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September 9, 2016

Via Electronic Filing

Public Utility Commission of Oregon
Attn: Filing Center
201 High St. SE, Suite 100
Salem OR 97301

Re: PACIFICORP, dba PACIFIC POWER
2017-2021 Renewable Portfolio Standard Implementation Plan
Docket No. UM 1790

Dear Filing Center:

Enclosed for filing in the above-referenced docket, please find the Comments of the Industrial Customers of Northwest Utilities, along with Attachments A and B.

Thank you for your assistance. If you have any questions, please do not hesitate to call.

Sincerely,

/s/ Jesse O. Gorsuch
Jesse O. Gorsuch

Enclosure

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
UM 1790**

In the Matter of)	
)	COMMENTS OF THE
PACIFICORP, dba PACIFIC POWER)	INDUSTRIAL CUSTOMERS OF
)	NORTHWEST UTILITIES
2017-2021 Renewable Portfolio Standard)	
Implementation Plan.)	
_____)	

I. INTRODUCTION

1 The Industrial Customers of Northwest Utilities (“ICNU”) submits these comments regarding the 2017-2021 Renewable Portfolio Standard (“RPS”) Implementation Plan (“RPIP”) of PacifiCorp (the “Company”), filed on July 15, 2016. ICNU is a non-profit trade association representing large electric consumers located throughout the Pacific Northwest, including customers of the Company. Accordingly, ICNU is directly interested in the compliance strategy outlined in the RPIP, and specifically in ensuring that the RPIP does not result in any unnecessary costs to Oregon consumers.

2 In short, ICNU recommends that the Public Utility Commission of Oregon (“OPUC” or the “Commission”) generally approve the newly filed 2016 RPIP, as the Company’s resource procurement plan is not significantly changed from the initial 2016 RPIP, filed December 2015 in Docket No. UM 1754. Notwithstanding, ICNU continues to request RPIP acknowledgement subject to the following conditions, originally raised in UM 1754:

- 1) *The firming resource in the incremental cost calculations should be a flexible firming resource, one similar to Portland General Electric Company’s (“PGE”) Port Westward II; and,*

- 2) *Any proposals for an early-action strategy, or other deviations from the RPIP, must be supported by new incremental cost calculations, and a demonstration that the new strategy will not cause the Company to exceed the 4% incremental cost cap, per ORS § 469A.100(1).*

Further consideration of these issues is appropriate in the current docket, since the Commission’s conditional acknowledgment of the Company’s initial 2016 RPIP did “not represent a decision on the issues raised by Staff and the intervenors in this [UM 1754] docket.”^{1/}

3 Additionally, ICNU has concerns about how PacifiCorp calculates the cost of RPS compliance in its RPIP. Specifically, ICNU disagrees with how PacifiCorp calculates the cost of compliance based on the renewable energy credits (“RECs”) retired in a compliance year. The RPS law requires the Company to calculate this cost based on the cost of RECs generated in the compliance year.

II. BACKGROUND

4 Under ORS § 469A.075, PacifiCorp is required to file an RPIP biennially. The implementation plan is to contain, at a minimum: (1) annual targets for acquisition and use of qualifying electricity; and (2) the estimated cost of meeting the annual targets.^{2/} This estimated cost includes “the cost of transmission, the cost of firming, shaping and integrating qualifying electricity, the cost of alternative compliance payments and the cost of acquiring [RECs].”^{3/} Under the Commission’s rules, an implementation plan is to describe a utility’s plan for complying with Oregon’s RPS over the next five years.^{4/} The Commission is to acknowledge an

^{1/} Re PacifiCorp, Docket No. UM 1754, Order No. 16-158 at 2 (Apr. 22, 2016).

^{2/} ORS § 469A.075(2).

^{3/} Id.

