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February 12, 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 1754

Dear Filing Center:

Enclosed for filing in the above-referenced docket, please find the Comments of the Industrial Customers of Northwest Utilities.

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 1754**

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”) 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,*

- 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.nwcouncil.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

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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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