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September 12, 2016

Via Electronic Filing

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

Re: PORTLAND GENERAL ELECTRIC COMPANY
2016 Revised Renewable Portfolio Standard Implementation Plan
Docket No. UM 1788

Dear Filing Center:

Please find enclosed the Comments of the Industrial Customers of Northwest Utilities (“ICNU”) and Attachment A for filing in the above-referenced docket.

Please note that ICNU’s Comments contains material that Portland General Electric Company has designated protected information, subject to the protective order issued in this proceeding. Accordingly, ICNU is handling the information pursuant to Order No. 16-262. The confidential portions of ICNU’s Comments will follow to the Commission via Federal Express.

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

Sincerely,

/s/ Jesse O. Gorsuch
Jesse O. Gorsuch

Enclosures

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the confidential pages of the **Comments of the Industrial Customers of Northwest Utilities** upon the parties shown below via hand-delivery or by mailing copies via First Class U.S. Mail, postage prepaid.

Dated at Portland, Oregon, this 12th day of September, 2016.

Sincerely,

/s/ Jesse O. Gorsuch
Jesse O. Gorsuch

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BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1788

In the Matter of)	
)	
PORTLAND GENERAL ELECTRIC)	COMMENTS OF THE INDUSTRIAL
COMPANY)	CUSTOMERS OF NORTHWEST
)	UTILITIES
2016 Revised Renewable Portfolio Standard)	
<u>Implementation Plan.</u>)	

I. INTRODUCTION

Pursuant to the Administrative Law Judge’s August 25, 2016 Ruling, the Industrial Customers of Northwest Utilities (“ICNU”) files these Comments on Portland General Electric Company’s (“PGE” or the “Company”) Revised 2016 Renewable Portfolio Implementation Plan (“Revised Plan”).

The Company’s Revised Plan does not provide sufficient information and analysis to demonstrate a least-cost, least-risk plan for compliance with Oregon’s renewable portfolio standard (“RPS”) as amended by Senate Bill (“SB”) 1547. The Company’s Revised Plan assumes under all scenarios that it acquires 175 average megawatts (“aMW”) of new physical RPS-compliant generation by 2018. Without analyzing alternative near-term scenarios, the Company has not shown that this strategy is in the best interest of customers. Furthermore, because the Company has now abandoned its request for proposals (“RFP”) that formed the basis for this acquisition, this assumption may no longer be accurate in any event. All other acquisitions in the Revised Plan flow from this initial assumption of early action to acquire

physical resources. Accordingly, it appears that stakeholders will need to wait until PGE files its upcoming integrated resource plan (“IRP”) in order to undertake, as PGE says, the “extensive and thorough analysis” necessary to determine the appropriate RPS compliance strategy.^{1/}

Nevertheless, an RPS implementation plan is intended both to show the utility’s near-term strategy for RPS compliance, and the costs associated with that strategy.

Notwithstanding the prudence of the Company’s near-term plan for RPS compliance, ICNU has concerns about how PGE calculates the cost of RPS compliance in its Revised Plan.

Specifically, ICNU disagrees that PGE should be calculating the cost of compliance based on the cost of RECs retired in a compliance year. The RPS law requires PGE to calculate this cost based on the cost of RECs generated in the compliance year. Additionally, ICNU disagrees with the Company’s use of a frame simple cycle combustion turbine (“SCCT”) to provide capacity equivalence with the proxy combined cycle combustion turbine (“CCCT”). ICNU recommends that the Company use a flexible capacity resource as the proxy SCCT. Finally, ICNU disagrees with the Company’s proposal to use generation and fuel costs for the proxy CCCT that were assumed at the time an RPS resource was built. This proposal simply does not reflect the incremental costs of RPS compliance.

II. BACKGROUND

Under ORS 469A.075, PGE is required to file an RPS Implementation Plan 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

^{1/} PGE Revised Plan at 3.

