BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

LC 67

In the Matter of PACIFICORP, dba PACIFIC POWER 2017 Integrated Resource Plan	Reply Comments of Renewable Northwest

I. INTRODUCTION

Renewable Northwest thanks the Oregon Public Utility Commission (the "Commission") for this opportunity to comment on the Reply Comments of PacifiCorp (or the "Company") and respond to Commission Staff's ("Staff") and other stakeholders' opening comments on the Company's 2017 Integrated Resource Plan ("IRP"). PacifiCorp plans to add over 1,100 MW of new Wyoming wind resources by the end of 2020.[1] Those resources would be enabled by a new 140-mile, 500 kV transmission line from the Aeolus substation near Medicine Bow, Wyoming, to the Jim Bridger power plant.[2] The Company also seeks to repower at least 999 MW of existing wind resources by the end of 2020, including Leaning Juniper in Oregon.[3]

Renewable Northwest agrees with PacifiCorp that its 2017 IRP satisfies the Commission's Standards for Acknowledgment.[4] The Commission has identified the key procedural[5] and substantive[6] elements of least cost planning that it relies on when reviewing a utility's plan, and PacifiCorp has met these requirements. Additionally, the Commission clarified in its IRP Guidelines that "[a]cknowledgment [does] not guarantee favorable ratemaking treatment, but mean[s] simply that the plan seemed *reasonable at the time acknowledgment was given*."[7] As a

[1] 2017 Integrated Resource Plan at 2.
[2] *Id*.
[3] PacifiCorp's Reply Comments at 6–7.
[4] *Id*. at 3.
[5] UM 180, Investigation into Least-Cost Planning for Resource Acquisitions by Energy Utilities in Oregon, Order No. 89-507 at 5–6 (April 20, 1989) [hereinafter Order 89-507].
[6] Order 89-507 at 7–9.
[7] UM 1056, Investigation Into Integrated Resource Planning, Order No. 07–002 at 2 (Jan. 8, 2007) (emphasis added) [hereinafter Order 07–002].

result, Renewable Northwest encourages the Commission to focus its decision regarding acknowledgement of PacifiCorp's 2017 IRP on whether the plan seems reasonable at this time.

These Reply Comments primarily address concerns raised by Staff, the Industrial Customers of Northwest Utilities ("ICNU"), and the Citizens' Utility Board ("CUB"). The comments begin by addressing the reasonableness of PacifiCorp's new wind and transmission plans, followed by further consideration of the Company's case for repowering. Finally, the comments discuss future coal resource analysis.

Renewable Northwest continues to recommend that the Commission acknowledge this IRP. In addition to the analysis in the 2017 IRP, we find that the Company's Reply Comments and Informational Filing provide further justification for its plans and that the Company addresses many of the concerns that stakeholders have raised.

II. PACIFICORP'S PLANS FOR NEW WIND AND TRANSMISSION ARE REASONABLE

Assertions that IRP plans must only address near-term needs are unfounded and would lead to the selection of poorer performing portfolios in this IRP. Staff claims, without supporting analysis, that because PacifiCorp's plans are "not [...] needed to serve load or fulfill a regulatory requirement with the Action Plan timeframe" it is therefore "implausible to consider these projects as less risky than the option of acquiring no resources."[8]

First, as Renewable Northwest has already pointed out, neither the IRP Guidelines nor Commission precedent restricts action plans to actions intended to address near-term needs.[9] Second, as PacifiCorp observes, "the 2017 IRP contains numerous portfolios that did not include the new wind and transmission investments—Staff's preferred approach—and the preferred portfolio outperformed those competing portfolios."[10] Renewable Northwest agrees with the Company's conclusion that "[i]t would be inconsistent with least-cost planning principles for PacifiCorp to select a higher-cost, higher-risk portfolio simply because it did not include, or even consider, opportunities to procure PTC-eligible new resources within the context of its IRP."[11]

Staff's analysis of the benefits of PacifiCorp's plans for new wind and transmission appears overly narrow. For example, Staff notes that the $2.5 billion new wind and transmission project is expected "to yield minor economic benefits for customers (in the $20 million range)", and that even then, "the project would likely not be economic if natural gas prices stay low through

[8] Staff's Initial Comments at 3–4.
[9] LC 66, Renewable Northwest Response to Staff Report at 2–4 (Aug. 4, 2017).
[10] PacifiCorp's Reply Comments at 25.
[11] *Id*. at 15.

