BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON

LC 67

In the Matter of PACIFICORP, dba PACIFIC POWER's 2017 IRP	Comments of Renewable Northwest on Staff's Recommendations

I. INTRODUCTION

Renewable Northwest thanks the Oregon Public Utility Commission (the "Commission") for this opportunity to comment on Staff's Recommendations in the matter of PacifiCorp's (or the "Company's") 2017 Integrated Resource Plan ("IRP"). PacifiCorp seeks to repower at least 999 MW of existing wind resources by 2020 (Action Item 1a), including Leaning Juniper in Oregon.[1] The Company also plans to add over 1,100 MW of new wind resources by the end of 2020 (Action Item 1b).[2] Some of those wind 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 (Action Item 2a).[3] According to the Company, it needs the new transmission to improve reliability, enable new interconnections, and relieve congestion.[4]

These comments focus on the recommendation by Commission Staff ("Staff") that the Commission not acknowledge Action Items 1a, 1b, and 2a.[5] Renewable Northwest disagrees with Staff's position and continues to recommend that the Commission acknowledge these three action items. We appreciate Staff's suggested modifications for conditional acknowledgment of these Action Items. Although the present case does not require the Commission to depart from its traditional IRP practices in order to acknowledge Action Items 1a, 1b, and 2a, our understanding is that the Commission could choose to signal to a utility in an IRP order what it would likely consider in a future rate case.

Staff's recommendations reassert its position that "PacifiCorp's Action Items 1a, 1b, and 2a are inconsistent with need-based IRP planning."[6] In our Reply Comments, we addressed Staff's assertions that IRP plans must only address near-term needs.[7] As the Commission clarified in the IRP guidelines, "[a]cknowledgment [...] mean[s] simply that the plan seemed reasonable at the time

[1] PacifiCorp Reply Comments at 2.
[2] PacifiCorp 2017 IRP at 2.
[3] *Id.*
[4] PacifiCorp's presentation at September 14, 2017 Commission Workshop, slide 3.
[5] Staff Recommendations at 44.
[6] *Id.* at 14.
[7] Renewable Northwest Reply Comments at 2.

acknowledgment was given."[8] PacifiCorp has shown that its plans for repowering, new wind, and transmission are reasonable. Therefore, we encourage the Commission to acknowledge them.

These comments begin by detailing that, since it published the IRP, the Company has shown that renewable resources, as well as other forms of generation, displace the need for market purchases. We then discuss how renewable generation can displace market purchases, and the meaning of a variable resource's capacity contribution. The comments follow with a review of PacifiCorp's case for the new transmission, and then with a discussion of Staff's suggested modifications to Action Items 1a, 1b, and 2a if the Commission is inclined to pursue conditional acknowledgment. Finally, we highlight how the Company's current request for proposals ("RFP") provides an opportunity for PacifiCorp to re-evaluate the economics of its coal fleet and address stakeholder concerns before the Commission's Public Meeting on December 5, 2017.

II. RENEWABLE CAPACITY CAN REPLACE MARKET CAPACITY

The displacement of market purchases, also called front office transactions ("FOTs"), by renewables and other resources has been a feature of the IRP since the Company filed it on April 4, 2017. At the September 14, 2017, workshop, PacifiCorp stated that its proposed wind resources are needed to "reduce market reliance risk",[9] or as Staff describes it, "displace system available FOTs".[10] According to Staff, PacifiCorp made this "claim" for the first time at the September workshop.[11]

Contrary to Staff's assertion, the Company's IRP, as filed, has shown all along that renewables and other resources reduce PacifiCorp's market reliance risk. Comparing Pacificorp's projected capacity mix with its 2017 IRP preferred portfolio (Figure 1) with its 2015 IRP preferred portfolio (Figure 2) shows a decrease in front office transactions (pink on the charts), and an increase in renewable capacity (purple on the charts). Capacity from new Class 2 demand side management (DSM) also increases in the preferred portfolio of the 2017 IRP compared to the 2015 IRP. Importantly, these differences reflect how a preferred portfolio resulting from an *integrated* resource planning process will see the capacity mix change as multiple resources interact with one another. In summary, while Staff states that PacifiCorp's claim that " these resources are needed is new", the original IRP, as filed in April, shows a decrease in FOT capacity and an increase in other types of capacity, including from renewables.