^{4/} OAR § 860-083-0400(2).

implementation plan within six months of its filing, subject to any conditions the Commission specifies.^{5/}

5 PacifiCorp filed its original 2016 RPIP on December 29, 2015. That plan proposed to meet near-term RPS requirements “with a combination of bundled [RECs] from existing Oregon-eligible renewable resources and resources under development that are anticipated to be Oregon-RPS eligible.”^{6/} This strategy was consistent with the Company’s action plan in its 2015 integrated resource plan (“IRP”), which did not forecast the need for a new RPS resource.^{7/}

6 During the pendency of the Company’s initial 2016 RPIP, the Oregon legislature was considering what ultimately would become Senate Bill (“SB”)1547.^{8/} SB 1547 doubles the state’s RPS to 50% by 2040, although the legislation does not impose any incremental RPS obligations until 2025.^{9/} But, in order to allow the Company an opportunity to analyze and address SB 1547 impacts relative to RPIP compliance strategy, the Commission acknowledged the Company’s initial 2016 RPIP subject to the condition that PacifiCorp file a new RPIP addressing matters set forth in an unopposed Staff motion related to SB 1547.^{10/} In so doing, the Commission explicitly noted that its conditional acknowledgment of PacifiCorp’s initial 2016 RPIP did “not represent a decision on the issues raised by Staff and the intervenors in this docket,” thereby clarifying that issues raised in ICNU comments had not yet been decided.^{11/}

^{5/} ORS § 469A.075(3); OAR § 860-083-0400(8).

^{6/} Docket No. UM 1754, PacifiCorp 2016 RPIP at 1 (Dec. 29, 2015).

^{7/} Re PacifiCorp, Docket No. LC 62, Order No. 16-071 at 3-4 (Feb. 29, 2016).

^{8/} This legislation was originally identified as HB 4036.

^{9/} SB 1547 § 5.

^{10/} Docket No. UM 1754, Order No. 16-158 at 1.

^{11/} Id. at 2.

7

On July 15, 2016, the Company filed the current 2016 RPIP, again proposing to meet near-term RPS requirements “with a combination of bundled RECs from existing Oregon-eligible renewable resources and resources under development that are anticipated to be Oregon-RPS eligible.”^{12/} Nevertheless, the Company acknowledged that it issued requests for proposals (“RFPs”) on April 20, 2016, for both new renewable resource and REC acquisitions, and that the Company was still “analyzing bids to identify whether near-term procurement opportunities will reduce RPS compliance costs.”^{13/} On July 26, 2016, however, the Company announced that it would not acquire any new renewable resources associated with its 2016 RFP, and that it would only procure RECs in a quantity extending PacifiCorp’s initial RPS compliance shortfall in Oregon from 2025 to 2028, resulting in rate impacts below 0.1%.^{14/}

III. COMMENTS

A. The Company Should Use a Flexible Capacity Resource in Incremental Cost Calculations

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In UM 1754 comments, ICNU had explained why the Company’s continued use of a “bare-bones Frame” Simple Cycle Combustion Turbine (“SCCT”) in its 2016 RPIP is a poor choice as a firming resource.^{15/} Specifically, the type of firming resource necessary to create an apples-to-apples comparison between an intermittent renewable resource and a proxy resource favors the use of a more flexible capacity resource, such as a Wärtsilä reciprocating unit, a Hybrid (i.e., an LMS 100) SCCT, or an Aeroderivative (i.e., an LM6000) SCCT. Thus, ICNU continues to recommend that a flexible SCCT resource: 1) be used as the firming resource for

^{12/} Re PacifiCorp, Docket No. UM 1790, PacifiCorp 2016 RPIP at 1 (July 15, 2016).

^{13/} Id.

^{14/} Commission Special Public Meeting, PacifiCorp Presentation at 3 (July 26, 2016).

^{15/} For the convenience of the Commission, ICNU’s comments on the Company’s initial 2016 RPIP are appended as “Attachment A.” ICNU incorporates those comments by reference here.

both existing and future qualified resource acquisitions; or 2) at a minimum, be used to evaluate the incremental cost of future resources acquired for the purpose of meeting the Oregon RPS.

9 Through discovery in this proceeding, PacifiCorp confirmed the continued use of “Frame” SCCT variants as the Company’s 2016 RPIP firming resources.^{16/} In fact, the Company has stated that it did not consider any resource alternatives in this proceeding.^{17/} According to PacifiCorp, use of a Frame SCCT complies with OPUC Order No. 14-034, as that Order describes how the fixed costs of an SCCT “resource should be used to create the capacity equivalence of the Proxy plant and qualifying renewable resource.”^{18/}

10 As ICNU explained in relation to the Company’s initial 2016 RPIP filing, the use of a Frame SCCT as a firming resource does not allow for the best form of capacity equivalence in incremental cost calculations, as required under Order 14-034:

