245,101
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	24,578,892,585	1,433,245,101

Name of Respondent PacifiCorp		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2015/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	230,226,403	17,839,900	
49	(352) Structures and Improvements	210,430,141	20,077,892	
50	(353) Station Equipment	1,875,788,731	155,302,132	
51	(354) Towers and Fixtures	1,221,298,019	67,458,271	
52	(355) Poles and Fixtures	744,102,993	158,276,662	
53	(356) Overhead Conductors and Devices	1,082,532,470	109,294,243	
54	(357) Underground Conduit	3,519,566		
55	(358) Underground Conductors and Devices	8,035,354		
56	(359) Roads and Trails	11,937,200		
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	5,387,870,877	528,249,100	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	63,135,433	1,379,309	
61	(361) Structures and Improvements	104,255,048	3,093,921	
62	(362) Station Equipment	925,759,498	38,711,222	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	1,085,444,520	39,717,972	
65	(365) Overhead Conductors and Devices	707,873,785	17,703,989	
66	(366) Underground Conduit	341,230,913	10,139,125	
67	(367) Underground Conductors and Devices	795,524,274	24,731,953	
68	(368) Line Transformers	1,234,715,959	47,383,609	
69	(369) Services	679,839,675	30,420,165	
70	(370) Meters	180,902,129	8,823,758	
71	(371) Installations on Customer Premises	8,831,952	103,069	
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	61,371,460	1,174,632	
74	(374) Asset Retirement Costs for Distribution Plant	1,507,080		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	6,190,391,726	223,382,724	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	21,396,610		
87	(390) Structures and Improvements	239,006,029	5,133,404	
88	(391) Office Furniture and Equipment	82,750,840	8,903,086	
89	(392) Transportation Equipment	107,071,045	6,751,977	
90	(393) Stores Equipment	14,910,200	396,647	
91	(394) Tools, Shop and Garage Equipment	62,963,632	2,288,604	
92	(395) Laboratory Equipment	33,940,714	2,027,929	
93	(396) Power Operated Equipment	163,759,938	12,043,147	
94	(397) Communication Equipment	408,492,593	18,293,981	
95	(398) Miscellaneous Equipment	8,038,720	623,306	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,142,330,321	56,462,081	
97	(399) Other Tangible Property	302,661,738	103,342	
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,445,031,807	56,565,423	
100	TOTAL (Accounts 101 and 106)	25,826,088,116	1,333,099,520	
101	(102) Electric Plant Purchased (See Instr. 8)		33,944,495	
102	(Less) (102) Electric Plant Sold (See Instr. 8)		-1,114,497	
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	25,826,088,116	1,368,158,512	

Name of Respondent PacifiCorp		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2016/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	251,625,967		4,326,112
49	(352) Structures and Improvements	239,305,233		4,546,370
50	(353) Station Equipment	2,012,791,077		97,808,172
51	(354) Towers and Fixtures	1,288,991,817		2,140,800
52	(355) Poles and Fixtures	901,299,535		22,421,086
53	(356) Overhead Conductors and Devices	1,193,250,695		22,042,679
54	(357) Underground Conduit	3,519,566		-172
55	(358) Underground Conductors and Devices	8,035,354		
56	(359) Roads and Trails	11,937,200		
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	5,910,756,444		153,285,047
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	62,461,151		796,264
61	(361) Structures and Improvements	110,250,312		2,354,138
62	(362) Station Equipment	971,676,422		31,672,784
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	1,120,755,209		39,320,107
65	(365) Overhead Conductors and Devices	724,069,029		19,504,360
66	(366) Underground Conduit	349,690,089		11,033,231
67	(367) Underground Conductors and Devices	820,180,898		23,991,529
68	(368) Line Transformers	1,274,134,081		45,536,275
69	(369) Services	709,528,257		34,747,237
70	(370) Meters	186,936,755		9,245,534
71	(371) Installations on Customer Premises	8,863,050		61,971
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	61,222,785		1,444,196
74	(374) Asset Retirement Costs for Distribution Plant	1,507,080		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	6,401,275,118		219,707,626
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	21,481,450		176,044
87	(390) Structures and Improvements	240,205,455		5,170,795
88	(391) Office Furniture and Equipment	80,556,278		5,622,539
89	(392) Transportation Equipment	110,652,440		3,994,617
90	(393) Stores Equipment	15,178,816		377,227
91	(394) Tools, Shop and Garage Equipment	64,061,851		2,250,713
92	(395) Laboratory Equipment	33,961,776		860,916
93	(396) Power Operated Equipment	168,265,144		5,416,614
94	(397) Communication Equipment	428,243,947		21,420,893
95	(398) Miscellaneous Equipment	8,135,600		259,442
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,170,742,757		45,549,800
97	(399) Other Tangible Property	2,559,113		
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,173,341,618		45,549,800
100	TOTAL (Accounts 101 and 106)	26,516,594,918		840,607,723
101	(102) Electric Plant Purchased (See Instr. 8)	1,460,458		301,580
102	(Less) (102) Electric Plant Sold (See Instr. 8)	-561,324		-5,796,654
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	26,518,616,700		846,705,957

Name of Respondent PacifiCorp		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2017/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	255,798,637	9,351,621	
49	(352) Structures and Improvements	242,638,070	15,241,885	
50	(353) Station Equipment	2,104,342,313	101,979,030	
51	(354) Towers and Fixtures	1,291,140,475	5,515,291	
52	(355) Poles and Fixtures	920,968,349	33,229,594	
53	(356) Overhead Conductors and Devices	1,213,340,115	27,044,059	
54	(357) Underground Conduit	3,519,394		
55	(358) Underground Conductors and Devices	8,035,354		
56	(359) Roads and Trails	11,937,200		
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	6,051,719,907	192,361,480	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	62,113,932	1,648,419	
61	(361) Structures and Improvements	112,377,028	3,653,721	
62	(362) Station Equipment	997,337,161	30,556,231	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	1,151,503,495	37,544,164	
65	(365) Overhead Conductors and Devices	739,638,373	17,867,937	
66	(366) Underground Conduit	359,267,271	12,417,672	
67	(367) Underground Conductors and Devices	841,132,222	24,977,031	
68	(368) Line Transformers	1,310,749,847	48,079,642	
69	(369) Services	743,490,472	35,282,317	
70	(370) Meters	192,964,294	17,289,084	
71	(371) Installations on Customer Premises	8,837,157	62,807	
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	61,890,748	1,341,620	
74	(374) Asset Retirement Costs for Distribution Plant	1,507,080		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	6,582,809,080	230,720,645	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	21,544,358	150,657	
87	(390) Structures and Improvements	241,961,606	7,702,060	
88	(391) Office Furniture and Equipment	75,133,918	14,842,909	
89	(392) Transportation Equipment	110,614,591	11,640,538	
90	(393) Stores Equipment	15,398,780	585,812	
91	(394) Tools, Shop and Garage Equipment	64,086,679	3,986,834	
92	(395) Laboratory Equipment	32,873,041	1,790,406	
93	(396) Power Operated Equipment	163,198,650	23,918,128	
94	(397) Communication Equipment	443,004,548	18,313,325	
95	(398) Miscellaneous Equipment	8,214,144	79,600	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,176,030,315	83,010,269	
97	(399) Other Tangible Property	1,854,828		
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,177,924,891	83,010,269	
100	TOTAL (Accounts 101 and 106)	27,064,434,648	771,603,971	
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	27,064,434,648	771,603,971	

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
PacifiCorp	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2018/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	265,463,991	7,592,764
49	(352) Structures and Improvements	257,688,990	18,300,457
50	(353) Station Equipment	2,195,395,245	81,136,003
51	(354) Towers and Fixtures	1,294,996,299	6,290,713
52	(355) Poles and Fixtures	948,225,375	14,415,829
53	(356) Overhead Conductors and Devices	1,237,023,809	19,492,593
54	(357) Underground Conduit	3,519,394	664
55	(358) Underground Conductors and Devices	8,035,354	
56	(359) Roads and Trails	11,937,200	
57	(359.1) Asset Retirement Costs for Transmission Plant		
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	6,222,285,657	147,229,023
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	63,696,481	920,970
61	(361) Structures and Improvements	115,852,040	5,122,912
62	(362) Station Equipment	1,023,434,976	27,789,643
63	(363) Storage Battery Equipment		
64	(364) Poles, Towers, and Fixtures	1,183,290,681	44,813,845
65	(365) Overhead Conductors and Devices	754,957,486	22,936,227
66	(366) Underground Conduit	370,250,464	16,846,056
67	(367) Underground Conductors and Devices	864,063,506	37,506,169
68	(368) Line Transformers	1,349,720,845	50,604,104
69	(369) Services	778,051,452	41,492,046
70	(370) Meters	205,790,437	63,016,074
71	(371) Installations on Customer Premises	8,810,967	72,428
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	62,639,259	1,428,121
74	(374) Asset Retirement Costs for Distribution Plant	1,344,766	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	6,781,903,360	312,548,595
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	21,695,015	12
87	(390) Structures and Improvements	245,730,525	9,323,286
88	(391) Office Furniture and Equipment	82,426,126	20,843,309
89	(392) Transportation Equipment	118,365,919	5,246,656
90	(393) Stores Equipment	15,428,202	541,338
91	(394) Tools, Shop and Garage Equipment	64,895,499	3,041,657
92	(395) Laboratory Equipment	33,392,275	2,089,576
93	(396) Power Operated Equipment	179,487,287	20,020,098
94	(397) Communication Equipment	459,236,333	25,473,312
95	(398) Miscellaneous Equipment	8,319,050	252,613
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,228,976,231	86,831,857
97	(399) Other Tangible Property	1,854,828	
98	(399.1) Asset Retirement Costs for General Plant	39,748	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,230,870,807	86,831,857
100	TOTAL (Accounts 101 and 106)	27,658,984,089	787,402,401
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	27,658,984,089	787,402,401