[8] UM 1056, Investigation Into Integrated Resource Planning, Order No. 07-002 at 2 (Jan. 8, 2007)
[9] PacifiCorp's presentation at September 14, 2017 Commission Workshop, slide 3.
[10] Staff Recommendations at 16.
[11] *Id*.

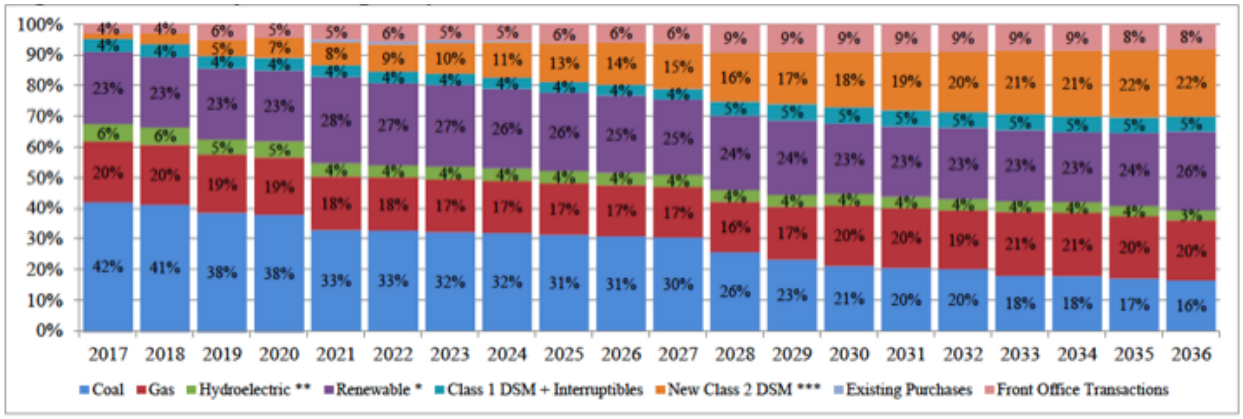
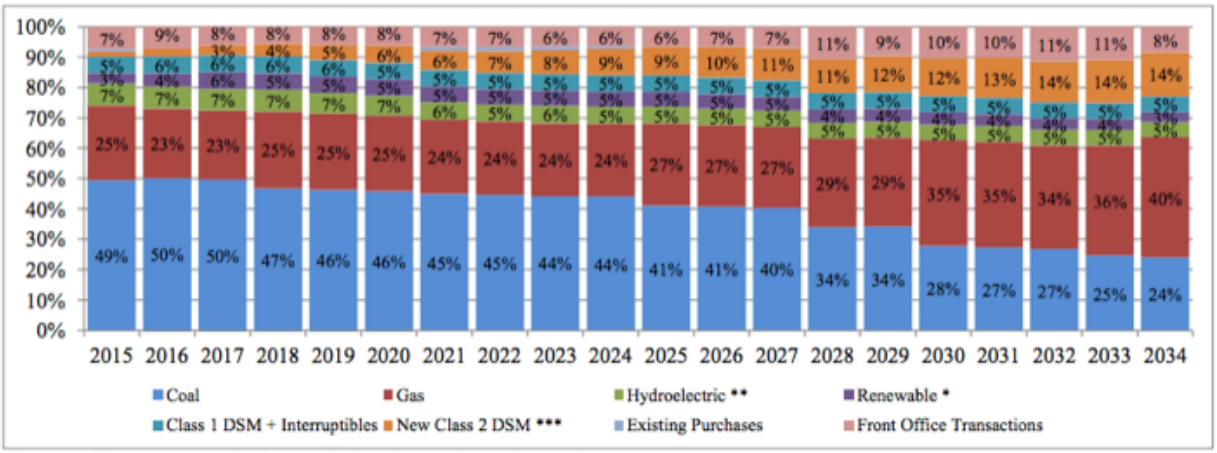


Figure 1—Projected Capacity Mix with Preferred Portfolio Resources (2017 IRP)[12]



*Renewable resources include wind, solar, and geothermal.
**Hydroelectric resources included owned and contracted.
***Class 2 DSM resources represent cumulative acquisition of new DSM resources over time.