As an extension of the capacity equivalence concept discussed in [Docket No. UM 1616], it follows that the type of capacity provided by the renewable resource, in combination with a firming resource, must be equivalent to the type of capacity provided by the proxy resource. That is, the firming resource must have the characteristics that will enable it to convert the output of an intermittent wind or solar resource to be the equivalent to that of a CCCT. A Frame SCCT does not have these characteristics.^{19/}

In contrast to the less flexible and less efficient Frame SCCT, ICNU has noted the actual and recent use of more flexible capacity resources to firm renewable output in the Northwest. For instance, PGE recently constructed twelve Wärtsilä reciprocating units in Oregon, while Hybrid

^{16/} See Attachment B at 3 (PacifiCorp response to ICNU Data Request (“DR”) 004). For the convenience of the Commission, all substantive PacifiCorp responses to ICNU data requests are appended as “Attachment B.”

^{17/} Attachment B at 5 (PacifiCorp response to ICNU DR 006).

^{18/} Id. at 4 (PacifiCorp response to ICNU DR 005).

^{19/} Attachment A at 3.

and Aeroderivative SCCTs have also been built in recent years to manage renewable output variability in the region.^{20/}

11 Most notably, the Northwest Power and Conservation Council’s Seventh Power Plan supports ICNU’s recommendation to use a flexible SCCT resource in incremental cost calculations. In determining the amount of cost-effective conservation achievable in the region, the Council considered “the marginal generation resource that would have been built in absence of conservation. The best fit resource for the *region* is an Aeroderivative [SCCT], with a levelized cost of \$190 per kilowatt-year.”^{21/} The Council notes that:

Traditionally, gas peakers (primarily frame units) were used to help shape and firm hydroelectric power in the Pacific Northwest. Technological advancements in both reciprocating engines and simple cycle combustion turbines have resulted in more flexible and efficient machines with fast start times and rapid response to system changes, leading to the ability to help meet short-term peak loads and *integrate variable energy generation*. Aeroderivative plants in particular have been popular developments in the Western Electricity Coordinating Council (WECC) region over the past decade.^{22/}

As the Council recognizes, Frame SCCTs are poor candidates for integrating variable energy resources and, given the growth of variable resources in the region, are not the type of capacity resource that is actually being built.

12 Notwithstanding, the Company points to reply comments filed in UM 1754 to supply rationale for selecting a Frame SCCT over the flexible capacity resources recommended by ICNU.^{23/} Specifically, PacifiCorp argues that ICNU’s recommendations are “contrary to the incremental cost methodology agreed to by the parties in docket UM 1616,” suggesting that

^{20/} Attachment A at 3-4.
^{21/} Seventh Power Plan, App. G at G-23 (emphasis in original).
^{22/} Id., App. H at H-16 (emphasis added).
^{23/} Attachment B at 4 (PacifiCorp response to ICNU DR 005).

“[t]he characteristics of the alternate ‘firming resources’ ICNU proposes might be better characterized as ‘shaping costs,’ which ... were not an element of the incremental cost methodology agreed upon by parties.”^{24/}

13 Use of a different firming resource, however, will not introduce into the incremental cost calculation any “shaping costs” as that term was understood in UM 1616. As described in PGE’s 2012 RPIP, the cost of shaping under evaluation in the UM 1616 docket was a cost of energy, not a cost of capacity:

The shaping adjustment reflects the cost or benefit of flattening energy deliveries on a daily and seasonal basis by purchasing or selling energy at market prices. The differences between actual energy deliveries and flat energy deliveries sum to zero, but when these differences are multiplied by corresponding market prices the sum of the products is positive or negative. A positive number represents a shaping cost and a negative number represents a shaping benefit.^{25/}

Based on this definition, it would be improper to characterize the capital cost associated with ICNU’s proposed capacity resources as a shaping cost.

14 Given ICNU’s prior explanation of the operating characteristics of a Frame SCCT,^{26/} characteristics which PacifiCorp does not dispute in UM 1754 reply comments, ICNU continues to believe that it would be more appropriate to use a more flexible SCCT in the incremental cost calculations. ICNU requests that the Commission require the Company to use a more flexible SCCT alternative for both existing and future qualified resource acquisitions, or, at a minimum, for evaluation of the incremental cost of future resources acquired for the purpose of meeting the Oregon RPS.

^{24/} Re PacifiCorp, Docket No. UM 1754, PacifiCorp’s Reply Comments at 5 (Mar. 18, 2016).