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

PGE filed its original 2016 RPS Implementation Plan on December 31, 2015.^{6/} That plan proposed to meet near-term RPS requirements “with primarily bundled RECs from existing resources.”^{7/} This strategy was consistent with the Company’s action plan in its 2013 integrated resource plan (“IRP”), which did not forecast the need for a new RPS resource.^{8/}

During the pendency of the Company’s implementation plan, the Oregon legislature was considering what ultimately would become SB 1547.^{9/} SB 1547 doubles the state’s RPS to 50% by 2040.^{10/} The legislation does not, however, impose any incremental RPS obligations until 2025.^{11/} On February 16, 2016, PGE filed a supplement to its implementation plan that “[took] into consideration elements of [SB 1547].”^{12/} This supplement was provided without any further explanation, despite the fact that it proposed the addition of a major new RPS

^{2/} ORS 469A.075(2).

^{3/} *Id.*

^{4/} OAR 860-083-0400(2).

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

^{6/} Docket No. UM 1755.

^{7/} *Id.*, PGE 2016 RPS Implementation Plan at 1.

^{8/} Docket No. LC 56, Order No. 14-415 at 3 (Dec. 2, 2014).

^{9/} This legislation was originally identified as HB 4036.

^{10/} SB 1547 § 5.

^{11/} *Id.*

^{12/} Docket No. UM 1755, PGE 2016 RPS Implementation Plan, Supplemental Attachment A.

resource in 2020.^{13/} In response, Staff, in its supplemental comments, noted that, under OAR 860-083-0400(4), if an implementation plan contains material differences from the action plan in the utility's most recently acknowledged IRP, or if conditions have materially changed from conditions assumed in the IRP, then the utility must provide sufficient documentation to demonstrate how the implementation plan appropriately balances costs and risks.^{14/} Because there was no explanation of the need for this additional RPS resource, and because Staff found that SB 1547 constituted materially changed conditions, it determined that the Company's supplemental filing was insufficient.^{15/} Given the statutory deadline of six months for consideration of an implementation plan, however, the parties agreed to request that the Commission issue an order acknowledging PGE's implementation plan, closing the docket, and requiring the Company to issue a revised implementation plan.^{16/}

In addition to satisfying the standard requirements for an implementation plan, the revised implementation plan was to "provide a complete and thorough narrative describing [the Company's] plan to satisfy the [RPS] compliance requirements of SB 1547 from 2017 through 2040."^{17/} Specifically, the Company was to address five questions related to the impact SB 1547 has on PGE's RPS compliance plan.^{18/} The Commission issued the requested order on April 22,

^{13/} *Id.* at 2.

^{14/} Docket No. UM 1755, Staff Supplemental Comments at 1-2 (Apr. 15, 2016).

^{15/} *Id.* at 3.

^{16/} Docket No. UM 1755, Staff's Unopposed Motion for Commission Order Acknowledging PGE's Implementation Plan with Conditions and Closing Docket (Apr. 20, 2016).

^{17/} Docket No. UM 1755, Order No. 16-157, Appen. A at 3 (Apr. 22, 2016).

^{18/} *Id.*, Appen. A at 3-4.

2016. All issues the parties raised in response to the Company’s initial implementation plan were preserved for review in the instant docket.^{19/}

Subsequent to the Commission’s order closing UM 1755, PGE filed an application for approval of a request for proposals (“RFP”) that sought 175 aMW of new RPS resources.^{20/} After the Commission determined to take no action on the Company request for approval,^{21/} PGE decided not to issue the RFP in 2016.^{22/}

III. COMMENTS

A. PGE’s Revised Plan is not a least-cost/least-risk analysis of RPS compliance.

1. The Company’s Revised Plan does not analyze alternative near-term compliance scenarios.

The Commission’s order establishing this docket sought a longer-term evaluation of the Company’s RPS compliance strategy, specifically a “least cost/lowest risk strategy to satisfy the RPS compliance requirements of SB 1547 from 2017 through 2040”^{23/} As the Company itself states, however, its Revised Plan is not the type of robust analysis that can demonstrate a least-cost, least-risk RPS compliance strategy over the long term.^{24/} The Company is correct that it is far too speculative to identify a single least-cost, least-risk RPS compliance path through 2040.^{25/} Additionally, ICNU is likely aligned with the Company on the idea that it is difficult to develop a least-cost/least-risk strategy in an implementation plan, which

^{19/} *Id.*, Appen. A at 2.