Figure 2—Projected Capacity Mix with Preferred Portfolio Resources (2015 IRP)[13]

III. VARIABLE GENERATION PROVIDES CAPACITY

Staff responds to PacifiCorp's position that new wind resources are needed to reduce reliance on FOTs with a section of its Recommendations that outlines Staff's opinion that "Wind is Not a Desirable Resource Type to Hedge Load or to Replace Front Office Transactions".[14] This section is problematic for two reasons: 1) Staff erects a straw man argument around hedging that seems divorced from the utility's actual practices; and 2) Staff appears to misunderstand the concept of capacity value of variable resources, although many of these issues were resolved through stipulation in the Commission's Investigation to Explore Issues Related to a Renewable Generator's Contribution to Capacity (Docket No. UM 1719). Additionally, Staff appears to be imposing its

[12] PacifiCorp 2017 IRP at 240.
[13] PacifiCorp 2015 IRP at 193.
[14] Staff Recommendations at 25.

opinion of variable resources' hedging and capacity value on the downstream results of an IRP. However, these factors are taken into account as part of an IRP. The problems with Staff's arguments in Section 3.A.5 of its recommendations are pervasive, so we feel the need to address each paragraph in this section of our comments:

A. First paragraph of Section 3.A.5 of Staff's Recommendations

Staff states:

> Replacing the capacity contribution FOTs provide with variable energy resources, and wind in particular, eliminates the forward hedging benefits FOTs provide. Despite the risk that all large capital projects have—some of which are provided above—they can generally be viewed as a *hedge* of another risk. The risk being hedged is the ability of the utility to safely and reliably serve customers. Each gas turbine added to a utility's fleet, for example, increases the utility's ability to meet expected loads, as well as to adjust to track load when it is not as expected (due to unexpected fluctuations in wind and solar generations, unexpected loss of load, generator trips, etc.).[15]

Staff mistakenly claims that the risk being hedged with FOTs is the "ability of the utility to safely and reliably serve customers". However, in the section of its 2017 IRP entitled "The Purpose of Hedging", PacifiCorp states that, "[t]he purpose is *solely* to reduce customer exposure to net power cost volatility and adverse price movement. [...] Hedging is done *solely* for the purpose of limiting financial losses due to unfavorable wholesale market changes."[16] While PacifiCorp states that one of the *goals* of its "risk management policy and hedging program" is to "ensure reliable sources of electric power", it is not the *purpose* of the Company's hedging practices.[17] Still, Staff's argument against renewables displacing FOTs relies in part on the idea that the Company is hedging with FOTs the reliable service of customers. As the 2017 IRP show, this is not the factor that the Company hedges. However, even if it were, we show below that Staff's criticism of renewable generation is based upon an incorrect understanding of capacity contribution.

B. Second paragraph of Section 3.A.5 of Staff's Recommendations

Staff states:

> Every type of generation a utility may add to its fleet is a hedge, in that it incrementally improves the utility's ability to meet load without reliance on spot market transactions. Similarly, FOTs that are for terms of longer duration (month-ahead, quarterly, annual, etc.) are hedges. These FOT hedges, though, are not as effective as the aforementioned natural gas plant because they are very blocky, fixed megawatt packages of power. So while they are very useful in meeting expected load—as FOTs are often *at least* as reliable as a physical power plant, they often do not provide the ability to follow load. An additional benefit of FOTs, however, is that they also hedge the *price* at which their portion of load

[15] Staff Recommendations at 25.
[16] PacifiCorp 2017 IRP at 286 [emphasis added].
[17] *Id*.

> will be met. The natural gas plant is subject to the price of natural gas, and the cost of the energy it delivers will fluctuate accordingly, unless the utility separately hedges its natural gas supply.[18]

It is unclear how FOTs' supposed "[in]ability to follow load" supports Staff's conclusion that renewable generation cannot, or should not, replace FOTs.

C. Third paragraph of Section 3.A.5 of Staff's Recommendations

Staff states:

> Clearly, dispatchable generators have attributes that make them both attractive and unattractive for hedging purposes. The same cannot be said for intermittent [sic] variable energy resources (VERs) such as wind. In determining its load and resource balance and net surplus or need, a utility will add up its expected available generation for a particular hour using each resource's capacity contribution. Each resource's capacity contribution will be less than its nameplate capacity because, among other things, it may not be able to generate when called upon in a given hour. For example, the resource may not be online. In the case of wind, the wind may not be blowing. A natural gas plant may have a capacity contribution over 90 percent of nameplate. Because, as previously discussed, many FOTs are firm energy products, their capacity contributions are also very high. In contrast, PacifiCorp's Wind and Solar Capacity Contribution study determined its wind fleet's capacity contribution was 15.8 percent on the east side of its system, and 11.8 percent on the west.[19]