^{25/} Re PGE, Docket No. 1568, 2012 RPIP at 3 (Dec. 28, 2011).

^{26/} Attachment A at 2-4.

B. Early Action, or Changes to the RPS Implementation Strategy, Should be Supported by Updated Incremental Cost Calculations

15 ICNU continues to recommend that PacifiCorp be required to support any deviations from the RPIP with updated incremental cost calculations, and a demonstration that the new strategy will not cause the Company to exceed the 4% incremental cost cap, per ORS § 469A.100(1).

16 This issue may be less pressing now that PacifiCorp has opted not to acquire a new, near-term RPS resource in favor of purchasing RECs. Nonetheless, it is still an important issue to consider because of how the RPIP filings are typically prepared. The RPIP filing is typically not the place where a utility makes the decision to acquire an RPS resource. That decision often occurs through an IRP, or some other forum. Accordingly, a utility may ultimately build a new RPS resource without evaluating whether the resource results in the exceedance of the 4% incremental cost cap. To the extent, however, that it is ultimately determined that a new resource does result in the exceedance of the 4% incremental costs in an RPIP filing, that determination in an RPIP filing will be of no consequence, as the Company would have already procured the resources. Thus, there needs to be better coordination between utility IRP and RPIP filings. If a new RPS resource is being proposed in an IRP, for example, a utility should be required to demonstrate that the addition of such a resource will not result in the exceedance of the 4% incremental cost cap. Such a requirement from the Commission would safeguard ratepayers against potentially substantial increases to Oregon rate base.

17 The need for better coordination between RPIP and IRP filings is highlighted by events over the last few months, since ICNU originally made this request in February 2016. First, the Company initiated and has now almost fully completed an RFP process that

contemplated a near-term acquisition of new wind and solar resources designed to maximize federal production tax credits.^{27/} While the Company ultimately elected not to procure any new renewable resources in 2016, instead opting to purchase RECs, ICNU was concerned that the 4% incremental cost cap was not reevaluated when the Company made the decision to initiate its renewable resource RFP.

18 Also, the Commission recently adopted PacifiCorp’s multi-state process (“MSP”) 2017 Protocol, which will govern the Company’s inter-jurisdictional cost allocations through 2018.^{28/} As ICNU noted in prior comments, any new plant acquired by the Company which is not cost-effective “will likely be situs-assigned to Oregon rates pursuant to the terms of the Multi-State Process Protocol.”^{29/} In light of the recent approval of the new 2017 MSP Protocol, and in order to safeguard Oregon ratepayers against allocation via that protocol of new resources which are not cost-effective, PacifiCorp should be required to support any RPIP deviations with new incremental cost calculations, since a major RPS resource that is situs-assigned to Oregon could have material impacts on Oregon rates and could result in PacifiCorp exceeding the 4% incremental cost cap, even though it is not necessarily close to that threshold at this time.

19 The Company has responded to ICNU’s cost calculation update recommendation by contending: “The issue of whether the Company should pursue an early-action acquisition of an RPS-eligible resource is one that will be addressed as part of the Company’s IRP process.”^{30/} While ICNU is not necessarily opposed to evaluating early-action and other similar strategies in

^{27/} See Re Nw. & Intermountain Power Producers Coal., Docket Nos. AR 598 & UM 1771, Order No. 16-188, App. A at 3 (May 19, 2016).

^{28/} Docket No. UM 1050, Order No. 16-319 (Aug. 23, 2016).

^{29/} Attachment A at 5.

^{30/} Docket No. UM 1754, PacifiCorp’s Reply Comments at 5.

the IRP process, those sorts of strategies should consider whether the 4% incremental cost cap will be exceeded. One alternative might be to require the Company to prepare incremental cost calculations as a component of its IRP, although the Company has informed ICNU that it “has not performed an update” and will “not update” the RPIP “on an ongoing basis.”^{31/}

20 PacifiCorp has stated its position that customers may be required to pay for new resource acquisitions, even if the statutory 4% cost cap is exceeded: “cost recovery should not hinge solely on whether the investment results in incremental costs in excess of the four percent cap.”^{32/} The Company’s expectation here—that future Oregon rates might include renewable resource costs above the statutory cap—makes a requirement for timely new incremental cost calculations important. Accordingly, ICNU continues to recommend that PacifiCorp be required to update its incremental cost calculations to the extent they are proposing any deviations from the most recently filed RPIP. This will allow ratepayers to assess whether the Company may exceed the statutory cost cap, and allow for prompt ratepayer challenges of potentially harmful Company decisions.