^{20/} Docket No. UM 1773, PGE Petition for Partial Waiver of Competitive Bidding Guidelines and Approval of Request for Proposals (RFP) Schedule (May 4, 2016); PGE’s Petition for Approval of Request for Proposals (July 14, 2016).

^{21/} Docket No. UM 1773, Order No. 16-280 (July 29, 2016).

^{22/} Docket No. UM 1773, PGE’s Request to Close Docket (Aug. 18, 2016).

^{23/} Docket No. UM 1755, Order No. 16-157, Appen. A at 3.

^{24/} PGE Revised Plan at 3.

^{25/} *See id.* at 4, 6, 7.

is focused solely on RPS compliance, as opposed to an IRP, which undertakes a broader examination of resource need. When the Commission revisits its rules related to the RPS in light of SB 1547, it may be worth examining whether it would be appropriate to integrate the utilities' RPS implementation plans with their IRPs in order to achieve a fuller picture of how the utilities intend to comply with the RPS and the costs associated with their strategies.

Nevertheless, the Company's Revised Plan is not even a starting point for the evaluation of a prudent RPS compliance plan. The Revised Plan contains no analysis at all of the impact of alternative near-term actions on PGE's compliance strategy. Every scenario the Company analyzed begins with the assumption that it acquires 175 aMWs of new RPS generation in 2018.^{26/} This is insufficient to identify a least-cost/least-risk strategy. Moreover, it may now be inaccurate, as the basis for this assumption was the Company's RFP, which it has determined not to issue in 2016.^{27/}

Alternatives to the Company's strategy include: (1) do nothing and rely on the existing bank of RECs for near-term compliance; (2) rely on REC purchases in the near term in order to push out the need for physical compliance, including forecasting a reliance on unbundled RECs; (3) acquire less than 175 aMW of physical resources in the near term; or (4) some combination of these strategies. A full analysis necessary to determine which is the least-cost, least-risk strategy will need to wait until the Company files its IRP.

^{26/} *Id.* at 5.

^{27/} Docket No. UM 1773, PGE's Request to Close Docket.

2. A “tipping-point” analysis demonstrates that reliance on unbundled RECs in the near term is more cost-effective than physical compliance.

As a consequence of its decision to assume near-term physical compliance under all scenarios, the Company also fails to answer certain of the questions included in Staff’s motion that was approved by the Commission and guide this docket. Question 3, for instance, requests:

A discussion of how the timing of new renewable resource acquisitions impact long term cost of compliance with the RPS to ratepayers with supporting analysis demonstrating these differences in timing. Under what conditions does the least cost/lowest risk strategy to satisfy the RPS compliance requirements of SB 1547 from 2017 through 2040 lead to new resource acquisition prior to a physical need and how will the utility evaluate this decision? PGE should provide a “tipping-point” analysis that depicts when physical resource acquisition is more cost effective than buying unbundled RECs.^{28/}

PGE simply did not perform this requested analysis. While the Company shows the beneficial impact purchasing unbundled RECs can have on its incremental cost of compliance, it does not show how the purchase of unbundled RECs can impact its physical compliance strategy.^{29/}

Consequently, ICNU has performed its own “tipping-point” analysis for this docket. When PGE requested approval of its RFP for 175 aMW of new RPS resources, ICNU demonstrated that a strategy of relying on unbundled RECs would push out the Company’s need for physical resources until 2030 and save customers at least \$540 million on a present value revenue requirement basis relative to the Company’s early physical compliance strategy.^{30/} The

^{28/} Order No. 16-157, Appen. A at 3.