Name of Respondent PacifiCorp		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2019/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	272,900,490	9,643,723	
49	(352) Structures and Improvements	275,874,995	8,107,097	
50	(353) Station Equipment	2,265,701,408	20,786,559	
51	(354) Towers and Fixtures	1,301,155,918	6,284,080	
52	(355) Poles and Fixtures	960,420,522	58,083,941	
53	(356) Overhead Conductors and Devices	1,253,499,035	37,297,336	
54	(357) Underground Conduit	3,520,058	328,768	
55	(358) Underground Conductors and Devices	8,035,354	-1,070,700	
56	(359) Roads and Trails	11,937,200		
57	(359.1) Asset Retirement Costs for Transmission Plant			
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	6,353,044,980	139,460,804	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	64,555,204	774,777	
61	(361) Structures and Improvements	120,762,525	4,312,286	
62	(362) Station Equipment	1,043,475,099	45,188,274	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	1,220,758,561	54,673,840	
65	(365) Overhead Conductors and Devices	774,459,766	35,931,593	
66	(366) Underground Conduit	385,158,148	15,846,482	
67	(367) Underground Conductors and Devices	898,121,842	40,026,257	
68	(368) Line Transformers	1,390,837,792	52,469,821	
69	(369) Services	818,443,527	43,705,175	
70	(370) Meters	229,675,682	43,363,562	
71	(371) Installations on Customer Premises	8,806,482	60,744	
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	62,888,188	1,205,599	
74	(374) Asset Retirement Costs for Distribution Plant	1,344,766		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	7,019,287,582	337,558,410	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	21,540,621	2,075,036	
87	(390) Structures and Improvements	250,401,291	10,349,685	
88	(391) Office Furniture and Equipment	88,315,352	5,850,337	
89	(392) Transportation Equipment	117,676,889	6,499,183	
90	(393) Stores Equipment	14,919,759	509,554	
91	(394) Tools, Shop and Garage Equipment	63,668,918	3,394,734	
92	(395) Laboratory Equipment	34,874,025	1,372,258	
93	(396) Power Operated Equipment	191,826,835	7,260,916	
94	(397) Communication Equipment	482,950,536	22,787,545	
95	(398) Miscellaneous Equipment	8,268,735	555,298	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,274,442,961	60,654,546	
97	(399) Other Tangible Property	1,854,828		
98	(399.1) Asset Retirement Costs for General Plant	39,748		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,276,337,537	60,654,546	
100	TOTAL (Accounts 101 and 106)	28,221,394,479	1,499,706,353	
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	28,221,394,479	1,499,706,353	

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
PacifiCorp	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2020/Q4
<b>ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)</b>			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	281,363,904	33,835,015
49	(352) Structures and Improvements	283,787,044	23,536,330
50	(353) Station Equipment	2,279,276,707	429,162,676
51	(354) Towers and Fixtures	1,307,439,631	35,330,362
52	(355) Poles and Fixtures	1,015,701,010	333,100,980
53	(356) Overhead Conductors and Devices	1,287,027,290	316,850,103
54	(357) Underground Conduit	3,848,826	8,411
55	(358) Underground Conductors and Devices	8,238,468	842,149
56	(359) Roads and Trails	11,937,200	208,813
57	(359.1) Asset Retirement Costs for Transmission Plant		2,528,190
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	6,478,620,080	1,175,403,029
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	65,329,981	3,287,272
61	(361) Structures and Improvements	124,996,790	1,689,023
62	(362) Station Equipment	1,085,813,833	69,408,435
63	(363) Storage Battery Equipment		
64	(364) Poles, Towers, and Fixtures	1,267,917,057	83,921,949
65	(365) Overhead Conductors and Devices	806,824,019	45,386,970
66	(366) Underground Conduit	399,131,386	21,490,279
67	(367) Underground Conductors and Devices	935,090,905	45,799,047
68	(368) Line Transformers	1,433,055,320	69,683,118
69	(369) Services	860,892,630	47,034,186
70	(370) Meters	245,107,614	9,771,082
71	(371) Installations on Customer Premises	8,802,174	85,206
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	62,338,943	1,414,572
74	(374) Asset Retirement Costs for Distribution Plant	1,344,766	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	7,296,645,418	398,971,139
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	23,615,657	245,646
87	(390) Structures and Improvements	257,936,605	12,919,351
88	(391) Office Furniture and Equipment	72,082,727	19,907,110
89	(392) Transportation Equipment	119,232,266	14,577,323
90	(393) Stores Equipment	14,958,720	1,193,460
91	(394) Tools, Shop and Garage Equipment	63,565,114	4,679,171
92	(395) Laboratory Equipment	34,959,699	2,003,653
93	(396) Power Operated Equipment	190,961,993	26,143,257
94	(397) Communication Equipment	501,800,356	28,717,798
95	(398) Miscellaneous Equipment	8,519,781	312,596
96	SUBTOTAL (Enter Total of lines 86 thru 95)	1,287,632,918	110,699,365
97	(399) Other Tangible Property	1,854,828	
98	(399.1) Asset Retirement Costs for General Plant	39,748	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	1,289,527,494	110,699,365
100	TOTAL (Accounts 101 and 106)	28,629,755,212	3,119,652,322
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	28,629,755,212	3,119,652,322

Name of Respondent Portland General Electric Company		This Report Is: (1) <input type="checkbox"/> An Original (2) <input checked="" type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) 05/30/2012	Year/Period of Report End of 2011/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	11,126,862		
49	(352) Structures and Improvements	15,851,931	532,900	
50	(353) Station Equipment	208,228,244	10,933,852	
51	(354) Towers and Fixtures	46,806,048		
52	(355) Poles and Fixtures	17,484,371	1,985,771	
53	(356) Overhead Conductors and Devices	72,401,937	7,481,838	
54	(357) Underground Conduit			
55	(358) Underground Conductors and Devices			
56	(359) Roads and Trails	286,332		
57	(359.1) Asset Retirement Costs for Transmission Plant	53,039		
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	372,238,764	20,934,361	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	13,654,237	21,068	
61	(361) Structures and Improvements	33,710,996	2,237,316	
62	(362) Station Equipment	332,220,097	26,037,867	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	295,830,321	13,505,931	
65	(365) Overhead Conductors and Devices	479,665,378	34,300,688	
66	(366) Underground Conduit	15,739,937	-52,743	
67	(367) Underground Conductors and Devices	584,288,493	22,899,684	
68	(368) Line Transformers	278,603,506	15,889,602	
69	(369) Services	360,040,232	7,753,820	
70	(370) Meters	119,670,404	3,584,653	
71	(371) Installations on Customer Premises	376,133		
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	55,576,187	1,678,107	
74	(374) Asset Retirement Costs for Distribution Plant	460,131		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	2,569,836,052	127,855,993	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	4,873,150	1,221,028	
87	(390) Structures and Improvements	60,156,016	7,144,716	
88	(391) Office Furniture and Equipment	56,939,198	11,202,157	
89	(392) Transportation Equipment	40,569,901	1,339,483	
90	(393) Stores Equipment	2,341,426	242,075	
91	(394) Tools, Shop and Garage Equipment	10,920,355	519,839	
92	(395) Laboratory Equipment	12,608,072	560,746	
93	(396) Power Operated Equipment	42,430,473	2,774,009	
94	(397) Communication Equipment	62,963,946	8,886,845	
95	(398) Miscellaneous Equipment	137,680	1,445	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	293,940,217	33,892,343	
97	(399) Other Tangible Property			
98	(399.1) Asset Retirement Costs for General Plant	64,488		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	294,004,705	33,892,343	
100	TOTAL (Accounts 101 and 106)	6,260,122,796	342,804,796	
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	6,260,122,796	342,804,796	

Name of Respondent Portland General Electric Company		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2012/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	11,120,109	109,999	
49	(352) Structures and Improvements	16,365,764	1,043,493	
50	(353) Station Equipment	219,025,075	15,416,966	
51	(354) Towers and Fixtures	46,806,048	2,244	
52	(355) Poles and Fixtures	18,818,400	1,670,787	
53	(356) Overhead Conductors and Devices	79,883,775	1,382,678	
54	(357) Underground Conduit			
55	(358) Underground Conductors and Devices			
56	(359) Roads and Trails	286,332		
57	(359.1) Asset Retirement Costs for Transmission Plant	53,039		
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	392,358,542	19,626,167	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	13,681,528	15,101	
61	(361) Structures and Improvements	35,868,982	1,032,357	
62	(362) Station Equipment	355,526,111	30,401,264	
63	(363) Storage Battery Equipment			
64	(364) Poles, Towers, and Fixtures	308,051,860	18,363,250	
65	(365) Overhead Conductors and Devices	513,087,674	20,736,935	
66	(366) Underground Conduit	15,611,337		
67	(367) Underground Conductors and Devices	606,754,779	18,622,233	
68	(368) Line Transformers	293,658,562	13,771,835	
69	(369) Services	367,658,209	10,515,412	
70	(370) Meters	122,948,704	3,295,226	
71	(371) Installations on Customer Premises	376,133		
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	57,026,531	1,615,767	
74	(374) Asset Retirement Costs for Distribution Plant	460,131		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	2,690,710,541	118,369,380	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	6,091,707	1,105,319	
87	(390) Structures and Improvements	67,276,848	4,804,844	
88	(391) Office Furniture and Equipment	60,829,772	13,928,445	
89	(392) Transportation Equipment	40,760,492	1,595,672	
90	(393) Stores Equipment	2,503,117	348,569	
91	(394) Tools, Shop and Garage Equipment	10,637,455	1,613,407	
92	(395) Laboratory Equipment	10,514,460	134,748	
93	(396) Power Operated Equipment	43,814,210	2,730,987	
94	(397) Communication Equipment	71,607,533	1,269,101	
95	(398) Miscellaneous Equipment	131,612	2,427	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	314,167,206	27,533,519	
97	(399) Other Tangible Property			
98	(399.1) Asset Retirement Costs for General Plant	64,488		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	314,231,694	27,533,519	
100	TOTAL (Accounts 101 and 106)	6,577,489,940	279,651,700	
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	6,577,489,940	279,651,700	