C. RPS Compliance Calculations Should Be Based on the Cost of Qualifying Electricity Delivered in a Compliance Year

21 ICNU has raised concerns over how both PacifiCorp and PGE calculate total RPS compliance costs—i.e., based on the cost of RECs retired in a compliance year rather than the cost of qualifying electricity delivered in the compliance year. Since ICNU has thoroughly addressed this issue in prior comments in other proceedings,^{33/} and will again restate concerns in

^{31/} Attachment B at 1-2 (PacifiCorp responses to ICNU DRs 002 & 003).

^{32/} Docket No. UM 1754, PacifiCorp’s Reply Comments at 6.

^{33/} E.g., Re PacifiCorp, Docket No. UM 1782, ICNU Comments (July 15, 2016); Re PGE, Docket No. UM 1783, ICNU Comments (July 15, 2016).

comments on PGE’s 2016 RPIP in Docket No. UM 1788, these comments will incorporate by reference all such discussion for the sake of brevity.

22 For present purposes, ICNU notes that PacifiCorp’s method for calculating the cost of RECs retired is slightly different than PGE’s, though it still amounts to calculating the total cost of compliance based on the amount of RECs retired in a compliance year, in contrast to the amount of RECs generated. ICNU continues to believe that such practice is contrary to RPS statutory requirements and that the two utilities should further conform their calculations. The Company has agreed “that there is an opportunity to improve the [OPUC] rules with respect to how the incremental cost of RPS compliance is calculated and reflected in compliance reports,” and has even supported the opening of a new rulemaking proceeding.^{34/}

IV. CONCLUSION

23 The Commission expressly deferred a determination on the 2016 RPIP issues raised by Staff and the intervenors in this UM 1754 docket, including ICNU’s restated recommendations in these comments associated with incremental cost calculations. The continued use of a Frame SCCT in incremental cost calculations is less consistent with actual regional practices, including those of PGE and the Northwest Power and Conservation Council. In addition, a requirement that the Company supply timely incremental cost calculation updates would protect ratepayers against IRP decisions that might cause a utility to exceed the 4% incremental cost cap. Finally, ICNU recommends that compliance calculations should be based on the cost of qualifying electricity delivered in a compliance year.

^{34/} Docket No. UM 1782, PacifiCorp’s Reply Comments at 3 (Aug. 15, 2016).

Dated this 9th day of September, 2016.

Respectfully submitted,

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/s/ Jesse E. Cowell

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**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1754

In the Matter of)	
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PACIFICORP, dba PACIFIC POWER)	COMMENTS OF THE
)	INDUSTRIAL CUSTOMERS OF
2017-2021 Renewable Portfolio Standard)	NORTHWEST UTILITIES
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_____)	

I. INTRODUCTION

1 The Industrial Customers of Northwest Utilities (“ICNU”) hereby submits these comments regarding the Renewable Portfolio Standard (“RPS”) Implementation Plan 2017-2021 OAR 860-083-0400 Compliance Filing (the “Implementation Plan”) of PacifiCorp (the “Company”) filed on December 29, 2015, with the Public Utility Commission of Oregon (the “Commission”). ICNU is a non-profit trade association representing large electric consumers located throughout the Northwest, including customers of the Company. Accordingly, ICNU is directly interested in the compliance strategy outlined in the Implementation Plan, and specifically, is interested in ensuring that the Implementation Plan does not result in any unnecessary costs to the consumers.

2 In sum, ICNU recommends the Commission approve the Implementation Plan. Notwithstanding, ICNU has identified the following issues with the Implementation Plan, and requests that the Commission acknowledge them for future filings:

- 1) *The firming resource in the incremental cost calculations should be a flexible firming resource, one similar to Portland General Electric Company’s (“PGE”) Port Westward II; and,*

PAGE 1 – COMMENTS OF ICNU

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- 2) *Any proposals for an early-action strategy, or other deviations from the Implementation Plan, must be supported by new incremental cost calculations, and a demonstration that the new strategy will not cause the Company to exceed the 4% incremental cost cap, per ORS § 469A.100(1).*

3 The resolution of these issues, which will be discussed below, should not have an immediate or material impact on the Implementation Plan, as it does not call for any new renewable resources in the 2017-2021 study period.

