

## Introduction

PacifiCorp d/b/a Pacific Power & Light Company (PacifiCorp or Company) filed its 2021 integrated resource plan (IRP or Plan) with the Washington Utilities and Transportation Commission (Commission) in Docket UE-200420 on April 1, 2021.<sup>1</sup> Staff agree with PacifiCorp's claim made in the Company's cover letter that this filing is not "actionable and supportable...without...necessary modeling work and...stakeholder input."<sup>2</sup> Staff have determined this filing is not compliant as it does not meet the IRP requirements pursuant to RCW 19.280.030(1) and further explained per WAC 480-100-620. As summarized within Staff's May 25, 2021 recessed Open Meeting memo, PacifiCorp's April 1 IRP filing falls short given the absence of a preferred portfolio, complete clean energy action plan (CEAP), and complete supporting analyses, including all scenarios, sensitivities, appendices, and attachments.<sup>3</sup>

PacifiCorp indicated the data deficiencies of its 2021 IRP are primarily due to modeling issues the Company has encountered with its PLEXOS long-term capacity expansion (LTCE) platform, PacifiCorp's portfolio development tool. The Company indicates overcoming these challenges, which could not have been foreseen for a variety of reasons, will delay PacifiCorp from filing a complete 2021 IRP until September 1, 2021.<sup>4</sup> During what amounts to essentially a five-month IRP filing extension, Staff recommends PacifiCorp undertake the following corrective actions organized by key topic areas that primarily reference the following rules:

1. IRP modeling per [WAC 480-100-620](#)(10) and (11),
2. Clean energy action plan (CEAP) per [WAC 480-100-620](#)(12),
3. Resource adequacy per [WAC 480-100-620](#)(7), (8), and (15),
4. Load forecast and climate change impacts per [WAC 480-100-620](#)(2) and (10)(b),
5. Demand-side management per [WAC 480-100-620](#)(3),
6. Nonenergy impacts per [WAC 480-100-620](#)(11)(g) and (13),
7. Public participation per [WAC 480-100-620](#)(17), and
8. Data disclosure [WAC 480-100-620](#)(14) and (16).

Staff believe PacifiCorp can bring its 2021 IRP into compliance by no later than September 1, 2021, addressing these corrective actions.

## Proposed conditions to bring 2021 Final Electric Integrated Resource Plan into compliance

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<sup>1</sup> Per [Order 03](#), par. 26 (UE-180259).

<sup>2</sup> [Updated 2021 IRP Cover Letter](#), Docket UE-200420, p. 4 (PacifiCorp April 2021 IRP) (Apr. 1, 2021).

<sup>3</sup> Draft IRP requirements per WAC 480-100-625(3). The Commission's rulemaking order outlines the expectation the draft IRP should be "as complete as practicable before filing to allow the public to...provide meaningful...input." *In re Adopting Rules Relating to Clean Energy Implementation Plans and Compliance with the Clean Energy Transformation Act and Amending or Adopting rules relating to WAC 480-100-238, Relating to Integrated Resource Planning*, Dockets UE-191023 & UE-109698 (*Consolidated*), General Order 601, pp. 57-58, ¶ 166 (CETA Rulemaking Order) (Dec. 28, 2020).

<sup>4</sup> [Updated 2021 IRP Cover Letter](#) at 5.

**(Docket UE-200420)**

*1. IRP Modeling*

PacifiCorp's IRP modeling within its 2021 IRP has not changed substantively since the Company filed its Draft IRP on January 4, 2021.<sup>5</sup> PLEXOS implementation issues constitute the primary reason why the Company claims it will need until September 1, 2021 to develop and finalize its 2021 preferred portfolio. To bring its **Final IRP into compliance, PacifiCorp must address the following IRP modeling requirements** per Commission rule:<sup>6</sup>