2036."[12] However, PacifiCorp's updated analysis finds that economics "would improve by approximately $26 million for every dollar assigned to the incremental [renewable energy certficiates ("RECs")] that will be generated from the new wind resources through 2036."[13] Still, Staff does not consider in its analysis of the new wind and transmission that PacifiCorp's assigns no value to the RECs associated with the new wind. As our opening comments highlighted, the renewables in the preferred portfolio will likely provide an even higher economic benefit than what the Company identified, and the PVRR of the portfolio is likely lower, due to the Company's conservative decision to assign no value to the RECs.

Staff's analysis of the new wind and transmission also puts undue emphasis on a single scenario. While Staff is correct that the new wind and transmission are uneconomic in the low gas-price scenario, "[i]n every other scenario, PacifiCorp's analysis shows that the new resources provide customer benefits and the upside associated with higher natural gas prices far exceeds any potential downside if natural gas prices remain low through the life of the assets."[14]

In its Opening Comments, CUB highlighted two main issues with PacifiCorp's plans for new wind and transmission. First, CUB was concerned that the benefits of the new wind and transmission were being intermingled with the repowering benefits.[15] Second, CUB wanted more information regarding the benefits of freeing up transmission versus building new transmission.[16] PacifiCorp addressed both issues in its Reply Comments and its Informational Filing.

PacifiCorp addressed CUB's first issue: that "PacifiCorp combined it with the wind repowering [...] thereby overstating the benefits."[17] The Company isolated the benefits of the new wind and transmission from the repowering in its updated analysis, finding "present-value customer benefits total $137 million when calculated from the change in system costs over the life of the new wind resources" with medium natural gas and medium CO_2 price assumptions.[18] Furthermore, the Company showed that the only scenarios where the new wind resources are not economic are "those with low natural gas prices when paired with zero or medium CO_2 price assumptions".[19]

CUB's second concern was that, instead of building new infrastructure, PacifiCorp "could have freed up existing transmission through the early closure of one of the Dave Johnston coal units [...] expected to close in 2027."[20] Our opening comments pointed out that, according to the

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[12] Staff's Initial Comments at 3.
[13] PacifiCorp's 2017 IRP Informational Filing at 23.
[14] PacifiCorp's Reply Comments at 26.
[15] CUB's Initial Comments at 6.
[16] CUB's Initial Comments at 7.
[17] *Id*.
[18] PacifiCorp's Reply Comments at 26.
[19] *Id*. at 27.
[20] CUB's Initial Comments at 7.

Company, Dave Johnston is “one of the lowest variable operating cost assets” on its system, providing flexibility that facilitates PacifiCorp’s participation in the California Independent System Operator (“CAISO”) and the energy imbalance market (“EIM”). Nonetheless, we remained conscious of the importance of additional analysis to better understand the economics of the proposed transmission. For that reason, Renewable Northwest requested at the July 10, 2017 Commission Workshop that the Company further quantify the benefits of building new transmission in comparison to freeing up transmission by closing Dave Johnston.

PacifiCorp’s Reply Comments and Informational Filing address CUB’s concern as well as our request. According to the Company, the transmission will “provide additional benefits that would not be realized by retiring the Dave Johnston plant.”[21] These benefits include: congestion relief, increased transmission capacity, and resource management flexibility; critical voltage support; improved system reliability; and, reduced line losses.[22] In addition, PacifiCorp presented the following analysis at a Stakeholder Workshop on August 8, 2017:

- In terms of reliability, the new transmission project would “eliminate de-rates caused by outages on 230-kV elements”.[23] The transmission system in the eastern Wyoming to Aeolus area experienced a de-rate of “146-MW over approximately 88 outage days per year”, equivalent to “one 146-MW, 24 hour outage every four days.”[24] This de-rate was eliminated in simulations that included the new transmission project.[25]
- The new transmission project would also reduce line losses. Impedance was reduced in simulations with the new transmission project installed next to existing lines, resulting in reduced line losses.[26] Impedance is the alternating current equivalent of resistance: as the two transmission lines come closer together, their opposing magnetic fields increasingly cancel each other out, allowing more current to be drawn for a given voltage.[27] PacifiCorp calculated that the reduced line losses could lead to 11.6 aMW of incremental energy being transmitted.[28]