^{29/} Revised Plan, Attachment B.

^{30/} Docket No. UM 1773, ICNU Supplemental Comments, Affidavit of Bradley Mullins ¶ 11 (June 28, 2016). This amount does not include the cost to customers of carry-forwards associated with production tax credits. *See id.* ¶ 19.

Company did not dispute these conclusions.^{31/} ICNU’s analysis relied on an assumed cost of \$10 per REC – well above the cost RECs have traded at since Oregon’s RPS was instituted.^{32/} Using the same data from its analysis in UM 1773, ICNU calculated the price unbundled RECs would need to trade at to make near-term physical compliance a more cost-effective alternative for customers. The table below shows that RECs would need to be priced at over \$40 to trigger this “tipping-point.”

Table 1
ICNU Tipping-Point Analysis

	2018 Early Build			2025 Early Build
	Base Portfolio	PTC Tax Asset*	Total	
Incr. PVRR Excluding Cost of RECs (\$000)				
Early Build (No RECs)	\$ 2,485,335	\$ 232,974	\$ 2,718,309	\$ 2,544,633
Delay Build Until 2030 (Use 20% unbundled RECs)	1,957,073		1,957,073	1,957,073
Incremental PVRR Cost of Early Action (Excluding RECs)	528,262	232,974	761,236	587,560
REC Quantity Required (Thousands, Present Value Basis)			18,326	18,326
Tipping Point \$/MWh Cost of RECs (Real 2015\$)			\$ 41.54	\$ 32.06

* Carrying charge on incremental production tax credit carry forwards

^{31/} Docket No. UM 1773, PGE Petition for Approval of Request for Proposals at 4-5 (July 13, 2016); ICNU Response to PGE’s Petition for Approval at 9 (July 19, 2016).

^{32/} Docket No. UM 1773, ICNU Response to PGE’s Petition for Approval at 10-11; Attachment A at 2 (PGE’s Response to ICNU DR 002, Confidential Attachment 002-A).

The table above is based on the portfolio analysis prepared by Mr. Mullins in Docket No. 1773. It compares the present value economics of a scenario where the Company acquires the maximum amount of unbundled RECs to meet its RPS requirement to the present value economics of two early action scenarios. The first early action scenario assumes that the Company builds a resource in 2018. The second early action scenario assumes that the Company builds a new resource in 2025, rather than waiting until a new RPS resource is needed in 2030.

ICNU notes that this is a high-level analysis. A number of assumptions could either decrease or increase this tipping point. Lower capital costs for RPS resources, for instance, would reduce the comparison REC price. Alternatively, acquisition of less than the full value of the production tax credit (“PTC”) would increase the comparison REC price. PGE states that the information from Docket UM 1773 is now “stale” and that it will provide updated data in its IRP.^{33/} A similar analysis to the one above would be useful in that docket. Nevertheless, regardless of the price per REC assumed as the tipping point that makes early physical compliance cost-effective, it is clear that this price is well above the price at which unbundled RECs have ever traded under either the 2018 or 2025 scenarios.

Without disputing the cost savings a strategy of relying on unbundled RECs could provide customers, PGE argues that forecasting the purchase of unbundled RECs is “strategically detrimental and highly hypothetical.”^{34/} The Company states that the “absence of an organized market enabling availability and efficient pricing of RECs makes it difficult to propose a long-term strategy predicated on the use of unbundled RECs in lieu of planning for physical

^{33/} Attachment A at 19 (PGE Response to ICNU DR 019).