Staff asserts that "intermittent variable energy resources" are unattractive for hedging purposes. This statement relies upon the incorrect assumption that any resource procured by a utility that displaces FOTs must fulfill the same role and function as FOTs. Furthermore, a reduction in FOTs does not necessarily have an adverse effect on the ability of the Company's hedging program to limit "financial losses due to unfavorable wholesale market changes."[20]

Staff goes on to note that solar and wind have lower capacity contributions than a gas plant in PacifiCorp's resource assumptions. Staff mentions this information in connection with the Company "determining its load and resource balance and net surplus or need".[21] However, the link between capacity contribution and a variable resource's attractiveness as a hedging instrument is not clear in Staff's comments.

[18] Staff Recommendations at 25.
[19] *Id*.
[20] PacifiCorp 2017 IRP at 286 [emphasis added].
[21] Staff Recommendations at 25.

D. Fourth paragraph of Section 3.A.5 of Staff's Recommendations

Staff states:

> To replace the forward hedging benefits that FOTs provide, many multiples of the FOT contract quantities would need to be built of nameplate wind. PacifiCorp's 10-year summer capacity position forecast includes 1,670 MW of capacity contribution from available FOTs. Assuming PacifiCorp desired to replace *all* of this FOT capacity contribution with east wind, it would need to procure nearly 11,000 MW of wind [footnote: ignoring diversification effects, for this example]. For perspective, the total capacity contribution of all existing units in PacifiCorp's fleet is roughly 10,500 MW. Because the wind may not blow any particular hour, reliance on wind to this extent for reliability purposes would need to be closely scrutinized.[22]

Staff's argument in this paragraph is based on wind "replac[ing] the forward hedging benefits that FOTs provide",[23] but Staff has not provided any evidence that using renewable energy to "reduce market reliance risk"[24] negatively affects PacifiCorp's hedging program. The Company's IRP process has determined that variable resources can, and should, displace a portion of FOTs. Staff has not made the case that wind is an inappropriate replacement.

Staff's comments go on to say that "[b]ecause the wind may not blow any particular hour, reliance on wind to this extent for reliability purposes would need to be closely scrutinized."[25] This sentence does not comport with the mutual understanding of the capacity contribution of variable resources that stakeholders came to in the investigation UM 1719. As part of UM 1719, the Administrative Law Judge issued a Memorandum on May 11, 2015, that requested Staff to file a report identifying independent experts able to appear at a future Commission workshop.[26] The Commission workshop was held on August 17, 2015, and included a presentation from Michael Milligan, Ph.D. with the National Renewable Energy Laboratory.

Michael Milligan, PhD. has characterized two types of capacity credit—operational and system—and he has defined these in a publicly available presentation.[27] Operational capacity value is concerned with how much capacity a variable generator will produce at a given date or time.[28] System adequacy capacity value, on the other hand, is concerned with whether there is enough installed capacity in a certain year to reliably serve load.[29] Dr. Milligan described these two views of capacity value as "two very different questions".[30] Additionally, when presenting to the Commission

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[22] Staff Recommendation at 26.
[23] *Id*.
[24] PacifiCorp's presentation at September 14, 2017 Commission Workshop, slide 3.
[25] Staff Recommendation at 26.
[26] ALJ Memo on UM 1719 http://edocs.puc.state.or.us/efdocs/HDA/um1719hda11651.pdf
[27] Utility Variable-Generation Integration Group, Capacity Value of Variable Generation, June 2014, Slide 3, www.uwig.org/shortcourse2014/Session-6-Milligan.pdf
[28] *Id.*
[29] *Id*
[30] *Id*

on "Methods to Model and Calculate Capacity Contributions of Variable Generation" on August 17, 2015, Dr. Milligan stated that "A generator contributes to resource adequacy if it reduces the LOLP [loss of load probability] in some or all hours or days".[31]

Staff's statement that "[b]ecause the wind may not blow any particular hour, reliance on wind to this extent for reliability purposes would need to be closely scrutinized"[32] seems to conflate system capacity value with operational capacity value. One of the aims of an IRP is to ensure resource adequacy, i.e. ensure there is enough installed capacity to reliably serve load. A variable generator's capacity value is a measure of the extent to which the generator contributes to resource adequacy; it is not a question of whether the wind may or "may not blow at any particular hour".[33]