II. COMMENTS

A. The Company Should Use a Flexible Capacity Resource as the Firming Resource

4 To calculate the firming cost associated with intermittent renewable resources, the incremental cost calculations proposed by the Company use a Frame, Simple Cycle Combustion Turbine (“SCCT”). A Frame SCCT, however, is a poor choice of firming resource because it is a relatively inflexible resource that would not be very effective, in actual operations, in firming the energy output of an intermittent resource. Instead of a Frame SCCT, the Company should use a flexible capacity resource, such as a Wärtsilä or LMS100 SCCT. While ICNU recommends that a flexible resource be used as the firming resource for both existing and future qualified resource acquisitions, a flexible capacity resource should, at a minimum, be used to evaluate the incremental cost of future resources acquired for the purpose of meeting the Oregon RPS.

5 A key concept in the incremental cost calculations is to produce both energy and capacity equivalence between the qualified renewable resource and the proxy resource, a Combined Cycle Combustion Turbine (“CCCT”). This capacity and energy equivalence concept was evaluated by parties in Docket No. UM 1616, where parties stipulated to the current

construct for performing incremental cost calculations.^{1/} As an extension of the capacity equivalence concept discussed in that docket, it follows that the type of capacity provided by the renewable resource, in combination with a firming resource, must be equivalent to the type of capacity provided by the proxy resource. That is, the firming resource must have the characteristics that will enable it to convert the output of an intermittent wind or solar resource to be the equivalent to that of a CCCT. A Frame SCCT does not have these characteristics.

6 To support this capacity equivalence concept requires a firming resource that is capable of instantaneously responding to the dynamic output of an intermittent qualified resource: as the intermittent output falls, the firming resource must be capable of quickly ramping up to replace the lost output; similarly, as the intermittent output increases, the firming resource must be capable of ramping down to avoid oversupply. This type of firming action—where the firming resource is basically dispatched inversely to the dynamic output of wind and solar resources—favors the use of a resource that is more flexible, with higher ramping rates and greater operating range than the bare-bones Frame SCCT used by the Company. This type of firming action favors a flexible capacity resource, such as a Wärtsilä reciprocating facility or LMS100 hybrid SCCT.

7 The need for a more flexible resource to firm renewable output is supported by the type and cost of resources that have actually been built in the region to manage the variability of intermittent resources. The resources actually being built to manage renewable variability have been highly flexible gas resources, such as Port Westward II, the twelve Wärtsilä reciprocating units recently constructed by PGE in Clatskanie, Oregon.

^{1/} In re Public Utility Commission of Oregon Investigation into RPS Implementation Plans, Docket No. UM 1616, Stipulation at 3-4 (Oct 11, 2013).

8 Similarly, Hybrid (i.e., an LMS100) SCCT and Aero-derivative (i.e., an LM6000) SCCT technologies have also been built in the region to manage variability of renewable output. For example, Northwestern Energy recently installed four Pratt & Whitney FT-8 Aero-derivative turbines to follow load and wind deviations in its balancing authority.^{2/} Northwestern Energy also specifically recognized that a Frame SCCT was unsuitable to perform this task.^{3/}

9 In addition to its inflexibility, a Frame SCCT also has a very poor fuel efficiency and low heat rate relative to other types of peaking resources. A Frame SCCT operates at a heat rate in excess of 11,000 Btu/kWh,^{4/} compared to heat rates of around 8,000 to 9,000 Btu/kWh for Aero-derivative and Hybrid technologies.^{5/} Because of this high heat rate, wholesale market prices rarely reach the level that justifies running Frame SCCT units, and accordingly, a Frame SCCT may go months or years without being dispatched economically. Thus, notwithstanding its inflexibility, in order to provide firming capacity, a Frame SCCT would be required to be committed uneconomically for the majority of time if it were used in actual operation to firm the output of a renewable resource. This incremental cost of uneconomic commitment, however, is not reflected in the incremental cost calculations, which is a further reason why a more fuel efficient peaking resource, such as a Wärtsilä or LMS100 SCCT, ought to be used in the incremental cost calculations.