^{34/} Revised Plan at 10.

compliance.”^{35/} The Company prefers that it “be able to assess the market and the financial feasibility of using unbundled RECs in any particular year.”^{36/}

An analysis to determine at what point physical compliance is more cost-effective than purchasing unbundled RECs does not, however, require the Company to predict the precise cost of unbundled RECs in the future. It merely requires the Company to identify what price these RECs would need to trade at to make physical compliance more cost-effective. ICNU’s analysis above shows that such a price would be over \$40 per REC. The Company’s inability to forecast REC prices, then, is largely irrelevant. PGE has never purchased an unbundled REC at anywhere near \$40, nor has it provided any reason to believe RECs will reach this price in the future. Indeed, PGE can buy energy on the market for less than this price.

There is a fundamental problem with the Company’s position on the forecasting of unbundled RECs. The Company currently plans its RPS compliance strategy assuming no unbundled REC purchases. In practice, though, it maximizes those purchases each year up to the 20% compliance limit.^{37/} If PGE continues to do this, it ultimately will over-comply with the RPS by 20% because it will be planning for a higher physical compliance need than it ultimately requires. Overbuilding physical generation, renewable or otherwise, harms customers, the environment, and the public interest.

Finally, the Company’s statements that it is speculative to forecast the purchase of unbundled RECs without an organized market ring hollow when it is proposing to build new

^{35/}

Id.

^{36/}

Id.

^{37/}

Docket No. UM 1773, ICNU Response at 10 n. 42.

physical resources well before they are needed for compliance. It is no less speculative for the Company to base its pursuit of these resources on the assumption that it will not be able to purchase unbundled RECs in the future.

Like ICNU, Commission Staff has recognized the potential value the purchase of RECs could provide PGE's customers. In its report to the Commission on PGE's request for approval of its RFP, Staff "agree[d] with ICNU that the Company should pursue [] a strategy [of purchasing unbundled RECs]"^{38/} Additionally, in its comments on the Company's initial implementation plan filing, Staff noted that reliance on unbundled RECs to meet 20% of PGE's RPS compliance obligation would provide "substantial cost savings ... which may keep the Company comfortably under the four percent incremental cost threshold. By contrast, a compliance plan that does not use 20 percent unbundled RECs shows an incremental cost approaching four percent in some years."^{39/} In its IRP, the Company should undertake a serious and thorough analysis of the value the purchase of unbundled RECs can provide to customers relative to physical compliance.

3. If PGE continues to propose a near-term physical RPS compliance strategy in its IRP, it should also issue an RFP for RECs to demonstrate the cost-effectiveness of its strategy.

In addition to ICNU's "tipping-point" analysis discussed above, PacifiCorp has provided real-world, concrete evidence that purchasing RECs is a lower cost, lower risk strategy than building physical resources. PacifiCorp recently issued two RFPs, one seeking physical RPS resources and the other seeking RECs.^{40/} The outcome of those RFPs resulted in the utility

^{38/} Docket No. UM 1773, Order No. 16-280, Appen. A at 10.

^{39/} Docket No. UM 1755, Staff's Initial Comments at 2-3 (Feb. 17, 2016).

^{40/} Commission Special Public Meeting, PacifiCorp Presentation (July 26, 2016).

abandoning its RFP for physical resources because RECs were the far more cost-effective alternative.^{41/} While PGE is not the same utility as PacifiCorp, the results of PacifiCorp's RFPs make it incumbent upon the Company to test the REC market to see if it can provide value to customers.

The Company currently has over [REDACTED] MW of QFs under contract from which it could purchase RECs.^{42/} The Company forecasts that it will begin receiving over 400,000 RECs per year from these facilities in 2020, when it enters its resource deficiency period,^{43/} but there is no reason the Company cannot purchase these RECs earlier.^{44/} Because these QFs are located in Oregon, RECs from these facilities are not subject to the 20% cap on the use of unbundled RECs, making them similar to bundled RECs for RPS compliance purposes.^{45/} Furthermore, [REDACTED] MWs of these QFs are scheduled to come online between the effective date of SB 1547 and the end of 2021 and have 20-year PPAs with the Company,^{46/} making RECs from these facilities eligible for indefinite banking for the first five years of their operational lives.^{47/}

Additionally, SB 1547 created a new type of REC, the thermal REC, that could provide a cost-effective compliance option for the Company. Under Section 16 of SB 1547, a facility that generates electricity using biomass and also generates thermal energy for a

^{41/} *Id.* at 3.