- a) Integrate the demand forecasts and resource evaluations into a long-range IRP solution describing the mix of resources that meet current and projected resource needs, abiding by a variety of constraints pursuant to statute and per Commission rule.<sup>7</sup>
- b) Provide a narrative illustrating step-by-step how the social cost of greenhouse gas emissions (SCGHG) cost adder is applied throughout its modeling logic. The SCGHG impact on the Company's modeling and portfolio analyses should be addressed in numerous variables, including PacifiCorp's imports and contracts and forward price curves.
- c) Include an assessment of battery and pumped storage for integrating renewable resources. The assessment may consider ancillary services at the appropriate granularity required to model such storage resources.<sup>8</sup>
- d) Provide precise analyses and an explanatory narrative describing the alternative lowest reasonable cost and reasonably available portfolio in the absence of CETA.<sup>9</sup> Staff encourages PacifiCorp to exercise its professional judgment regarding many scenario details. However, for additional guidance, PacifiCorp could consider how its peer Washington IOUs have approached this scenario. For example, Puget Sound Energy's CETA counterfactual scenario has decidedly fewer transmission capacity constraints to serve Washington load since the utility would not need to meet GHG neutral nor 100 percent clean energy targets in 2030 and 2045, respectively.<sup>10</sup> The Commission expects this CETA counterfactual scenario will (1) yield a baseline portfolio that includes the SCGHGs and (2) differs from the CETA-compliant preferred portfolio according to

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<sup>5</sup> For Staff's discussion of PacifiCorp's IRP modeling within its 2021 IRP, *see* the IRP Modeling section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 10-13 (Feb. 5, 2021).

<sup>6</sup> WAC 480-100-620(11), portfolio analysis and preferred portfolio; WAC 480-100-620(10), scenarios and sensitivities.

<sup>7</sup> *Id.*

<sup>8</sup> WAC 480-100-620(5). Looking ahead to the Clean Energy Implementation Plan, an electric utility is required to: (i) Achieve CETA targets at the lowest reasonable cost, considering risk; (ii) Consider acquisition of existing renewable resources; and (iii) rely on renewable resources and *energy storage*, as outlined in RCW

19.405.040(6)(a). *See also* [Report and Policy Statement on Treatment of Energy Storage Technologies in Integrated Resources Planning and Resource Acquisition](#), Dockets UE-151069 & UE-161024, ¶¶ 41, 43 & 52 (Oct. 11, 2017).

<sup>9</sup> WAC 480-100-620(10)(a).

<sup>10</sup> *See* Puget Sound Energy's Final 2021 IRP, Docket UE-200304, p. 5-35 (2021 Electric Portfolio Modeling Assumptions).

rule.<sup>11</sup>

- e) Include a future climate change scenario<sup>12</sup> as proposed in the Company's IRP.<sup>13</sup>
- f) Adjust variables specific to its Washington service territory to develop a more robust maximum customer benefit sensitivity. For example, the Company could consider what level of DER penetration within PacifiCorp's Washington service territory would be sufficient to preclude, or at least postpone high-voltage transmission buildout between Walla Walla and Yakima and/or between Yakima and Southern Oregon.<sup>14</sup> Forgoing constructing such transmission could significantly reduce eminent domain actions that can disproportionately impact vulnerable populations. This modeling exercise intends to maximize the *hypothetical* benefit for PacifiCorp's Washington customers. For the 2021 IRP, this sensitivity's primary result is additional data and analyses the utility could further refine for its 2022 CEIP and subsequent planning cycles.
- g) Assess its regional transmission future needs and the extent transfer capability limitations may affect the future siting of resources.<sup>15</sup>

## 2. Clean Energy Action Plan

Consistent with its draft IRP filing, PacifiCorp's April 1 filing still does not include a detailed, actionable clean energy action plan (CEAP) describing the Company's 10-year Clean Energy Action Plan for implementing the Clean Energy Transformation Standards at the lowest reasonable cost, and at an acceptable resource adequacy standard, that identifies the specific action to be taken consistent with the long-range IRP.<sup>16</sup> To bring its **Final IRP into compliance, PacifiCorp must include a final CEAP that fully complies with statute<sup>17</sup> and Commission rule.** Specifically PacifiCorp's ten-year CEAP for implementing [RCW 19.405.030](#) through [RCW 19.405.050](#) must:

- a) Be at the lowest reasonable cost;
- b) Identify and be informed by the utility's ten-year cost-effective conservation potential assessment as determined under [RCW 19.285.040](#);
- c) Identify how the utility will meet the requirements in [WAC 480-100-610\(4\)\(c\)](#);
- d) Establish a resource adequacy requirement;
- e) Identify the potential cost-effective demand response (DR) and load management programs that may be acquired;
- f) Identify renewable resources, nonemitting electric generation, and distributed energy

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<sup>11</sup> WAC-480-100-605, see definition of "Alternative lowest reasonable cost and reasonably available portfolio."

<sup>12</sup> WAC 480-100-620(10)(b), climate change scenario.

<sup>13</sup> [PacifiCorp 2021 IRP](#) at 94-97 (Modeling and Portfolio Evaluation Approach), Attachment A.