Name of Respondent Portland General Electric Company		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2013/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	11,230,108		
49	(352) Structures and Improvements	17,407,070	748,192	
50	(353) Station Equipment	241,319,092	5,081,873	
51	(354) Towers and Fixtures	46,808,292		
52	(355) Poles and Fixtures	20,460,356	331,489	
53	(356) Overhead Conductors and Devices	74,129,949	2,527	
54	(357) Underground Conduit			
55	(358) Underground Conductors and Devices			
56	(359) Roads and Trails	286,332		
57	(359.1) Asset Retirement Costs for Transmission Plant	53,039	-18,930	
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	411,694,238	6,145,151	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	20,358,925	151	
61	(361) Structures and Improvements	36,822,187	1,471,699	
62	(362) Station Equipment	384,524,570	31,141,546	
63	(363) Storage Battery Equipment		351,741	
64	(364) Poles, Towers, and Fixtures	325,204,225	15,767,988	
65	(365) Overhead Conductors and Devices	533,059,151	19,277,321	
66	(366) Underground Conduit	15,523,586		
67	(367) Underground Conductors and Devices	624,820,669	20,708,668	
68	(368) Line Transformers	306,548,578	17,343,238	
69	(369) Services	378,001,520	21,806,301	
70	(370) Meters	125,718,827	5,461,098	
71	(371) Installations on Customer Premises	376,133		
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	58,320,928	6,077,387	
74	(374) Asset Retirement Costs for Distribution Plant	460,131	16,601	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	2,809,739,430	139,423,739	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	7,195,881		
87	(390) Structures and Improvements	70,923,192	27,620,580	
88	(391) Office Furniture and Equipment	66,649,429	24,511,762	
89	(392) Transportation Equipment	40,905,328	2,980,969	
90	(393) Stores Equipment	2,851,686	10,920	
91	(394) Tools, Shop and Garage Equipment	11,124,759	2,125,442	
92	(395) Laboratory Equipment	9,949,816	58,652	
93	(396) Power Operated Equipment	44,800,296	2,690,606	
94	(397) Communication Equipment	72,606,946	12,839,460	
95	(398) Miscellaneous Equipment	129,175	34,142	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	327,136,508	72,872,533	
97	(399) Other Tangible Property			
98	(399.1) Asset Retirement Costs for General Plant	64,488	801	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	327,200,996	72,873,334	
100	TOTAL (Accounts 101 and 106)	6,800,035,495	323,723,521	
101	(102) Electric Plant Purchased (See Instr. 8)	-232,078	-1	
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	6,799,803,417	323,723,520	

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
Portland General Electric Company	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2014/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	11,508,608	12,538
49	(352) Structures and Improvements	18,149,759	784,402
50	(353) Station Equipment	245,413,483	18,097,448
51	(354) Towers and Fixtures	46,808,292	302
52	(355) Poles and Fixtures	20,773,920	2,366,936
53	(356) Overhead Conductors and Devices	74,132,476	3,309,154
54	(357) Underground Conduit		
55	(358) Underground Conductors and Devices		
56	(359) Roads and Trails	286,332	
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109	
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	417,106,979	24,570,780
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	21,606,856	13
61	(361) Structures and Improvements	38,198,947	1,692,534
62	(362) Station Equipment	412,084,913	21,307,378
63	(363) Storage Battery Equipment	351,741	33,192
64	(364) Poles, Towers, and Fixtures	339,907,041	17,379,442
65	(365) Overhead Conductors and Devices	552,023,079	23,452,066
66	(366) Underground Conduit	15,463,125	11,281
67	(367) Underground Conductors and Devices	645,179,499	18,884,402
68	(368) Line Transformers	323,054,436	16,308,662
69	(369) Services	399,676,520	22,612,176
70	(370) Meters	130,446,732	10,996,649
71	(371) Installations on Customer Premises	376,133	
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	60,223,738	11,654,364
74	(374) Asset Retirement Costs for Distribution Plant	476,732	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	2,939,069,492	144,332,159
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	6,750,534	2,913,096
87	(390) Structures and Improvements	95,924,948	12,986,083
88	(391) Office Furniture and Equipment	81,566,654	22,847,627
89	(392) Transportation Equipment	41,632,337	3,779,252
90	(393) Stores Equipment	2,854,812	169,454
91	(394) Tools, Shop and Garage Equipment	12,918,631	2,377,094
92	(395) Laboratory Equipment	9,889,480	-7,024
93	(396) Power Operated Equipment	44,684,701	2,511,103
94	(397) Communication Equipment	85,128,609	11,073,830
95	(398) Miscellaneous Equipment	75,104	78,943
96	SUBTOTAL (Enter Total of lines 86 thru 95)	381,425,810	58,729,458
97	(399) Other Tangible Property		
98	(399.1) Asset Retirement Costs for General Plant	65,289	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	381,491,099	58,729,458
100	TOTAL (Accounts 101 and 106)	7,086,611,503	1,105,683,063
101	(102) Electric Plant Purchased (See Instr. 8)	-1	1
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	7,086,611,502	1,105,683,064

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
Portland General Electric Company	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2015/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	11,521,146	
49	(352) Structures and Improvements	18,934,161	418,717
50	(353) Station Equipment	265,764,953	9,882,380
51	(354) Towers and Fixtures	48,733,211	10,666
52	(355) Poles and Fixtures	23,013,784	429,776
53	(356) Overhead Conductors and Devices	76,981,724	46,202
54	(357) Underground Conduit		
55	(358) Underground Conductors and Devices		
56	(359) Roads and Trails	286,332	
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109	
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	445,269,420	10,787,741
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	21,600,436	2,376,840
61	(361) Structures and Improvements	39,859,326	322,399
62	(362) Station Equipment	431,913,923	43,036,036
63	(363) Storage Battery Equipment	384,933	2,283
64	(364) Poles, Towers, and Fixtures	352,871,314	12,700,039
65	(365) Overhead Conductors and Devices	572,996,660	14,770,443
66	(366) Underground Conduit	15,354,540	30,661
67	(367) Underground Conductors and Devices	663,267,386	27,456,548
68	(368) Line Transformers	338,021,932	21,245,380
69	(369) Services	411,082,900	20,889,870
70	(370) Meters	140,813,509	9,014,036
71	(371) Installations on Customer Premises	376,133	
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	81,632,862	2,968,195
74	(374) Asset Retirement Costs for Distribution Plant	476,732	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	3,070,652,586	154,812,730
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	9,663,128	157
87	(390) Structures and Improvements	108,989,466	14,872,003
88	(391) Office Furniture and Equipment	94,963,071	26,192,609
89	(392) Transportation Equipment	43,747,131	10,160,910
90	(393) Stores Equipment	2,951,002	1,656
91	(394) Tools, Shop and Garage Equipment	14,612,246	1,625,212
92	(395) Laboratory Equipment	9,817,734	169,683
93	(396) Power Operated Equipment	45,158,267	2,581,915
94	(397) Communication Equipment	95,751,299	4,509,909
95	(398) Miscellaneous Equipment	147,376	160,698
96	SUBTOTAL (Enter Total of lines 86 thru 95)	425,800,720	60,274,752
97	(399) Other Tangible Property		
98	(399.1) Asset Retirement Costs for General Plant	65,289	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	425,866,009	60,274,752
100	TOTAL (Accounts 101 and 106)	8,316,405,437	473,985,386
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	8,316,405,437	473,985,386