^{2/} See Northwestern Energy, Northwestern Energy 2013 Electric Supply Resource Procurement Plan, Chapter 5 at 5-26 (Dec. 23, 2013). Available at <http://www.northwesternenergy.com/docs/default-source/documents/defaultsupply/plan13/2013-Elec-Plan-Vol-1-Chap-5-Modeling-Inputs.pdf>

^{3/} Id.
^{4/} Id. at 5-25.

^{5/} See Northwest Power and Conservation Council, Preliminary Assumptions for Natural Gas Peaking Technologies (Revisited) at 5 (Dec. 18, 2014). Available at: http://www.nwccouncil.org/media/7148619/preliminary-assumptions-for-natural-gas-peaking-technologies_121814.pdf

B. Early Action, or Changes to the RPS Implementation Strategy, Must be Supported by New Incremental Cost Calculations

10 While the Company's Implementation Plan does not call for any new resources in the 2017-2021 study period, there have been recent discussions surrounding whether it might be cost-effective for the Company to take early action in acquiring a renewable resource before it is necessary under the RPS. The thinking is that early action may allow the Company to bank the Renewable Energy Certificates ("RECs") and to avoid a potentially more expensive resource at a later date.

11 ICNU is very concerned that such a strategy could potentially add substantial amounts to Oregon rate base, based on speculative forecasts of the differences between the cost of building a plant today versus the cost of building a plant at some later date. If the new plant is not cost-effective, that plant will likely be situs-assigned to Oregon rates pursuant to the terms of the Multi-State Process Protocol ("MSP"). As a result, building a new plant prior to the point that it is absolutely necessary could have dramatic impacts on Oregon rates and could be damaging to Oregon consumers.

12 Irrespective of whether such an early-action strategy is beneficial to Oregon consumers, it is critical that any proposals to deviate from the current Implementation Plan be supported by a demonstration that the new plant addition will not result in the Company exceeding the 4% cap of ORS §469A.100(1), based on updated incremental cost calculations. If the Company were to proceed with an early action, without demonstrating that the new resource will not result in exceeding the 4% cap, then consumers should not bear any costs in excess of the 4% cap. A strategy to acquire resources that will result in an incremental cost of compliance exceeding 4% of revenue requirement would be inconsistent with ORS §469A.100(1), and

therefore, the costs of such a resource decision would not be appropriately borne by the consumer.

III. CONCLUSION

13

ICNU appreciates the opportunity to provide these comments to the Commission on the Company's incremental cost calculations. In summary, ICNU does not oppose the strategy in the Company's Implementation Plan, which would not require any new resource acquisitions in the study period. While ICNU has technical concerns with the incremental cost calculations, specifically that the firming resource should be a flexible resource, ICNU's preliminary calculations showed that making this change will likely not impact the results of the Company's Implementation Plan or cause the Company to exceed the 4% cap of ORS §469A.100(1). Most critical, however, is that any changes to the existing Implementation Plan, such as a strategy for early action, must be supported by updated incremental cost calculations and a demonstration that such a strategy will not result in exceedance of the 4% cost cap.

Dated this 12th day of February, 2016.

Respectfully submitted,

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UM 1790 / PacifiCorp
August 10, 2016
ICNU 2nd Set Data Request 002

ICNU Data Request 002

Please provide any updates to PacifiCorp's 2017-2021 Renewable Portfolio Standard Implementation Plan (RPIP), based on the Company's recent determinations on 2016 Resource and Renewable Energy Certificate (REC) Requests for Proposals (RFP), as presented at the OPUC Special Public Meeting on July 26, 2016.

Response to ICNU Data Request 002

PacifiCorp has not performed an update to the July 2017 through 2021 Renewable Portfolio Standards (RPS) Implementation Plan (RPIP). Per the unopposed motion filed by Public Utility Commission of Oregon (OPUC) staff in docket UM 1754 (the Company's 2017 through 2021 RPIP filed December 29, 2015), the parties to docket UM 1754 "recognize and acknowledge that the July 2016 filing date will not allow PacifiCorp an opportunity to include the results of its recently-issued Request for Proposal for Renewable Resources when its new RPIP is filed in July 2016." PacifiCorp's next implementation plan will be filed by January 1, 2018.

Note: the requested analysis relating to the Company's 2016 renewable energy credit (REC) request for proposals (RFP) is not provided in the RPIP, but rather in the Integrated Resource Plan (IRP).

UM 1790 / PacifiCorp
August 10, 2016
ICNU 2nd Set Data Request 003

ICNU Data Request 003

As an ongoing request, please provide any updates to the Company's 2017-2021 RPIP associated with future Resource and REC RFP determinations.