<sup>14</sup> [PacifiCorp Draft 2021 IRP](#) at 393, Attachment A.

<sup>15</sup> WAC 480-100-620(6), regional generation and transmission.

<sup>16</sup> For Staff's discussion of PacifiCorp's CEAP, see the CEAP section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 15-16 (Feb. 5, 2021).

<sup>17</sup> RCW 19.280.030(1)(l) and (2).

- resources that may be acquired and evaluate how each identified resource may reasonably be expected to contribute to meeting the utility's resource adequacy requirement;
- g) Identify any need to develop new, or to expand or upgrade existing, bulk transmission and distribution facilities;
  - h) Identify the nature and possible extent to which the utility may need to rely on an alternative compliance option identified under [RCW 19.405.040\(1\)\(b\)](#), if appropriate; and
  - i) Incorporate the social cost of greenhouse gas emissions as a cost adder as specified in [RCW 19.280.030\(3\)](#).<sup>18</sup>

The Company's CEAP should align with the IRP preferred portfolio, showing 10-year incremental nameplate resource additions in the preferred portfolio, year-over-year, delineated by resource type. In summary, the CEAP should reveal PacifiCorp's likely planning trajectory to achieve the Clean Energy Transformation Standards set forth in WAC 480-100-610 over the next ten years. Staff fully expects PacifiCorp to address the customer benefits provisions of CETA,<sup>19</sup> deliverability of resources, alternative compliance options, and how the Company incorporated the social cost of greenhouse gases into its CEAP.

### 3. Resource Adequacy and Uncertainty Analysis

PacifiCorp's treatment of resource adequacy (RA) and uncertainty analysis within its 2021 IRP has not changed substantively since the Company filed its Draft IRP on January 4, 2021.<sup>20</sup> To bring its **Final IRP into compliance, PacifiCorp must take the following RA actions:**

- a) Identify an appropriate RA requirement (i.e., LOLP) and complete the assessment, as required by rule.<sup>21</sup>
- b) Provide resource assumptions and market forecasts used in the utility's schedule of estimated avoided costs required in [WAC 480-106-040](#) including, but not limited to:
  - i. cost assumptions,
  - ii. production estimates,
  - iii. *peak capacity contribution estimates and annual capacity factor estimates*.<sup>22</sup>

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<sup>18</sup> WAC 480-100-620(12), clean energy action plan.

<sup>19</sup> RCW 19.405.040(8) In complying with this section, an electric utility must, consistent with the requirements of RCW 19.280.030 and 19.405.140, ensure that all customers are benefiting from the transition to clean energy: Through the equitable distribution of energy and nonenergy benefits and reduction of burdens to vulnerable populations and highly impacted communities; long-term and short-term public health and environmental benefits and reduction of costs and risks; and energy security and resiliency.

<sup>20</sup> For Staff's discussion of PacifiCorp's treatment of resource adequacy within its 2021 IRP, see the Resource Adequacy and Uncertainty Analysis section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 13-15 (Feb. 5, 2021).

<sup>21</sup> WAC 480-100-620(8).

<sup>22</sup> This includes providing PacifiCorp's methodology used to calculate estimates of the avoided cost of energy, capacity, transmission, distribution, and emissions averaged across the utility per WAC 480-100-620(15).

- c) Develop a detailed narrative describing the logic used in the PLEXOS LTCE and medium-term model that determine whether low-cost (i.e., below wholesale market prices or existing resource dispatch cost) energy efficiency (EE) or demand response (DR) are developed or dispatched.<sup>23</sup>
- d) Compare and evaluate all identified resources and potential changes to existing resources for achieving the clean energy transformation standards in [WAC 480-100-610](#) at the lowest reasonable cost, including a narrative of the decisions it has made.<sup>24</sup>

#### 4. *Load Forecast and Climate Change Impacts*

PacifiCorp's load forecast analyses and assessment of climate change impacts within its 2021 IRP has not changed substantively since the Company filed its Draft IRP on January 4, 2021.<sup>25</sup> As outlined in Staff's memo, there are several items missing. To bring its **Final IRP into compliance, PacifiCorp must address the following load forecast considerations** per Commission rule:

- a) Augment its load forecasting chapter and supporting appendices with significantly more details. Staff expect to see the data inputs used in the calculation and estimated regression results in native file format.<sup>26</sup>
- b) Address WAC 480-100-620(2), including more information and discussion regarding treatment of:
  - i. Alternative load forecast scenarios, including climate change impacts;<sup>27</sup>
  - ii. "Optimistic" and "pessimistic" assumptions in the low and high growth models and how these alternative forecasts differ from the base forecast; and
  - iii. Electrification adjustments made to the load forecast.<sup>28</sup>

#### 5. *Demand-side Management, including Energy Efficiency and Demand Response*

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<sup>23</sup> WAC 480-100-620(11)(c) and (f) require "a narrative explanation of the decisions [the utility] has made...to include all cost-effective, reliable, and feasible conservation and efficiency resources...and demand response [while] maintain[ing]...reliable operation...and achieving the identified resource adequacy requirement."

<sup>24</sup> WAC 480-100-620(7) and (11). Such resource evaluation may consider uncertainties imposed by front office transaction market availability, transmission and distribution delivery costs, storage efficiency, or construction risk.

<sup>25</sup> For Staff's discussion of PacifiCorp's load forecast results and treatment of climate change within its 2021 IRP, see the Load Forecast and Climate Change Impacts section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 4-7 (Feb. 5, 2021).

<sup>26</sup> WAC 480-100-620(14).

<sup>27</sup> WAC 480-100-620(10)(b). Utility must consider load changes resulting from climate change. CETA Rulemaking Order, p. 60, ¶ 173.

<sup>28</sup> WAC 480-100-620(2), load forecast must include "range of forecasts...and address changes in the number, type, and efficiency of end uses of electricity."

PacifiCorp's IRP provides limited narrative updates to the demand-side management (DSM) section, which considers EE and DR, compared to the Draft IRP the Company filed on January 4, 2021.<sup>29</sup> Staff find troubling PacifiCorp provides no analyses of its 2021 conservation potential assessment (CPA) results.<sup>30</sup> Staff acknowledges the Company cannot make DSM cost effectiveness determinations at this time without broader portfolio development. However, PacifiCorp's April filing does not assess technical achievable potential (TAP) results that should now be available. Staff also contend, like its load forecast section, the Company has not included 2021 CPA supporting data in native file format as an appendix. To bring its **Final IRP into compliance, PacifiCorp must address the following DSM requirements** per Commission rule:<sup>31</sup>

- a) File the CPA as an appendix or attachment to its final IRP and specifically provide the:
  - i. CPA model and underlying data (i.e., LoadMAP files)
  - ii. DR potential model and underlying data (i.e., LoadMAP files)
- b) Identify the DSM grid benefits, explaining benefits:
  - i. Endogenous within LTCE portfolio optimization and
  - ii. Separately determined during the CPA process.<sup>32</sup>
- c) Describe how the PLEXOS LTCE model harmonizes differences in technical achievable potential when the optimization process applies different load growth forecasts.<sup>33</sup>

#### 6. *Nonenergy Impacts and Customer Benefit Considerations*

Staff are encouraged that PacifiCorp attempted to address the economic, health, and environmental burdens and benefits current-state assessment per [WAC 480-100-620\(9\)](#) in its April IRP filing. However, Staff site two significant deficiencies in this first iteration of the assessment. First, PacifiCorp does not identify vulnerable populations that are a required focus of this assessment.<sup>34</sup> Second, the Company needs to identify and quantify disparate impacts to relevant populations as compared to PacifiCorp Washington customers who are not vulnerable nor highly impacted. The current assessment simply compares highly impacted communities to the overall Washington population.<sup>35</sup> The assessments filed by both Avista and Puget Sound Energy in their respective 2021 Final IRPs address vulnerable populations along with highly impacted communities and attempt to quantify relevant disparities within the utilities'

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<sup>29</sup> For Staff's discussion of PacifiCorp's DSM analyses within its 2021 IRP, *see* the Demand-side Management section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 8-10 (Feb. 5, 2021).

<sup>30</sup> [PacifiCorp 2021 IRP](#) at 169-174, Attachment A.

<sup>31</sup> WAC 480-100-620(3), distributed energy resources, and (14), data disclosure.

<sup>32</sup> WAC 480-100-620(11)(c). Explanation of how demand-side management inputs integrate into broader portfolio analysis.

<sup>33</sup> *Id.*

<sup>34</sup> Per WAC 480-100-620(9), "the IRP must include an assessment of energy and nonenergy benefits and reductions of burdens to vulnerable populations..."

<sup>35</sup> [PacifiCorp 2021 IRP](#) at 278-287, Attachment A.