Renewable Northwest, Staff, and PacifiCorp were all among the parties to UM 1719 and entered into a stipulation for the purposes of resolving all issues in that docket. As part of that stipulation, the utilities were required to use the Effective Load Carrying Capability (ELCC), or an approximation, when estimating capacity contributions from wind and solar generators.[34] ELCC is defined as:

> The estimated additional load that can be added to a system, or the estimated benchmark resources (conventional or perfect) that can be avoided, due to the inclusion of a particular or group of resources with no net change in system reliability as measured by Loss-Of-Load Probability (LOLP) or Loss-Of-Load Expectation (LOLE). ELCC is expressed as a percentage of nameplate capacity of the particular resource or group of resources.[35]

The use of the ELCC method, or an agreed to approximation, in an IRP enables utilities to incorporate variable resources into their IRPs without detrimentally affecting system reliability. Staff's statement that "[b]ecause the wind may not blow any particular hour, reliance on wind to this extent for reliability purposes would need to be closely scrutinized"[36] does not make sense in the context of UM 1719.

E. Fifth paragraph of Section 3.A.5 of Staff's Recommendations

Staff states:

> It is clear that using VERs generally and wind especially is not a favorable way to replace the capacity or energy contribution FOTs provide. Similar to FOTs, wind also provides little benefit in following load [footnote: Wind units can be curtailed to track load as it falls, providing so-called "regulation -down" service. The more valuable service, however, is "regulation -up," in which units ramp up with load. As units with no fuel cost and

[31] Michael Milligan, Ph.D., Methods to Model and Calculate Capacity Contributions of Variable Generation, OPUC, August 17, 2015, Slide 9 (p95 of pdf). http://edocs.puc.state.or.us/efdocs/HTB/um1719htb142830.pdf
[32] Staff Recommendation at 26.
[33] Staff Recommendation at 26.
[34] UM 1719 Stipulation at 2–3.
[35] *Id*.
[36] Staff Recommendation at 26.

> potentially generating valuable production tax credits, it would not be economic for wind units to voluntarily back off generation to be able to provide regulation-up service.] Therefore Staff concludes that wind is not necessarily a desirable resource type to hedge load or to replace FOTs.[37]

Staff's conclusion that "using VERs generally and wind especially is not a favorable way to replace the capacity or energy contribution FOTs provide" is based on a straw man argument about hedging and a misunderstanding of capacity contribution. It is unclear how Staff's assertion that "[s]imilar to FOTs, wind also provides little benefit in following load" supports its conclusion.

Finally, while we appreciate Staff's comment that most resources added to the utility's portfolio in the future will be renewable,[38] it appears to us that Staff has gone out of its way to find fault with the way PacifiCorp has proposed using renewables in its IRP. We find Staff's arguments to be inconsistent with UM 1719 as well as with Commission-recognized experts on capacity value and capacity contribution. Renewable resources can displace FOTs in an IRP, and capacity value methodologies ensure this can be done while maintaining system adequacy.

IV. PACIFICORP HAS MADE THE CASE THAT THEY NEED TO EXPAND THEIR TRANSMISSION

PacifiCorp has repeatedly made the case that they need to invest in their transmission system for a variety of reasons, including to improve reliability. Staff tries to argue that because the Company admits that it will try to balance its system without the new transmission—possibly through pre-contingent load-shedding[39]—that the new transmission is therefore not needed. However, PacifiCorp has undertaken numerous improvements in its Wyoming transmission system since 2013 in order to postpone a needed major investment until 2020.

Staff states that "PacifiCorp concedes that its proposed transmission line is not needed to address short-term reliability concerns on a stand-alone basis".[40] To support this statement, Staff quotes an oral exchange that took place during the Commission Workshop of September 14, 2017.

> **Staff**: "Without the 1,100 MW of wind, would PacifiCorp build this transmission?"
> **PacifiCorp**: " No, in essence that's what we're trying to demonstrate this transmission line paid for by the benefits of the wind."
> **Staff**: "So there is no reliability need to put this transmission in place absent the wind, is that correct?"
> **PacifiCorp**: "Right. We are currently compliant with NERC reliability standards and expect to be going forward".[41]

[37] *Id*.
[38] Staff Recommendations at 3.
[39] Discussed in an exchange between Chair Hardie and PacifiCorp during Commission Workshop on August 17, 2017.
[40] Staff Recommendations at 19.