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
Portland General Electric Company	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2016/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	11,508,608	
49	(352) Structures and Improvements	19,312,917	1,644,355
50	(353) Station Equipment	275,774,826	49,827,757
51	(354) Towers and Fixtures	48,743,877	
52	(355) Poles and Fixtures	25,714,210	5,108,988
53	(356) Overhead Conductors and Devices	74,757,276	5,108,371
54	(357) Underground Conduit		
55	(358) Underground Conductors and Devices		
56	(359) Roads and Trails	286,332	
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109	
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	456,132,155	61,689,471
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	23,952,230	235,147
61	(361) Structures and Improvements	39,801,373	2,471,002
62	(362) Station Equipment	472,305,679	17,330,634
63	(363) Storage Battery Equipment	387,216	-2,283
64	(364) Poles, Towers, and Fixtures	349,610,654	19,339,286
65	(365) Overhead Conductors and Devices	587,352,193	18,784,240
66	(366) Underground Conduit	15,385,201	383,551
67	(367) Underground Conductors and Devices	690,312,083	66,758,150
68	(368) Line Transformers	357,878,100	20,138,236
69	(369) Services	416,071,326	7,717,553
70	(370) Meters	149,406,330	8,864,597
71	(371) Installations on Customer Premises	376,133	
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	82,968,394	2,629,218
74	(374) Asset Retirement Costs for Distribution Plant	476,732	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	3,186,283,644	164,649,331
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	9,654,596	94,743
87	(390) Structures and Improvements	119,462,980	8,560,944
88	(391) Office Furniture and Equipment	110,362,929	21,874,203
89	(392) Transportation Equipment	52,188,035	7,484,516
90	(393) Stores Equipment	2,830,641	315,284
91	(394) Tools, Shop and Garage Equipment	15,411,227	2,547,079
92	(395) Laboratory Equipment	9,245,947	512,065
93	(396) Power Operated Equipment	44,897,144	2,700,123
94	(397) Communication Equipment	98,648,845	14,003,157
95	(398) Miscellaneous Equipment	308,112	308,178
96	SUBTOTAL (Enter Total of lines 86 thru 95)	463,010,456	58,400,292
97	(399) Other Tangible Property		
98	(399.1) Asset Retirement Costs for General Plant	65,289	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	463,075,745	58,400,292
100	TOTAL (Accounts 101 and 106)	8,717,935,968	1,032,981,373
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	8,717,935,968	1,032,981,373



Name of Respondent Portland General Electric Company		This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) / /	Year/Period of Report End of 2017/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	13,300,374		
49	(352) Structures and Improvements	20,957,272	2,702,437	
50	(353) Station Equipment	331,749,298	24,062,066	
51	(354) Towers and Fixtures	48,741,136	10,666	
52	(355) Poles and Fixtures	30,744,074	217,230	
53	(356) Overhead Conductors and Devices	80,083,573	186,318	
54	(357) Underground Conduit			
55	(358) Underground Conductors and Devices			
56	(359) Roads and Trails	286,332		
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109		
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	525,896,168	27,178,717	
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	22,365,581	36,566	
61	(361) Structures and Improvements	41,982,206	957,346	
62	(362) Station Equipment	486,856,077	43,304,942	
63	(363) Storage Battery Equipment	384,933		
64	(364) Poles, Towers, and Fixtures	364,825,631	29,095,008	
65	(365) Overhead Conductors and Devices	604,089,624	29,077,103	
66	(366) Underground Conduit	15,768,752	112,784	
67	(367) Underground Conductors and Devices	754,024,770	36,613,811	
68	(368) Line Transformers	377,593,288	42,558,039	
69	(369) Services	423,397,795	22,906,497	
70	(370) Meters	156,481,841	7,331,412	
71	(371) Installations on Customer Premises	376,133		
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	85,490,077	6,108,695	
74	(374) Asset Retirement Costs for Distribution Plant	476,732		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	3,334,113,440	218,102,203	
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	9,749,339	-4,900	
87	(390) Structures and Improvements	126,198,875	1,468,589	
88	(391) Office Furniture and Equipment	122,959,448	29,959,853	
89	(392) Transportation Equipment	60,649,553	7,624,903	
90	(393) Stores Equipment	3,121,478	654,776	
91	(394) Tools, Shop and Garage Equipment	17,057,160	3,390,672	
92	(395) Laboratory Equipment	8,555,057	1,153,938	
93	(396) Power Operated Equipment	39,775,248	1,500,855	
94	(397) Communication Equipment	112,337,239	22,444,219	
95	(398) Miscellaneous Equipment	616,290	224,900	
96	SUBTOTAL (Enter Total of lines 86 thru 95)	501,019,687	68,417,805	
97	(399) Other Tangible Property			
98	(399.1) Asset Retirement Costs for General Plant	65,289		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	501,084,976	68,417,805	
100	TOTAL (Accounts 101 and 106)	9,696,992,118	435,478,420	
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	9,696,992,118	435,478,420	

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
Portland General Electric Company	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2018/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	13,300,374	
49	(352) Structures and Improvements	23,645,088	2,246,393
50	(353) Station Equipment	355,483,122	15,733,598
51	(354) Towers and Fixtures	48,749,648	64,725
52	(355) Poles and Fixtures	30,914,847	7,602,468
53	(356) Overhead Conductors and Devices	80,269,891	7,602,467
54	(357) Underground Conduit		
55	(358) Underground Conductors and Devices		
56	(359) Roads and Trails	286,332	
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109	
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	552,683,411	33,249,651
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	22,402,147	1,337
61	(361) Structures and Improvements	43,994,899	4,381,600
62	(362) Station Equipment	529,526,466	88,398,009
63	(363) Storage Battery Equipment	384,933	
64	(364) Poles, Towers, and Fixtures	389,451,186	46,705,694
65	(365) Overhead Conductors and Devices	628,295,532	64,806,956
66	(366) Underground Conduit	15,881,536	8,602,380
67	(367) Underground Conductors and Devices	785,204,141	34,058,151
68	(368) Line Transformers	418,574,640	26,698,377
69	(369) Services	446,304,292	23,442,218
70	(370) Meters	161,887,834	9,803,790
71	(371) Installations on Customer Premises	376,133	
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	91,344,446	6,374,342
74	(374) Asset Retirement Costs for Distribution Plant	476,732	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	3,534,104,917	313,272,854
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	9,744,439	3,472,545
87	(390) Structures and Improvements	127,348,362	13,795,842
88	(391) Office Furniture and Equipment	140,147,092	26,696,732
89	(392) Transportation Equipment	66,088,453	13,783,993
90	(393) Stores Equipment	3,730,446	305,699
91	(394) Tools, Shop and Garage Equipment	19,754,395	2,130,415
92	(395) Laboratory Equipment	9,698,221	256,593
93	(396) Power Operated Equipment	39,077,760	50,833
94	(397) Communication Equipment	133,934,104	20,493,447
95	(398) Miscellaneous Equipment	841,190	193,832
96	SUBTOTAL (Enter Total of lines 86 thru 95)	550,364,462	81,179,931
97	(399) Other Tangible Property		
98	(399.1) Asset Retirement Costs for General Plant	65,289	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	550,429,751	81,179,931
100	TOTAL (Accounts 101 and 106)	10,076,922,206	639,154,136
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	10,076,922,206	639,154,136

Name of Respondent	This Report Is:	Date of Report	Year/Period of Report
Portland General Electric Company	(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr) / /	End of 2019/Q4
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)			
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)
47	3. TRANSMISSION PLANT		
48	(350) Land and Land Rights	13,300,374	
49	(352) Structures and Improvements	25,880,787	1,508,481
50	(353) Station Equipment	370,672,259	1,638,530
51	(354) Towers and Fixtures	48,814,373	9,955
52	(355) Poles and Fixtures	38,517,315	7,618,484
53	(356) Overhead Conductors and Devices	87,872,358	20,763,934
54	(357) Underground Conduit		
55	(358) Underground Conductors and Devices		
56	(359) Roads and Trails	286,332	
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109	
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	585,377,907	31,539,384
59	4. DISTRIBUTION PLANT		
60	(360) Land and Land Rights	22,403,484	326,980
61	(361) Structures and Improvements	48,371,835	1,817,614
62	(362) Station Equipment	615,694,452	64,783,567
63	(363) Storage Battery Equipment	384,933	8,258
64	(364) Poles, Towers, and Fixtures	433,213,879	31,606,065
65	(365) Overhead Conductors and Devices	692,225,410	33,103,472
66	(366) Underground Conduit	24,483,916	5,031,713
67	(367) Underground Conductors and Devices	819,262,292	88,304,122
68	(368) Line Transformers	443,796,805	26,068,911
69	(369) Services	469,740,515	29,715,514
70	(370) Meters	167,513,144	20,918,438
71	(371) Installations on Customer Premises	376,133	1,373,580
72	(372) Leased Property on Customer Premises		
73	(373) Street Lighting and Signal Systems	97,712,189	19,738,897
74	(374) Asset Retirement Costs for Distribution Plant	476,732	
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	3,835,655,719	322,797,131
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT		
77	(380) Land and Land Rights		
78	(381) Structures and Improvements		
79	(382) Computer Hardware		
80	(383) Computer Software		
81	(384) Communication Equipment		
82	(385) Miscellaneous Regional Transmission and Market Operation Plant		
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper		
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)		
85	6. GENERAL PLANT		
86	(389) Land and Land Rights	13,216,984	4,500
87	(390) Structures and Improvements	140,614,699	11,476,148
88	(391) Office Furniture and Equipment	152,783,807	17,029,639
89	(392) Transportation Equipment	78,048,616	4,085,984
90	(393) Stores Equipment	3,775,960	409,466
91	(394) Tools, Shop and Garage Equipment	21,388,472	2,843,877
92	(395) Laboratory Equipment	9,485,292	81
93	(396) Power Operated Equipment	36,610,774	14,013,732
94	(397) Communication Equipment	154,307,654	24,425,384
95	(398) Miscellaneous Equipment	1,035,022	236,898
96	SUBTOTAL (Enter Total of lines 86 thru 95)	611,267,280	74,525,709
97	(399) Other Tangible Property		
98	(399.1) Asset Retirement Costs for General Plant	65,289	
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	611,332,569	74,525,709
100	TOTAL (Accounts 101 and 106)	10,509,098,101	746,779,013
101	(102) Electric Plant Purchased (See Instr. 8)		
102	(Less) (102) Electric Plant Sold (See Instr. 8)		
103	(103) Experimental Plant Unclassified		
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	10,509,098,101	746,779,013