Washington service territories.<sup>36</sup>

Beyond the current-state assessment, PacifiCorp's treatment of nonenergy impacts (NEIs) and consideration of customer benefits has not changed substantively since the Company filed its Draft IRP on January 4, 2021.<sup>37</sup> To bring its **Final IRP and CEAP into compliance, PacifiCorp must address the following NEI requirements** per WAC 480-100-620(11)(g):

- a) Demonstrate consideration of a wider incorporation of NEIs in addition to NEI applications during CPA development.<sup>38</sup>
- b) Attribute NEIs considered, indicating whether nonenergy costs and benefits accrue to the utility, customers, participants, vulnerable populations, highly impacted communities, and/or the general public.<sup>39</sup>
  - i. *Note: If 2021 planning constraints will prevent PacifiCorp from undertaking the data collection and analyses required to establish company specific NEI metrics, the company should accurately cite and justify use of NEI proxy values. PacifiCorp should apply NEI proxy values to all candidate resources when determining cost-effectiveness, if appropriate, instead of only to EE measures.*
- c) Specifically address vulnerable populations and quantify disparate impacts existing within PacifiCorp's Washington service territory in its current-state assessment of economic, health, and environmental impacts.<sup>40</sup>

#### 7. Public Participation

Staff hopes PacifiCorp's commitment to executing the updated public meeting schedule included in its April 1 filing will address issues around timely stakeholder feedback previously cited.<sup>41</sup> In addition, to bring its **Final IRP into compliance, PacifiCorp must address the following public participation requirements** by summarizing:

- a) Public comments received during 2021 IRP development rather than providing a download of stakeholder feedback forms the Company has received to date,
- b) Utility's corresponding responses to public comments, and
- c) Whether and how final plan addresses and incorporates comments received.<sup>42</sup>

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<sup>36</sup> See Avista and Puget Sound Energy final IRPs filed in dockets UE-200301 and UE-200304, respectively.

<sup>37</sup> See the Nonenergy Impacts and Customer Benefit Considerations section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 16-17 (Feb. 5, 2021).

<sup>38</sup> WAC 480-100-620(11)(g), equitable distribution of benefits and burden reductions in portfolio analysis and the preferred portfolio.

<sup>39</sup> WAC 480-100-620(13), nonenergy impacts.

<sup>40</sup> WAC 480-100-620(9). Remaining action PacifiCorp should undertake to fully address economic, health, and environmental burdens and benefits assessment requirement.

<sup>41</sup> See the Public Participation section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 17-19 (Feb. 5, 2021).

<sup>42</sup> WAC 480-100-620(17), summary of public comments.

## 8. *Data Disclosure*

PacifiCorp's April 1 filing shows the Company's repeated modeling attempts to develop its portfolio during the January thru March 2021 period.<sup>43</sup> The Company's data disclosure practices have not changed substantively since the Draft IRP filing on January 4, 2021, and are inadequate.<sup>44</sup> To bring its **Final IRP into compliance, PacifiCorp must address the following data disclosure requirements** per Commission rule:<sup>45</sup>

- a) Provide all data input files to the Commission in native format with appropriate context (e.g., assumptions made by the Company) as appendices or attachments to the final filing or via accompanying data disk(s). Data made available in this accessible manner will facilitate understanding of why PacifiCorp took the actions it did and assist in the independent review of such actions.<sup>46</sup>
- b) Include complete data sets informing the Company's preferred portfolio. Supporting data and workpapers should allow a 2019-to-2021 comparison of resource need.<sup>47</sup>
- c) Ensure supporting data is easily accessible to interested parties by including contextual aids with the given information. At minimum, the Company should organize its final IRP deliverable by including a master table of contents, readme files, and categorically grouping related data.

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<sup>43</sup> The Company included PLEXOS run log files showing the Company's repeated attempts to complete portfolio optimization, albeit unsuccessfully. *See PacifiCorp 2021 IRP Attachments D – F (confidential)*.

<sup>44</sup> *See* the Data Disclosure section of [PacifiCorp 2021 Draft IRP Staff Comments](#), pp. 19-20 (Feb. 5, 2021).

<sup>45</sup> WAC 480-100-620(14), data disclosure. Data disclosure is further discussed and elaborated in CETA Rulemaking Order at 60-61, ¶¶ 173 & 178.

<sup>46</sup> *Id.* at 60, ¶ 173.

<sup>47</sup> WAC 480-100-620(16), report of substantive changes.