Based on this exchange, Staff states that PacifiCorp's "1,100 MW wind development proposal is an economic development opportunity, and not a needed system asset. If the resource were needed, it would be needed independent of any wind development. Staff is firmly convinced that PacifiCorp has not demonstrated a system need for capacity or transmission".[42]

In PacifiCorp's LC 67 Informational Filing, submitted July 28, 2017, the Company stated that its "current transmission system in eastern Wyoming is operating at capacity" and that "the new transmission will provide critical voltage support to the transmission system in southeastern Wyoming" while "[t]he new 500 kV transmission segment will significantly reduce, if not eliminate many of the impacts caused by the 230 kV outages."[43] PacifiCorp added that "[t]his transmission investment will [...] enhance PacifiCorp's ability to comply with mandated reliability and performance standards".[44]

The Company has been patching up its eastern Wyoming transmission for four years, with three transmission system enhancement projects since 2013 that "enabled postponement of major transmission projects to 2020".[45] During PacifiCorp's presentation for the September 14, 2017 Commission Workshop, the Company described how "[w]ith the current mix of synchronous and renewable generation in eastern Wyoming, the existing Stiffness Factor is at marginally acceptable levels."[46] The lower the 'stiffness,' the weaker the grid and the lower the grid's resistance to changes in voltage caused by changes in generation. Notwithstanding the Company's verbal exchange with Staff, PacifiCorp has demonstrated that it needs to make this transmission investment (Action Item 2a), and that it likely will have to, whether or not it is intermingled with Action Item 1b.

V. STAFF'S CONDITIONS FOR ACKNOWLEDGMENT OF ACTION ITEMS 1A, 1B AND 2A

Renewable Northwest disagrees with Staff's recommendation that the Commission not acknowledge Action Items 1a, 1b, and 2a[47] and continues to recommend that the Commission acknowledge these three action items. We appreciate that Staff proposed modifications to Action Items 1a, 1b, and 2a that could potentially lead to Staff supporting acknowledgment. Specifically, Staff states that, "[s]hould the Commission choose to consider conditional acknowledgement based on a finding that PacifiCorp's major resource acquisition represents a low cost opportunity, Staff proposes that the Commission adopt a framework to protect customers."[48] While Renewable

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[41] *Id*.
[42] *Id*.
[43] LC 67, PacifiCorp Informational Filing at 4.
[44] PacifiCorp's Reply Comments at 10.
[45]"Installing dynamic line rating equipment on the Miners (Standpipe)-Platte 230 kV line (2013). Southern Wyoming Voltage Control Scheme, which coordinated wind generation reactive output to stabilize local area voltage voltages (2015). Construction of the Standpipe substation and (60 MVAr) synchronous condenser for voltage control (2016). LC 67, PacifiCorp's Presentation for the September 14, 2017 Commission Workshop, Slide 13.
[46] PacifiCorp's Presentation for the September 14, 2017 Commission Workshop, Slide 13.
[47] Staff Recommendations at 44.
[48] *Id*.

Northwest argues that the present case does not require the Commission to depart from its traditional IRP practices in order to acknowledge Action Items 1a, 1b, and 2a, our understanding is that the Commission could choose to signal to a utility in an IRP order what it would likely consider in a future rate case.

Order No. 98-191 (May 5, 1998) provides potential insight into how Staff's proposed modifications could be treated in a rate case.[49] As part of an alternative form of regulation ("AFOR"), the Commission approved "an incentive to acquire renewable resources at costs that are lower than were projected in PacifiCorp's 1995 least-cost plan [...;] the incentive rate would be equal to 50 percent of the difference between the least-cost plan estimate and the cost estimate of the project at the time it begins commercial operation. "[50] Renewable Northwest acknowledges that regulation has evolved significantly since 1998, but the AFOR in Order No. 98-191 provides insight into how Staff's proposals for ratepayer protections could be enacted.