^{42/} Attachment A at 9 (PGE Response to ICNU DR 012, Confidential Attachment 012-A).

^{43/} Revised Plan Attachment A, "RECs Generated" tab, cells N16 and O16. In actuality, the number of RECs is likely greater, as PGE has executed contracts with additional QFs that were not included in the Revised Plan. *See* Attachment A at 9 (PGE Response to ICNU DR 012, Confidential Attachment 012-A).

^{44/} Pursuant to Commission Order 11-505 in Docket No. UM 1396, RECs belong to the renewable QF during the utility's resource sufficiency period. *See also*, Docket No. UM 1610, Order No. 16-174 at 1 (May 13, 2016).

^{45/} ORS 469A.145(3).

^{46/} Attachment A at 9 (PGE Response to ICNU DR 012, Confidential Attachment 012-A).

^{47/} SB 1547 § 7(3)(c).

secondary purpose is eligible to generate RECs for that thermal energy. One REC is equivalent to 3,412,000 British thermal units (“btus”). Because these RECs are unbundled, they can be sourced from anywhere in the Western Electricity Coordinating Council (“WECC”).^{48/} One estimate provided during the Oregon Department of Energy’s ongoing rulemaking covering thermal RECs is that Section 16 of SB 1547 could add approximately six million additional RECs available for Oregon’s RPS compliance.^{49/}

In this docket, however, the Company has been exceedingly vague about its efforts to obtain comparative pricing for RECs and how it will evaluate the benefits RECs could provide customers relative to physical compliance. With respect to thermal RECs, it states only that it “is in the process of evaluating and identifying the availability of RECs from newly eligible resources.”^{50/} For traditional RECs, it further claims that since the release of PacifiCorp’s RFP, “PGE is now experiencing increases in market pricing compared to market prices PGE experienced earlier this year.”^{51/} The Company’s “[d]ialog with potential suppliers suggested that they were expecting to see a significant premium to current market prices in PacifiCorp’s RFP.”^{52/} When asked to provide specific details supporting these statements, however, the Company stated that it “engages in conversations with brokers on a frequent basis” but “does not retain information for offers associated with such conversations or for potential

^{48/} ORS 469A.135(2).

^{49/} Minutes to ODOE rulemaking workshop at 17 (Aug. 3, 2016), *available at*: https://www.oregon.gov/energy/P-I/docs/ODOE_TRECs_minutes-080316.pdf. Note that these RECs currently can only be used for Oregon’s RPS because Oregon is the only state in the WECC that allows for thermal RECs.

^{50/} Attachment A at 3 (PGE Response to ICNU DR 003).

^{51/} *Id.* at 5-6 (PGE Responses to ICNU DRs 004 and 005).

^{52/} *Id.* at 5 (PGE Response to ICNU DR 004).

transactions that do not result in an executed agreement.”^{53/} What the Company means, then, by its statement that RECs currently are trading at “a significant premium to current market prices in PacifiCorp’s RFP,” remains unclear and undocumented.

Notably, however, the Company did execute two REC purchases after PacifiCorp issued its RFP but before the results of that RFP were released. Again, the Company states that these purchases were at “a significant premium” to the price it paid for RECs in December 2015 and March 2016.^{54/} However, the \$ [REDACTED] per REC PGE paid [REDACTED] is lower than the cost of unbundled RECs the Company purchased in 2012, and the [REDACTED] per REC PGE paid [REDACTED] is still far less than the \$40 per REC ICNU calculates would be necessary to make physical compliance a cost-effective alternative.^{55/} Indeed, despite claiming that the price it paid in its most recent REC transactions was at a “significant premium,” the Company still executed these transactions because they were “more economical than using bundled RECs.”^{56/} Whether the price the Company is paying for RECs today is higher than it paid last year is irrelevant. What matters is whether that price remains cost-effective for customers relative to a physical compliance strategy. ICNU’s analysis suggests that it is.