Furthermore, according to the Company, Dave Johnston contributes “significant system capacity” towards PacifiCorp’s 13 percent planning reserve margin, and provides fault current support to support system voltage.[29] The Company states that there would be insufficient time to

[21] *Id*. at 28–29.
[22] *Id*. at 29.
[23] PacifiCorp 2017 IRP Informational Filing at 13.
[24] *Id*.
[25] *Id*.
[26] *Id*.
[27] See, for example, Lessons in Electric Circuits—Vol. II (Alternating Currents), Tony R. Kuphaldt, , Chapter 14 - Transmission Lines, Characteristic Impedance, ww.allaboutcircuits.com/textbook/
[28] PacifiCorp 2017 IRP Informational Filing at 13.
[29] PacifiCorp Reply Comments at 28.

replace the energy, capacity, and system services that Dave Johnston provides if the coal plant were to be retired at the end of 2020 to free up transmission for Wyoming wind.[30]

In summary, PacifiCorp has addressed the concerns of Staff and CUB regarding the Company's plans for new wind and transmission. The Company's Reply Comments and Informational Filing provide additional analysis that continues to show that these plans are reasonable. As a result, Renewable Northwest recommends that the Commission acknowledge them.

III. PACIFICORP'S PLANS FOR REPOWERING ARE REASONABLE

PacifiCorp observed that Renewable Northwest, CUB, and the Northwest Energy Coalition ("NWEC") recommended that the Commission acknowledge its repowering plans.[31] However, Staff expressed concern that the repowering was not driven by need and that it was presented by PacifiCorp "purely as a long-term economic benefit to customers over the course of twenty years."[32] ICNU also stated that the repowering strategy "seems to be purely an economic one".[33]

Staff's and ICNU's concerns appear inconsistent with least-cost, least-risk planning. As the company noted, "not a single scenario shows that wind repowering is higher cost compared with non-repowering over the life of the repowered resources".[34] Renewable Northwest agrees with the Company that "[i]t would be fundamentally inconsistent with with the purpose of least-cost planning if PacifiCorp pursued a higher cost, higher-risk portfolio that did not include wind repowering simply because the additional generation was not immediately needed".[35]

PacifiCorp has demonstrated that repowering is part of a least-cost, least-risk resource plan. PacifiCorp's Informational Filing showed that with medium natural gas and CO_2 price assumptions, wind repowering results in benefits of $359 million when calculated through 2050, which covers the remaining life of the repowered facilities.[36] With regards to such analysis, CUB has expressed that "the benefits that grow out of extending the life [of a wind resource by repowering] should be discounted."[37] Nevertheless, CUB acknowledged that "[e]ven without considering the modeled benefits of extending the life of the wind turbines, the economic analysis supports the wind turbine repowering … [and] the economic modeling shows benefits from repowering in all cases."[38]

[30] *Id*.
[31] *Id*. at 21.
[32] Staff's Initial Comments at 2.
[33] ICNU's Opening Comments at 3.
[34] PacifiCorp's Reply Comments at 22.
[35] *Id*.
[36] PacifiCorp's 2017 IRP Informational Filing at 17.
[37] CUB's Initial Comments at 5.
[38] *Id*.

ICNU requested that the Commission not acknowledge repowering, expressing concern that "PTCs are not free [...] the cost of those tax expenditures are borne by taxpayers and society as a whole".[39] Renewable Northwest generally agrees with this objective assessment of tax credits, but we do not believe that such societal concerns as outlined by ICNU have any bearing on whether the Commission finds PacifiCorp's plan "reasonable at the time" and suitable for acknowledgment.[40] Furthermore, the purpose of the PTC is to incentivize wind generation, whether through new projects or repowering of existing facilities. In that regard, PacifiCorp's plan not only minimizes cost and risk, but it also is consistent with, and responsive to, existing federal policies.

PacifiCorp has addressed the concerns of Staff, CUB, and ICNU regarding the Company's plans for repowering. The Company's Reply Comments and Informational Filing provide additional analysis that continues to show that this plan is reasonable and meets the Commission's standards for acknowledgement.