VI. EVALUATION OF COAL RESOURCES

PacifiCorp's current RFP presents an opportunity for the Company to re-evaluate the economics of its coal fleet and address stakeholder concerns before the December 5, 2017 Public Meeting. In our Initial Comments, we observed that PacifiCorp's carbon dioxide emissions forecast under the 2017 IRP preferred portfolio were lower than under the 2015 IRP preferred portfolio, but we acknowledged that PacifiCorp still had a long way to go as coal was still projected to represent between 40% and 50% of the utility's energy mix over the next 12 years.[51]

RFP Bids Due - WYOMING WIND ONLY	**10/17/2017**
RFP Bids Due - NON-WYOMING WIND ONLY	**10/24/2017**
Bid Eligibility Screening Completed	10/30/2017
Initial Shortlist (ISL) Evaluation/Scoring Completed	11/12/2017
Capacity Factor Evaluation on ISL started	11/12/2017
IEs' Review of ISL Completed	11/17/2017
ISL Price Update	11/22/2017
Capacity Factor Evaluation on ISL Completed	11/27/2017

Figure 3—PacifiCorp 2017R Request for Proposals Indicative Schedule[52]

[49] UE 94 (Phase II), In the Matter of the Revised Tariff Schedules in Oregon filed by PACIFICORP, dba Pacific Power and Light Company, Order No. 98-191 at 2 (May 5, 1998) [hereinafter Order No. 98-191].
[50] Order No. 98-191, Appendix A at 7-8.
[51] Comments of Renewable Northwest at 16-17.
[52] PacifiCorp, Indicative RFP Schedule (subject to change) www.pacificorp.com/sup/rfps/2017-rfp.html

Staff also noted that PacifiCorp's plans for wind repowering, new wind and new transmission "would not lead to replacement or early retirement of any of PacifiCorp's 24 existing coal fired units".[53] Renewable Northwest recognizes Staff's concern, and suggests that data from PacifiCorp's current RFP could be used to re-evaluate the economics of its coal fleet.

In our Reply Comments, we stated that PacifiCorp should continue to evaluate the reasonableness of its coal resource analysis.[54] The Company's RFP provides it with an opportunity to re-assess the economics of its coal fleet based on the cost and performance characteristics of real-life resources. The Commission's approval of PacifiCorp's RFP (Docket No. UM 1845) was conditional on acknowledgment of this IRP, which the Commission will consider on December 5, 2017. The indicative schedule for the RFP (Figure 3) shows that PacifiCorp will have completed bid eligibility screening on October 30, 2017, and that the initial shortlist evaluation will be complete by November 12, 2017. We encourage PacifiCorp to run its models with project data from the initial short-list to see if there is any effect on the replacement or retirement of its coal fleet. If this could be done by the December 5, 2017, Public Meeting, any information—even if only indicative—would be valuable to stakeholders and the Commission.

VII. CONCLUSIONS

Renewable Northwest is grateful for the opportunity to comment on Staff's Recommendations in the matter of PacifiCorp's 2017 IRP. Renewable Northwest disagrees with Staff's recommendation that the Commission not acknowledge Action Items 1a, 1b, and 2a[55] and continues to recommend that the Commission acknowledge these three action items. We appreciate Staff's suggested modifications for conditional acknowledgment of these Action Items. Although the present case does not require the Commission to depart from its traditional IRP practices in order to acknowledge Action Items 1a, 1b, and 2a, our understanding is that the Commission could choose to signal to a utility in an IRP order what it would likely consider in a future rate case.

PacifiCorp highlighted that renewable resources would reduce market reliance risk by displacing FOTs. Staff's position that variable resources cannot, or should not, displace FOTs seems to be based on a misunderstanding of PacifiCorp's hedging program and of the capacity contribution of variable resources. Renewable resources can displace FOTs in an IRP, and capacity value methodologies ensure this can be done while maintaining system adequacy.

The Company has undertaken numerous improvements in its Wyoming transmission system since 2013 in order to delay a needed major investment. While PacifiCorp could still operate its system reliably without the new transmission, possibly with the assistance of pre-contingent load shedding, the Company states the Stiffness Factor of the grid in eastern Wyoming is currently at

[53] Staff Recommendations at 14.
[54] Reply Comments of Renewable Northwest, at 6.
[55] Staff Recommendations at 44.

marginally acceptable levels. Beyond being needed to improve reliability, this new transmission would also enable new interconnections, and relieve congestion.

PacifiCorp's current RFP presents an opportunity for the Company to re-evaluate the economics of its coal fleet and address stakeholder concerns. If time and resources permit, PacifiCorp could run its models with project data from from the RFP initial shortlist to see if there is any effect on the replacement or retirement of its coal fleet. Any information, even if only indicative, would be valuable to stakeholders and the Commission.

Renewable Northwest looks forward to participating in the Public Meeting scheduled for December 5, 2017.

Respectfully submitted this 30th day of October, 2017.

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