Name of Respondent Portland General Electric Company		This Report Is: (1) <input checked="" type="checkbox"/> An Original <input type="checkbox"/> A Revision	Date of Report (Mo, Da, Yr) 04/16/2021	Year/Period of Report End of 2020/Q4
Document Accession #: 20210420-8026		Submission Date: 04/16/2021		
ELECTRIC PLANT IN SERVICE (Account 101, 102, 103 and 106) (Continued)				
Line No.	Account (a)	Balance Beginning of Year (b)	Additions (c)	
47	3. TRANSMISSION PLANT			
48	(350) Land and Land Rights	17,269,685		31,759
49	(352) Structures and Improvements	30,274,032		502,940
50	(353) Station Equipment	499,772,267		75,850,794
51	(354) Towers and Fixtures	48,824,328		7,016,123
52	(355) Poles and Fixtures	83,364,423		17,796,023
53	(356) Overhead Conductors and Devices	169,438,106		31,239,961
54	(357) Underground Conduit			
55	(358) Underground Conductors and Devices			
56	(359) Roads and Trails	286,332		
57	(359.1) Asset Retirement Costs for Transmission Plant	34,109		
58	TOTAL Transmission Plant (Enter Total of lines 48 thru 57)	849,263,282		132,437,600
59	4. DISTRIBUTION PLANT			
60	(360) Land and Land Rights	19,099,994		40,776
61	(361) Structures and Improvements	46,326,090		696,987
62	(362) Station Equipment	559,680,235		63,208,353
63	(363) Storage Battery Equipment	393,191		5,924
64	(364) Poles, Towers, and Fixtures	420,260,020		51,280,987
65	(365) Overhead Conductors and Devices	664,059,809		43,017,178
66	(366) Underground Conduit	29,515,629		1,454,076
67	(367) Underground Conductors and Devices	907,226,219		26,048,248
68	(368) Line Transformers	469,865,714		20,208,641
69	(369) Services	495,383,566		26,139,632
70	(370) Meters	185,286,768		17,387,057
71	(371) Installations on Customer Premises	1,749,713		630,425
72	(372) Leased Property on Customer Premises			
73	(373) Street Lighting and Signal Systems	117,253,253		18,298,538
74	(374) Asset Retirement Costs for Distribution Plant	476,732		
75	TOTAL Distribution Plant (Enter Total of lines 60 thru 74)	3,916,576,933		268,416,822
76	5. REGIONAL TRANSMISSION AND MARKET OPERATION PLANT			
77	(380) Land and Land Rights			
78	(381) Structures and Improvements			
79	(382) Computer Hardware			
80	(383) Computer Software			
81	(384) Communication Equipment			
82	(385) Miscellaneous Regional Transmission and Market Operation Plant			
83	(386) Asset Retirement Costs for Regional Transmission and Market Oper			
84	TOTAL Transmission and Market Operation Plant (Total lines 77 thru 83)			
85	6. GENERAL PLANT			
86	(389) Land and Land Rights	9,622,353		-49,999
87	(390) Structures and Improvements	151,444,048		5,665,551
88	(391) Office Furniture and Equipment	160,507,769		14,937,201
89	(392) Transportation Equipment	78,457,262		8,376,552
90	(393) Stores Equipment	3,877,884		490,280
91	(394) Tools, Shop and Garage Equipment	23,093,384		1,601,629
92	(395) Laboratory Equipment	8,901,072		5,846,080
93	(396) Power Operated Equipment	44,630,769		3,614,453
94	(397) Communication Equipment	179,228,998		21,995,221
95	(398) Miscellaneous Equipment	1,295,282		-417
96	SUBTOTAL (Enter Total of lines 86 thru 95)	661,058,821		62,476,551
97	(399) Other Tangible Property			
98	(399.1) Asset Retirement Costs for General Plant	65,289		
99	TOTAL General Plant (Enter Total of lines 96, 97 and 98)	661,124,110		62,476,551
100	TOTAL (Accounts 101 and 106)	11,139,051,917		699,377,745
101	(102) Electric Plant Purchased (See Instr. 8)			
102	(Less) (102) Electric Plant Sold (See Instr. 8)			
103	(103) Experimental Plant Unclassified			
104	TOTAL Electric Plant in Service (Enter Total of lines 100 thru 103)	11,139,051,917		699,377,745

PacifiCorp		2011	2011	2012	2012
Line	Account	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
47	<b>3. TRANSMISSION PLANT</b>				
48	(350) Land and Land Rights	181,517,465	6,585,489	189,547,944	8,885,370
49	(352) Structures and Improvements	122,948,592	1,889,271	147,332,899	3,547,184
50	(353) Station Equipment	1,549,843,309	120,843,402	1,613,127,173	161,767,856
51	(354) Towers and Fixtures	863,436,957	121,134,025	984,782,939	7,293,362
52	(355) Poles and Fixtures	686,565,486	(36,751,094)	646,562,331	42,144,868
53	(356) Overhead Conductors and Devices	912,469,174	(9,563,095)	896,743,379	24,195,286
54	(357) Underground Conduit	3,259,452	166	3,259,618	56,007
55	(358) Underground Conductors and Devices	7,475,095		7,475,095	14,084
56	(359) Roads and Trails	11,598,703	(12,022)	11,586,681	
57	(359.1) Asset Retirement Costs for Transmission Plant				
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>4,339,114,233</b>	<b>204,126,142</b>	<b>4,500,418,059</b>	<b>247,904,017</b>
59	<b>4. DISTRIBUTION PLANT</b>				
60	(360) Land and Land Rights	52,837,393	2,627,987	55,701,416	4,172,303
61	(361) Structures and Improvements	74,675,982	3,939,729	83,116,060	1,773,758
62	(362) Station Equipment	817,421,421	43,613,791	847,652,682	46,485,145
63	(363) Storage Battery Equipment				
64	(364) Poles, Towers, and Fixtures	942,088,822	52,031,610	987,694,151	35,859,072
65	(365) Overhead Conductors and Devices	648,849,674	20,286,125	665,402,916	17,097,660
66	(366) Underground Conduit	302,216,890	11,766,173	312,231,842	11,904,186
67	(367) Underground Conductors and Devices	718,645,076	22,802,968	738,536,581	23,037,978
68	(368) Line Transformers	1,097,798,842	46,967,729	1,135,844,771	38,119,095
69	(369) Services	581,777,749	23,644,523	604,680,445	25,185,585
70	(370) Meters	179,453,205	12,983,820	175,522,842	4,187,547
71	(371) Installations on Customer Premises	8,801,076	83,800	8,787,057	133,085
72	(372) Leased Property on Customer Premises				
73	(373) Street Lighting and Signal Systems	60,795,839	1,697,847	61,094,426	1,366,327
74	(374) Asset Retirement Costs for Distribution Plant	1,937,045	698,180	2,635,225	
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>5,487,299,014</b>	<b>243,144,282</b>	<b>5,678,900,414</b>	<b>209,321,741</b>

2013 Balance- Beginning of Year	2013 Additions	2014 Balance- Beginning of Year	2014 Additions	2015 Balance- Beginning of Year	2015 Additions	2016 Balance- Beginning of Year	2016 Additions
198,218,069	26,830,476	225,631,404	4,661,601	230,226,403	17,839,900	251,625,967	4,326,112
170,949,185	2,454,073	184,174,369	3,191,210	210,430,141	20,077,892	239,305,233	4,546,370
1,735,328,437	102,719,775	1,813,896,299	103,221,884	1,875,788,731	155,302,132	2,012,791,077	97,808,172
992,008,798	226,035,308	1,218,917,978	2,631,301	1,221,298,019	67,458,271	1,288,991,817	2,140,800
686,214,770	22,197,850	706,210,382	39,618,286	744,102,993	158,276,662	901,299,535	22,421,086
919,805,558	140,800,705	1,059,513,463	25,619,465	1,082,532,470	109,294,243	1,193,250,695	22,042,679
3,312,843	27,261	3,340,104	(1,100)	3,519,566		3,519,566	(172)
7,489,179	10,281	7,499,460		8,035,354		8,035,354	
11,586,681	336,114	11,922,795	14,405	11,937,200		11,937,200	
<b>4,724,913,520</b>	<b>521,411,843</b>	<b>5,231,106,254</b>	<b>178,957,052</b>	<b>5,387,870,877</b>	<b>528,249,100</b>	<b>5,910,756,444</b>	<b>153,285,047</b>
59,625,027	1,953,555	62,028,583	1,318,226	63,135,433	1,379,309	62,461,151	796,264
89,144,237	2,823,009	97,377,014	2,458,813	104,255,048	3,093,921	110,250,312	2,354,138
884,422,143	34,439,329	906,249,058	30,807,276	925,759,498	38,711,222	971,676,422	31,672,784
1,015,605,530	41,474,798	1,052,968,133	38,012,995	1,085,444,520	39,717,972	1,120,755,209	39,320,107
679,910,311	16,227,790	693,804,415	16,695,558	707,873,785	17,703,989	724,069,029	19,504,360
322,706,767	8,701,790	330,194,141	12,134,599	341,230,913	10,139,125	349,690,089	11,033,231
759,050,565	18,756,758	776,602,508	20,568,877	795,524,274	24,731,953	820,180,898	23,991,529
1,165,115,776	42,891,258	1,200,818,543	41,991,053	1,234,715,959	47,383,609	1,274,134,081	45,536,275
628,986,472	25,907,953	654,161,585	26,466,667	679,839,675	30,420,165	709,528,257	34,747,237
176,687,115	5,148,695	177,965,016	5,767,721	180,902,129	8,823,758	186,936,755	9,245,534
8,827,913	76,676	8,822,747	89,214	8,831,952	103,069	8,863,050	61,971
60,443,784	1,289,956	60,769,235	1,066,268	61,371,460	1,174,632	61,222,785	1,444,196
2,459,448		1,651,393		1,507,080		1,507,080	
<b>5,852,985,088</b>	<b>199,691,567</b>	<b>6,023,412,371</b>	<b>197,377,267</b>	<b>6,190,391,726</b>	<b>223,382,724</b>	<b>6,401,275,118</b>	<b>219,707,626</b>