B. The incremental cost of compliance must be based on the cost of RECs generated in the compliance year, not the cost of RECs retired in the compliance year.

In calculating its projected incremental cost of compliance in its Revised Plan, PGE looks to the cost of RECs the Company plans to retire for RPS compliance, rather than the

^{53/} *Id.* at 11 (PGE Response to ICNU DR 014).

^{54/} *Id.* at 13 (PGE Response to ICNU DR 014, Confidential Attachment 014-A).

^{55/} *Id.* at 17 (PGE Response to ICNU DR 016, Confidential Attachment 016-A).

^{56/} *Id.* at 18 (PGE Response to ICNU DR 018).

cost of RECs that are generated in the compliance year.^{57/} This is consistent with how the Company calculated its total cost of RPS compliance in its 2015 Compliance Report.^{58/} ICNU has fully developed its position on this issue in comments it filed on PGE’s 2015 RPS Compliance Report in Docket No. UM 1783, which note that PGE’s method of calculating the incremental cost of compliance wholly ignores the cost of its Tucannon River Wind Farm (“Tucannon”) because RECs generated by this facility are banked for future years.^{59/} Rather than repeat these arguments, ICNU incorporates those comments by reference here.

In response to ICNU’s comments in UM 1783, the Company has argued that ICNU’s position does “not make sense in the context of the other provisions” of the RPS because “RPS compliance is achieved by using bundled or unbundled RECs, or making alternative compliance payments.”^{60/} The Company’s position appears to be based on the rule of statutory construction that a court “will assume that the same word has the same meaning in related statutory provisions”^{61/} Thus, according to PGE, because RPS compliance is achieved by retiring RECs, the “incremental cost of the 2015 Tucannon delivered energy is not relevant to the cost of compliance, because that energy was not used for compliance in 2015”^{62/}

PGE fails to mention, however, that while a court will assume a word has the same meaning in related statutes, it is “not bound by that assumption if an examination of the text and context of the statute reveals that the word, in fact, does have more than one

^{57/} PGE Revised Plan at 11.

^{58/} Docket No. UM 1783, PGE 2015 RPS Compliance Report (June 1, 2016).

^{59/} Docket No. UM 1783, ICNU Comments at 4-8 (July 15, 2016).

^{60/} Docket No. UM 1783, PGE Reply Comments at 2-3 (Aug. 15, 2016).

^{61/} *Mid-Century Ins. Co. v. Perkins*, 344 Or. 196, 211 (2008).

^{62/} Docket No. UM 1783, PGE Reply Comments at 3.

meaning.”^{63/} While PGE is correct, then, that compliance with the RPS is evidenced by the retirement of RECs, when the RPS provides for exemptions from its compliance requirements it refers to “compliance” in the context of electricity delivered, not RECs retired. ORS 469A.060(1), for instance, provides that electric utilities “are not required to comply with the [RPS] ... to the extent that: (a) *Compliance* with the standard would require the utility to acquire *electricity* in excess of the utility’s projected load requirements in any calendar year; and (b) Acquiring the additional *electricity* would require the utility to substitute qualifying electricity for electricity delivered from an energy source other than coal, natural gas or petroleum.”^{64/} This statute goes on to provide additional exemptions to the RPS in the event that compliance would require the substitution of *electricity* from hydro resources.^{65/} Consequently, as with the 4% cost cap, when the RPS refers to limitations or exemptions from compliance, the term “compliance” relates to the amount or cost of electricity generated, not RECs retired, for compliance. Furthermore, the RPS requirements themselves relate to the amount of electricity sold to customers.^{66/}

If there remained any doubt that the word “compliance” in the phrase “incremental cost of compliance” refers to the cost of qualifying delivered electricity, it should be settled by the explicit definition the legislature gave to this phrase, which is the “annual *delivered* cost of the qualifying *electricity*.” PGE does not address this definition in its reply comments in UM 1783. Nor does PGE address the legislative history ICNU cited in its

^{63/} *Perkins*, 344 Or. at 211.