IV. PACIFICORP'S SHOULD CONTINUE EVALUATING THE REASONABLENESS OF ITS COAL RESOURCE ANALYSIS

This IRP marks the beginning of a strong transition towards clean resources, but much work remains to be done. As a result, Renewable Northwest will continue working with the Company, Staff, and stakeholders before the start of the next IRP in order to identify strategies to facilitate that transition. In our initial Comments, we welcomed PacifiCorp's action plan as "an indication of the economic benefits of the Company's transition toward a clean energy future."[41] As part of that transition, PacifiCorp's IRP does not envision any further select catalytic reduction ("SCR") emission control investments in the Company's coal fleet.[42] The Company states that "[a]voiding installation of SCR equipment will save customers hundreds of billions of dollars and retain compliance-planning flexibility associated with the Clean Power Plan and other potential state and federal environmental policies."[43]

Our opening Comments also celebrated the 2017 IRP's downward shift in forecasted CO_2 emissions,[44] as well as the decrease in coal's contribution to PacifiCorp's energy and capacity.[45] Regarding the proposed new wind resources, the Company notes that "[u]pon being placed into service, these resources will be used to meet system load requirements through their respective

[39] ICNU's Opening Comments at 3.
[40] Order No. 07–002 at 2.
[41] Renewable Northwest's Comments at 12.
[42] PacifiCorp's 2017 Integrated Resource Plan at 195.
[43] PacifiCorp's Reply Comments at 37.
[44] Renewable Northwest's Comments at 16.
[45] *Id*. at 17–18.

lives" highlighting how the procurement of these resources will likely contribute to the displacement of coal resources.[46] However, we also observed that "the dominant role of fossil-fueled resources in PacifiCorp's resource mix shows that the Company's transition toward cleaner resources still has some way to go."[47] As a result, we welcome stakeholder interest in establishing a strategy for the Company to continue with that transition.

Whether as a result of this IRP or of one in the near-future, PacifiCorp's coal fleet will come under increasing economic pressure from, among other things, low-cost renewable resources and increasing environmental regulation as a result of state and federal policies. Renewable Northwest agrees that Staff, stakeholders, and PacifiCorp need to come together between now and the beginning of the next IRP in order to: 1) work toward an agreement with regard to how the utility's coal fleet is to be analyzed; 2) understand what the Company's coal fleet brings to the system in terms of energy, capacity, flexibility, and other grid services; 3) understand, in the absence of the coal fleet, how those system needs are to be met; and 4) come to an understanding on the expectations surrounding replacement resources. We support any Commission guidance in that regard.

V. CONCLUSION

Renewable Northwest appreciates the opportunity to comment on PacifiCorp's Reply Comments and respond to Staff's and other stakeholders' opening comments on the 2017 IRP. PacifiCorp's Reply Comments and its Informational Filing addressed many of Staff's, ICNU's, and CUB's concerns regarding the wind repowering and the new wind coupled with the new transmission. The Company summarizes the situation well:

> Upon being placed in service, these resources will be used to meet system load requirements and will continue to meet system load requirements through their respective lives. Completion of these projects by the end of 2020 will ensure the repowered and new wind will qualify for the full value of PTCs and will defer the need for other, higher-cost resource alternatives. PacifiCorp's modeling indicates that the early acquisition of these resources represents the least-cost, least-risk approach to serving customers.[48]

It would be fundamentally inconsistent with the purpose of least-cost planning principles for PacifiCorp to select a higher-cost, higher risk portfolio that: a) did not include or consider opportunities to procure PTC-eligible resources in this IRP just because the resources would not

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[46] PacifiCorp's Reply Comments at 6.
[47] Renewable Northwest Comments at 17.
[48] PacifiCorp Reply Comments, at 6.

fulfil a regulatory requirement in the Action Plan timeframe; and b) did not include wind repowering simply because the additional generation was not immediately "needed."

As the Company's analysis shows, its proposed new wind and transmission, and its repowering plans minimize cost and risk and are reasonable. Therefore, Renewable Northwest recommend thats the Commission acknowledge them.

Respectfully submitted this 24th day of August, 2017.

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