2017	2017	2018	2018	2019	2019	2020	2020
Balance- Beginning of Year	Additions	Balance-Beginning of Year	Additions	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
255,798,637	9,351,621	265,463,991	7,592,764	272,900,490	9,643,723	281,363,904	33,835,015
242,638,070	15,241,885	257,688,990	18,300,457	275,874,995	8,107,097	283,787,044	23,536,330
2,104,342,313	101,979,030	2,195,395,245	81,136,003	2,265,701,408	20,786,559	2,279,276,707	429,162,676
1,291,140,475	5,515,291	1,294,996,299	6,290,713	1,301,155,918	6,284,080	1,307,439,631	35,330,362
920,968,349	33,229,594	948,225,375	14,415,829	960,420,522	58,083,941	1,015,701,010	333,100,980
1,213,340,115	27,044,059	1,237,023,809	19,492,593	1,253,499,035	37,297,336	1,287,027,290	316,850,103
3,519,394		3,519,394	664	3,520,058	328,768	3,848,826	8,411
8,035,354		8,035,354		8,035,354	(1,070,700)	8,238,468	842,149
11,937,200		11,937,200		11,937,200		11,937,200	208,813
							2,528,190
<b>6,051,719,907</b>	<b>192,361,480</b>	<b>6,222,285,657</b>	<b>147,229,023</b>	<b>6,353,044,980</b>	<b>139,460,804</b>	<b>6,478,620,080</b>	<b>1,175,403,029</b>
62,113,932	1,648,419	63,696,481	920,970	64,555,204	774,777	65,329,981	3,287,272
112,377,028	3,653,721	115,852,040	5,122,912	120,762,525	4,312,286	124,996,790	1,689,023
997,337,161	30,556,231	1,023,434,976	27,789,643	1,043,475,099	45,188,274	1,085,813,833	69,408,435
1,151,503,495	37,544,164	1,183,290,681	44,813,845	1,220,758,561	54,673,840	1,267,917,057	83,921,949
739,638,373	17,867,937	754,957,486	22,936,227	774,459,766	35,931,593	806,824,019	45,386,970
359,267,271	12,417,672	370,250,464	16,846,056	385,158,148	15,846,482	399,131,386	21,490,279
841,132,222	24,977,031	864,063,506	37,506,169	898,121,842	40,026,257	935,090,905	45,799,047
1,310,749,847	48,079,642	1,349,720,845	50,604,104	1,390,837,792	52,469,821	1,433,055,320	69,683,118
743,490,472	35,282,317	778,051,452	41,492,046	818,443,527	43,705,175	860,892,630	47,034,186
192,964,294	17,289,084	205,790,437	63,016,074	229,675,682	43,363,562	245,107,614	9,771,082
8,837,157	62,807	8,810,967	72,428	8,806,482	60,744	8,802,174	85,206
61,890,748	1,341,620	62,639,259	1,428,121	62,888,188	1,205,599	62,338,943	1,414,572
1,507,080		1,344,766		1,344,766		1,344,766	
<b>6,582,809,080</b>	<b>230,720,645</b>	<b>6,781,903,360</b>	<b>312,548,595</b>	<b>7,019,287,582</b>	<b>337,558,410</b>	<b>7,296,645,418</b>	<b>398,971,139</b>

Line	PGE Account	2011 Balance- Beginning of Year	2011 Additions	2012 Balance- Beginning of Year	2012 Additions
47	<b>3. TRANSMISSION PLANT</b>				
48	(350) Land and Land Rights	11,126,862		11,120,109	109,999
49	(352) Structures and Improvements	15,851,931	532,900	16,365,764	1,043,493
50	(353) Station Equipment	208,228,244	10,933,852	219,025,075	15,416,966
51	(354) Towers and Fixtures	46,806,048		46,806,048	2,244
52	(355) Poles and Fixtures	17,484,371	1,985,771	18,818,400	1,670,787
53	(356) Overhead Conductors and Devices	72,401,937	7,481,838	79,883,775	1,382,678
54	(357) Underground Conduit				
55	(358) Underground Conductors and Devices				
56	(359) Roads and Trails	286,332		286,332	
57	(359.1) Asset Retirement Costs for Transmission Plant	53,039		53,039	
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>372,238,764</b>	<b>20,934,361</b>	<b>392,358,542</b>	<b>19,626,167</b>
59	<b>4. DISTRIBUTION PLANT</b>				
60	(360) Land and Land Rights	13,654,237	21,068	13,681,528	15,101
61	(361) Structures and Improvements	33,710,996	2,237,316	35,868,982	1,032,357
62	(362) Station Equipment	332,220,097	26,037,867	355,526,111	30,401,264
63	(363) Storage Battery Equipment				
64	(364) Poles, Towers, and Fixtures	295,830,321	13,505,931	308,051,860	18,363,250
65	(365) Overhead Conductors and Devices	479,665,378	34,300,688	513,087,674	20,736,935
66	(366) Underground Conduit	15,739,937	(52,743)	15,611,337	
67	(367) Underground Conductors and Devices	584,288,493	22,899,684	606,754,779	18,622,233
68	(368) Line Transformers	278,603,506	15,889,602	293,658,562	13,771,835
69	(369) Services	360,040,232	7,753,820	367,658,209	10,515,412
70	(370) Meters	119,670,404	3,584,653	122,948,704	3,295,226
71	(371) Installations on Customer Premises	376,133		376,133	
72	(372) Leased Property on Customer Premises				
73	(373) Street Lighting and Signal Systems	55,576,187	1,678,107	57,026,531	1,615,767
74	(374) Asset Retirement Costs for Distribution Plant	460,131		460,131	-
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>2,569,836,052</b>	<b>127,855,993</b>	<b>2,690,710,541</b>	<b>118,369,380</b>



2013 Balance- Beginning of Year	2013 Additions	2014 Balance- Beginning of Year	2014 Additions	2015 Balance- Beginning of Year	2015 Additions	2016 Balance- Beginning of Year	2016 Additions
11,230,108		11,508,608	12,538	11,521,146		11,508,608	
17,407,070	748,192	18,149,759	784,402	18,934,161	418,717	19,312,917	1,644,355
241,319,092	5,081,873	245,413,483	18,097,448	265,764,953	9,882,380	275,774,826	49,827,757
46,808,292		46,808,292	302	48,733,211	10,666	48,743,877	
20,460,356	331,489	20,773,920	2,366,936	23,013,784	429,776	25,714,210	5,108,988
74,129,949	2,527	74,132,476	3,309,154	76,981,724	46,202	74,757,276	5,108,371
286,332		286,332		286,332		286,332	
53,039	(18,930)	34,109		34,109		34,109	
<b>411,694,238</b>	<b>6,145,151</b>	<b>417,106,979</b>	<b>24,570,780</b>	<b>445,269,420</b>	<b>10,787,741</b>	<b>456,132,155</b>	<b>61,689,471</b>
20,358,925	151	21,606,856	13	21,600,436	2,376,840	23,952,230	235,147
36,822,187	1,471,699	38,198,947	1,692,534	39,859,326	322,399	39,801,373	2,471,002
384,524,570	31,141,546	412,084,913	21,307,378	431,913,923	43,036,036	472,305,679	17,330,634
	351,741	351,741	33,192	384,933	2,283	387,216	(2,283)
325,204,225	15,767,988	339,907,041	17,379,442	352,871,314	12,700,039	349,610,654	19,339,286
533,059,151	19,277,321	552,023,079	23,452,066	572,996,660	14,770,443	587,352,193	18,784,240
15,523,586		15,463,125	11,281	15,354,540	30,661	15,385,201	383,551
624,820,669	20,708,668	645,179,499	18,884,402	663,267,386	27,456,548	690,312,083	66,758,150
306,548,578	17,343,238	323,054,436	16,308,662	338,021,932	21,245,380	357,878,100	20,138,236
378,001,520	21,806,301	399,676,520	22,612,176	411,082,900	20,889,870	416,071,326	7,717,553
125,718,827	5,461,098	130,446,732	10,996,649	140,813,509	9,014,036	149,406,330	8,864,597
376,133		376,133		376,133		376,133	
58,320,928	6,077,387	60,223,738	11,654,364	81,632,862	2,968,195	82,968,394	2,629,218
460,131	16,601	476,732		476,732		476,732	-
<b>2,809,739,430</b>	<b>139,423,739</b>	<b>2,939,069,492</b>	<b>144,332,159</b>	<b>3,070,652,586</b>	<b>154,812,730</b>	<b>3,186,283,644</b>	<b>164,649,331</b>