Response to ICNU Data Request 003

The Company does not update its Renewable Portfolio Standards (RPS) Implementation Plan (RPIP) on an ongoing basis. Please also refer to the Company's response to ICNU Data Request 002.

UM 1790 / PacifiCorp
August 15, 2016
ICNU 3rd Set Data Request 004

ICNU Data Request 004

Please state (or identify within the Company's UM 1790 filing and associated work papers, or any other publicly available Company filing with the Oregon Public Utility Commission (OPUC)) the specific type of Simple Cycle Combustion Turbine (SCCT) used by PacifiCorp as a firming resource in the 2017-2021 Renewable Portfolio Standard Implementation Plan (RPIP).

Response to ICNU Data Request 004

Please refer to the confidential work paper entitled "01_Incremental Cost Calc Workpaper__CONF_Refiled July 15, 2016.xlsm" provided concurrently with the Company's 2017-2021 Renewable Portfolio Standards (RPS) Implementation Plan (RPIP) filed with the Public Utility Commission of Oregon (OPUC) on July 15, 2016.

Simple-Cycle Combustion Turbine (SCCT) Frame (2 Frame "F") - West Side Options (1500') from 2008 Integrated Resource Plan (IRP); specifically the 2008 IRP, Volume I, Table 6.5 Resource Options, is used in incremental cost calculations of following renewable resources: Blundell II, Campbell Hill-Three Buttes, Dunlap I, Glenrock I, Glenrock III, Goodnoe Hills, High Plains, McFadden Ridge, Marengo, Marengo II, Mountain Wind Power, Mountain Wind Power II, Seven Mile Hill I, Seven Mile Hill II, and Top of the World.

SCCT Frame "F" x1 - West Side Option (1500') from 2015 IRP; specifically the 2015 IRP, Volume I, Table 6.2 Supply Side Resource Options, is used in incremental cost calculations of following renewable resources: Pioneer Wind Park I QF, Latigo Wind Park QF, Pavant II Solar QF, Black Cap Solar, and OSIP Projects.

UM 1790 / PacifiCorp
August 15, 2016
ICNU 3rd Set Data Request 005

ICNU Data Request 005

Please provide (or identify within the Company's UM 1790 filing and associated work papers, or any other publicly available Company filing with the OPUC) all documentation that supports the Company's election to use the specific type of SCCT identified in response to ICNU Data Request 004 as a firming resource in the 2017-2021 RPIP.

Response to ICNU Data Request 005

Please refer to Public Utility Commission of Oregon (OPUC) Order No. 14-034 in docket UM 1616 adopting the stipulation that addressed the methodology for calculation of incremental cost of compliance. Specifically, pages 3 and 4 describe how the fixed costs of the simple-cycle combustion turbine (SCCT) resource should be used to create the capacity equivalence of the Proxy plant and qualifying renewable resource. The SCCT resources used in the 2017 through 2021 Renewable Portfolio Standards (RPS) Implementation Plan (RPIP), as described in the Company's response to ICNU Data Request 004, comply with OPUC Order No. 14-034. Please also refer to PacifiCorp's reply comments dated March 18, 2016 in Docket No. UM 1754. On page 5 of these comments, the Company describes in detail its rationale for selecting a Frame SCCT over ICNU's recommendation of a Wärtsilä or LMS100 SCCT flexible capacity resource.

For ease of reference, OPUC Order No. 14-034 is publicly available and can be accessed by utilizing the following website link to OPUC's website:

<http://apps.puc.state.or.us/orders/2014ords/14-034.pdf>

UM 1790 / PacifiCorp
August 15, 2016
ICNU 3rd Set Data Request 006

ICNU Data Request 006

Did the Company consider any alternatives to the SCCT type identified in response to ICNU Data Request 004 as a firming resource in the 2017-2021 RPIP? If so, please provide (or identify within the Company's UM 1790 filing and associated work papers, or any other publicly available Company filing with the OPUC) all documentation discussing such alternative considerations.

Response to ICNU Data Request 006

The Company did not consider alternatives to the simple-cycle combustion turbine (SCCT) type. As stated in the Company's response to ICNU Data Request 005, the Company identified the SCCT type in accordance with the incremental cost calculation methodology addressed in OPUC Order No. 14-034.