2017	2017	2018	2018	2019	2019	2020	2020
Balance- Beginning of Year	Additions	Balance-Beginning of Year	Additions	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
13,300,374		13,300,374	2,246,393	13,300,374		17,269,685	31,759
20,957,272	2,702,437	23,645,088	15,733,598	25,880,787	1,508,481	30,274,032	502,940
331,749,298	24,062,066	355,483,122	64,725	370,672,259	1,638,530	499,772,267	75,850,794
48,741,136	10,666	48,749,648	7,602,468	48,814,373	9,955	48,824,328	7,016,123
30,744,074	217,230	30,914,847	7,602,467	38,517,315	7,618,484	83,364,423	17,796,023
80,083,573	186,318	80,269,891		87,872,358	20,763,934	169,438,106	31,239,961
286,332		286,332		286,332		286,332	
34,109		34,109		34,109		34,109	
<b>525,896,168</b>	<b>27,178,717</b>	<b>552,683,411</b>	<b>33,249,651</b>	<b>585,377,907</b>	<b>31,539,384</b>	<b>849,263,282</b>	<b>132,437,600</b>
22,365,581	36,566	22,402,147	1,337	22,403,484	326,980	19,099,994	40,776
41,982,206	957,346	43,994,899	4,381,600	48,371,835	1,817,614	46,326,090	696,987
486,856,077	43,304,942	529,526,466	88,398,009	615,694,452	64,783,567	559,680,235	63,208,353
384,933		384,933		384,933	8,258	393,191	5,924
364,825,631	29,095,008	389,451,186	46,705,694	433,213,879	31,606,065	420,260,020	51,280,987
604,089,624	29,077,103	628,295,532	64,806,956	692,225,410	33,103,472	664,059,809	43,017,178
15,768,752	112,784	15,881,536	8,602,380	24,483,916	5,031,713	29,515,629	1,454,076
754,024,770	36,613,811	785,204,141	34,058,151	819,262,292	88,304,122	907,226,219	26,048,248
377,593,288	42,558,039	418,574,640	26,698,377	443,796,805	26,068,911	469,865,714	20,208,641
423,397,795	22,906,497	446,304,292	23,442,218	469,740,515	29,715,514	495,383,566	26,139,632
156,481,841	7,331,412	161,887,834	9,803,790	167,513,144	20,918,438	185,286,768	17,387,057
376,133		376,133		376,133	1,373,580	1,749,713	630,425
85,490,077	6,108,695	91,344,446	6,374,342	97,712,189	19,738,897	117,253,253	18,298,538
476,732		476,732		476,732		476,732	
<b>3,334,113,440</b>	<b>218,102,203</b>	<b>3,534,104,917</b>	<b>313,272,854</b>	<b>3,835,655,719</b>	<b>322,797,131</b>	<b>3,916,576,933</b>	<b>268,416,822</b>

**Idaho Power**

Line	Account	2011 Balance- Beginning of Year	2011 Additions	2012 Balance- Beginning of Year	2012 Additions	2013 Balance-Beginning of Year
47	<b>3. TRANSMISSION PLANT</b>					
48	(350) Land and Land Rights	34,253,938	877,421	35,130,605	445,557	35,576,162
49	(352) Structures and Improvements	55,667,437	2,493,112	57,994,797	12,150,635	70,136,891
50	(353) Station Equipment	349,451,391	8,846,585	351,924,749	14,049,079	365,354,962
51	(354) Towers and Fixtures	144,723,540	2,767,876	147,491,416	7,679,305	155,095,726
52	(355) Poles and Fixtures	101,621,493	7,282,014	107,026,913	13,764,963	120,356,581
53	(356) Overhead Conductors and Devices	169,165,595	4,102,430	171,801,963	13,274,942	184,492,014
54	(357) Underground Conduit					
55	(358) Underground Conductors and Devices					
56	(359) Roads and Trails	318,351	94,995	413,346	(23,080)	390,266
57	(359.1) Asset Retirement Costs for Transmission Plant					
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>855,201,745</b>	<b>26,464,433</b>	<b>871,783,789</b>	<b>61,341,401</b>	<b>931,402,602</b>
59	<b>4. DISTRIBUTION PLANT</b>					
60	(360) Land and Land Rights	4,745,189	683,210	5,423,471	(648,228)	4,775,243
61	(361) Structures and Improvements	29,485,862	2,881,866	32,336,183	(956,431)	31,354,167
62	(362) Station Equipment	182,593,962	12,192,049	194,190,240	(3,641,870)	189,664,902
63	(363) Storage Battery Equipment					
64	(364) Poles, Towers, and Fixtures	225,059,905	5,449,895	228,880,444	2,946,117	230,356,006
65	(365) Overhead Conductors and Devices	120,135,601	3,972,582	122,536,891	3,105,791	124,012,452
66	(366) Underground Conduit	48,215,714	(143,831)	47,989,345	(1,002,615)	46,833,883
67	(367) Underground Conductors and Devices	191,494,213	6,029,113	196,700,971	1,730,268	197,732,139
68	(368) Line Transformers	414,782,133	19,583,109	429,419,556	26,406,882	451,211,644
69	(369) Services	57,319,909	149,486	57,225,209	(73,102)	56,853,354
70	(370) Meters	95,697,525	17,507,437	112,429,849	570,493	70,932,527
71	(371) Installations on Customer Premises	2,750,899	84,107	2,754,620	166,375	2,865,154
72	(372) Leased Property on Customer Premises					
73	(373) Street Lighting and Signal Systems	4,370,514	58,890	4,394,855	130,714	4,505,211
74	(374) Asset Retirement Costs for Distribution Plant	587,980	55,659	643,639	-	643,639
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>1,377,239,406</b>	<b>68,503,572</b>	<b>1,434,925,273</b>	<b>28,734,394</b>	<b>1,411,740,321</b>

**Idaho Power**

Line	Account	2013	2014	2014	2015	2015
		Additions	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
47	<b>3. TRANSMISSION PLANT</b>					
48	(350) Land and Land Rights	511,568	36,087,730	102,069	36,146,124	232,955
49	(352) Structures and Improvements	23,515	70,075,081	2,716,121	72,737,991	5,128,194
50	(353) Station Equipment	25,033,247	388,935,103	13,971,575	399,787,968	11,017,730
51	(354) Towers and Fixtures	6,908,886	162,004,612	6,341,023	168,186,852	16,612,039
52	(355) Poles and Fixtures	9,126,774	129,115,202	14,311,741	142,597,655	16,669,245
53	(356) Overhead Conductors and Devices	3,912,965	188,088,876	9,279,054	196,360,600	16,587,047
54	(357) Underground Conduit					
55	(358) Underground Conductors and Devices					
56	(359) Roads and Trails	-	390,266	-	390,266	-
57	(359.1) Asset Retirement Costs for Transmission Plant					
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>45,516,955</b>	<b>974,696,870</b>	<b>46,721,583</b>	<b>1,016,207,456</b>	<b>66,247,210</b>
59	<b>4. DISTRIBUTION PLANT</b>					
60	(360) Land and Land Rights	93,250	4,859,147	316,069	5,175,131	125,393
61	(361) Structures and Improvements	1,497,008	32,820,611	913,719	33,716,699	493,837
62	(362) Station Equipment	7,531,450	196,765,816	5,794,037	202,030,200	16,141,880
63	(363) Storage Battery Equipment					
64	(364) Poles, Towers, and Fixtures	6,383,564	235,549,416	7,425,968	241,088,379	8,202,243
65	(365) Overhead Conductors and Devices	3,461,596	126,034,768	3,619,432	128,008,024	3,488,928
66	(366) Underground Conduit	(430,208)	46,289,611	1,157,996	47,294,326	1,240,181
67	(367) Underground Conductors and Devices	10,432,428	207,476,280	12,302,488	218,656,607	13,091,098
68	(368) Line Transformers	25,491,015	471,882,211	28,734,467	494,614,876	28,686,286
69	(369) Services	301,238	56,858,427	1,369,592	57,867,385	1,245,760
70	(370) Meters	2,819,895	73,143,443	7,766,427	80,528,574	4,777,999
71	(371) Installations on Customer Premises	110,864	2,901,563	94,180	2,914,525	111,792
72	(372) Leased Property on Customer Premises	-	(38,361)	2,302	(84,348)	
73	(373) Street Lighting and Signal Systems	83,638	4,588,849	-	4,588,849	89,586
74	(374) Asset Retirement Costs for Distribution Plant	(109,927)	533,712	-	533,712	(369,521)
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>57,665,811</b>	<b>1,459,665,493</b>	<b>69,496,677</b>	<b>1,516,932,939</b>	<b>77,325,462</b>

**Idaho Power**

Line	Account	2016 Balance- Beginning of Year	2016 Additions	2017 Balance- Beginning of Year	2017 Additions	2018 Balance- Beginning of Year
47	<b>3. TRANSMISSION PLANT</b>					
48	(350) Land and Land Rights	36,379,079	814,143	37,193,222	115,120	37,127,446
49	(352) Structures and Improvements	77,780,246	1,851,599	79,539,883	849,041	80,263,617
50	(353) Station Equipment	407,602,629	7,067,324	411,289,120	20,101,853	428,949,669
51	(354) Towers and Fixtures	184,628,055	13,550,729	198,102,599	8,760,019	206,552,729
52	(355) Poles and Fixtures	158,380,194	17,657,509	175,172,643	9,490,063	183,335,657
53	(356) Overhead Conductors and Devices	211,904,657	8,556,373	219,214,808	8,705,363	226,621,106
54	(357) Underground Conduit					
55	(358) Underground Conductors and Devices					
56	(359) Roads and Trails	390,266	-	390,266	-	390,266
57	(359.1) Asset Retirement Costs for Transmission Plant					
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>1,077,065,126</b>	<b>49,497,677</b>	<b>1,120,902,541</b>	<b>48,021,459</b>	<b>1,163,240,490</b>
59	<b>4. DISTRIBUTION PLANT</b>					
60	(360) Land and Land Rights	5,300,524	647,447	5,947,971	104,648	6,052,619
61	(361) Structures and Improvements	34,175,353	2,842,549	36,984,366	577,575	37,463,373
62	(362) Station Equipment	216,853,729	6,762,998	222,356,864	17,225,163	237,332,109
63	(363) Storage Battery Equipment					
64	(364) Poles, Towers, and Fixtures	246,985,666	11,415,269	256,158,912	11,240,685	265,381,383
65	(365) Overhead Conductors and Devices	129,331,468	3,739,895	131,275,340	6,400,542	136,069,938
66	(366) Underground Conduit	48,322,609	1,861,831	49,794,768	1,439,022	50,759,070
67	(367) Underground Conductors and Devices	230,143,168	15,383,360	243,650,263	16,625,202	258,499,754
68	(368) Line Transformers	515,652,279	27,403,469	536,550,475	30,689,434	560,033,828
69	(369) Services	58,770,764	1,191,980	59,471,387	1,720,471	60,786,068
70	(370) Meters	85,247,458	6,296,981	87,259,555	5,341,004	90,021,168
71	(371) Installations on Customer Premises	2,954,458	127,799	3,016,977	86,705	3,057,356
72	(372) Leased Property on Customer Premises					
73	(373) Street Lighting and Signal Systems	4,543,249	74,540	4,500,453	64,475	4,526,921
74	(374) Asset Retirement Costs for Distribution Plant	164,191	-	164,191	(21,561)	142,630
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>1,578,444,916</b>	<b>77,748,118</b>	<b>1,637,131,522</b>	<b>91,493,365</b>	<b>1,710,126,217</b>

Idaho Power		2018	2019	2019	2020	2020
Line	Account	Additions	Balance- Beginning of Year	Additions	Balance- Beginning of Year	Additions
47	<b>3. TRANSMISSION PLANT</b>					
48	(350) Land and Land Rights	1,796,147	38,923,537	86,564	39,010,101	168,828
49	(352) Structures and Improvements	779,590	81,023,794	1,199,316	81,631,852	4,088,297
50	(353) Station Equipment	14,651,950	441,025,698	15,662,807	437,090,965	27,294,211
51	(354) Towers and Fixtures	4,834,230	211,357,840	3,749,251	215,107,091	7,743,485
52	(355) Poles and Fixtures	14,396,763	195,207,683	13,875,825	206,989,944	11,119,620
53	(356) Overhead Conductors and Devices	8,673,207	233,163,083	9,112,908	240,482,589	5,320,331
54	(357) Underground Conduit					
55	(358) Underground Conductors and Devices					
56	(359) Roads and Trails	-	390,266	-	390,266	-
57	(359.1) Asset Retirement Costs for Transmission Plant					
58	<b>TOTAL Transmission Plant (Enter Total of lines 48 thru 57)</b>	<b>45,131,887</b>	<b>1,201,091,901</b>	<b>43,686,671</b>	<b>1,220,702,808</b>	<b>55,734,772</b>
59	<b>4. DISTRIBUTION PLANT</b>					
60	(360) Land and Land Rights	500,666	6,553,285	831,412	7,384,697	46,447
61	(361) Structures and Improvements	2,929,310	40,283,756	7,626,265	47,760,416	3,310,881
62	(362) Station Equipment	18,934,953	254,363,384	18,088,390	269,467,878	20,069,470
63	(363) Storage Battery Equipment					
64	(364) Poles, Towers, and Fixtures	9,083,493	271,695,898	14,246,292	283,516,948	12,502,639
65	(365) Overhead Conductors and Devices	6,625,653	140,485,165	5,534,717	144,332,885	5,321,226
66	(366) Underground Conduit	1,932,118	52,238,001	2,346,727	54,244,353	(339,073)
67	(367) Underground Conductors and Devices	20,485,907	275,969,031	18,221,495	291,640,376	13,210,495
68	(368) Line Transformers	35,074,016	587,592,181	33,854,487	614,852,926	39,118,328
69	(369) Services	1,715,228	61,919,728	1,528,445	63,190,275	2,036,799
70	(370) Meters	6,730,337	93,327,295	7,740,607	97,890,964	9,819,235
71	(371) Installations on Customer Premises	120,491	3,124,332	86,066	3,195,799	919,429
72	(372) Leased Property on Customer Premises					
73	(373) Street Lighting and Signal Systems	112,690	4,588,885	100,244	4,658,210	489,705
74	(374) Asset Retirement Costs for Distribution Plant	-	142,630	(142,630)	-	
75	<b>TOTAL Distribution Plant (Enter Total of lines 60 thru 74)</b>	<b>104,244,862</b>	<b>1,792,283,571</b>	<b>110,062,517</b>	<b>1,882,135,727</b>	<b>106,505,581</b>

**BEFORE THE PUBLIC UTILITY COMMISSION**

**OF OREGON**

**Docket No. UM 2032**

In the matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Investigation into the Treatment of Network  
Upgrade Costs for Qualifying Facilities

**EXHIBIT INTERCONNECTION CUSTOMER COALITION/306**

**PORTLAND GENERAL ELECTRIC RESPONSE TO NIPPC DATA REQUEST 32**

**January 19, 2022**

December 9, 2020

TO: Irion Sanger  
Northwest and Intermountain Power Producers Coalition (“NIPPC”)

FROM: Robert Macfarlane  
Manager, Pricing and Tariffs

**PORTLAND GENERAL ELECTRIC  
UM 2032  
PGE Response to NIPPC Data Request No. 032  
Dated December 1, 2020**

**Request:**

Please refer to NIPPC Data Request No. 002, PGE Response to NIPPC Data Request No. 002, and PGE Response to NIPPC Data Request No. 001 Supplemental Attachment 001A. NIPPC Data Request No. 002 asked PGE to “indicate whether PGE interconnected each state jurisdictional qualifying facility interconnection as an energy or network resource.” PGE responded in relevant part “To the best of PGE’s knowledge...PGE has interconnected all QFs using NRIS.”

- a. Is it PGE’s position that indicating a QF was interconnected using NRIS answers the question of whether the QF was interconnected “as an energy or network resource”? If not, please explain PGE Response to NIPPC Data Request No. 002.
- b. Is it PGE’s position that indicating a QF was interconnected using NRIS means the QF was interconnected as a network resource? If not, please explain PGE Response to NIPPC Data Request No. 002.
- c. If it is PGE’s position that stating “PGE has interconnected all QFs using NRIS” means that PGE has “interconnected each [QF] as” a network resource, please explain why, according to PGE Response to NIPPC Data Request No. 001 Supplemental Attachment 001A, PGE has not designated 136 QFs as network resources?

**Response:**

PGE objects that the phrasing throughout this request regarding “interconnecting [a generator] as an energy or network resource” is vague, ambiguous, and undefined. PGE believes this phrasing reflects confusion regarding the concepts of interconnection and transmission service and will attempt to clarify in its response below.

- a. Because NIPPC Data Request No. 002 inquired about how PGE had “interconnected” QFs, PGE understood that request to be asking whether PGE had interconnected QFs using Energy Resource Interconnection Service (ERIS) or Network Resource Interconnection Service (NRIS), and PGE responded based on that understanding. PGE



will revise its response to NIPPC Data Request No. 002 to avoid any confusion. PGE's position is that *interconnecting* a QF using NRIS or ERIS is not the equivalent of designating a QF as a network resource for purposes of delivering the QF's output (i.e., for transmission service). Designating a generator as an "energy resource" is not a concept under the OATT.

- b. It is PGE's position that *interconnecting* a QF using NRIS is *not* the same as *designating* a QF as a network resource, if that is what this request is asking. Please see PGE's response to part (a) above for an explanation regarding PGE's Response to NIPPC Data Request No. 002.
- c. Interconnecting a QF using NRIS is not the equivalent of designating a QF as a network resource. NRIS is an *interconnection* service,<sup>1</sup> whereas designating a generator as a network resource allows it to obtain *transmission* service. Designating a QF as a network resource means that the QF output can be transmitted via network integration transmission service to PGE's load. Thus, PGE's Response to NIPPC Data Request No. 002 that it has interconnected all QFs with NRIS is not inconsistent with its Response to NIPPC Data Request No. 001 regarding the designation of QFs as network resources. Although NRIS is typically used for generators that need firm transmission service for delivery, and such delivery is often achieved by designating the generator as a network resource, not all generators that receive NRIS become designated network resources, and conversely, not all designated network resources receive NRIS. However, if a generator receives ERIS and later seeks firm transmission to load (including by being designated as a network resource), the upgrades required to provide the transmission service would be identified in a study conducted after the request to designate the generator (the transmission service request) is received—not in the interconnection study process.

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<sup>1</sup> See QF-LGIP Definition of "Network Resource Interconnection Service" ("Network Resource Interconnection Service in and of itself does not convey transmission service.").