^{64/} ORS 469A.060(1) (emphasis added).

^{65/} ORS 469A.060(2)-(3) (emphasis added).

^{66/} ORS 469A.052 (requiring compliance to be demonstrated by percentage of “electricity sold to retail electricity consumers”).

comments, which indicates that stakeholders contemplated that the 4% cost cap would relate to the costs customers pay in rates, not the cost of RECs retired in any given year.^{67/}

The Company also claims that ICNU’s position “would undermine the REC banking provisions of the RPS.”^{68/} This appears to be based on the Company’s position that the statute requires the cost of compliance to relate to the cost of RECs retired in the compliance year. That is, the Company seems to argue that if compliance is based on the RECs generated in the compliance year, then it could not bank RECs, which is plainly allowed by the statute.^{69/} ICNU has already shown above that this is a flawed reading of the RPS. ICNU does not dispute that RPS compliance is evidenced by the retirement of RECs, whether banked from previous years or generated in the compliance year. The “incremental cost of compliance,” however, is based on the “delivered cost of the qualifying electricity.”^{70/} The dispute, therefore, is not over how compliance is achieved; it is over how to calculate the cost of that compliance. Under ICNU’s construction, for purposes of determining the incremental cost of compliance, the cost of RECs is determined when they enter the bank (or are retired in the year they are generated), rather than when they leave it. Banking is still allowed; it is merely a question of when the cost is calculated. Again, in its reply comments, the Company simply avoids the fundamental problem with its method of calculating the cost of RPS compliance, which is that it wholly ignores the costs of major generating resources that are currently in customer rates. Going

^{67/} Docket No. UM 1783, ICNU Comments at 6-7 & Attach. A.

^{68/} Docket No. UM 1783, PGE Reply Comments at 3.

^{69/} *Id.*

^{70/} ORS 469A.100(4).

forward, the Commission should require PGE to calculate the incremental cost of compliance based on the cost of RECs generated, not RECs retired.

C. The Commission should require the use of a flexible capacity resource to establish capacity equivalence with the proxy CCCT.

In its comments on the Company's initial implementation plan filing, ICNU recommended that the Commission require PGE to use a flexible capacity resource in the incremental cost calculation.^{71/} A ruling on this issue was deferred until this docket.^{72/}

Commission rules state that the incremental cost for long-term qualifying electricity "is the difference between the levelized annual cost of qualifying electricity delivered in a compliance year and the levelized annual cost of an equivalent amount of electricity delivered from the corresponding proxy plant."^{73/} The proxy plant is, "unless otherwise specified by the Commission, a base-load combined-cycle natural gas-fired generating facility"^{74/}

In 2013, the Commission undertook an investigation into the utilities' implementation plans, which included issues related to calculating the incremental cost of compliance.^{75/} That investigation was resolved via a stipulation that the Commission approved in Order No. 14-034. As relevant here, the stipulation recognized that there was a difference between the capacity value of a CCCT and the capacity value of an RPS resource.^{76/} To account for this difference, the stipulation requires that the difference between the capacity values of

^{71/} Docket No. UM 1755, ICNU Comments at 4-7 (Feb. 16, 2016).

^{72/} Docket No. UM 1755, Order No. 16-157, Appen. A at 2.

^{73/} OAR § 860-083-0100(1)(c).

^{74/} *Id.* § 860-083-0010(30).

^{75/} Docket No. UM 1616.

^{76/} Order No. 14-034, Appen. A at 3.

these two resources be represented by a SCCT of that size.^{77/} The idea was to capture the “firming costs” associated with RPS resources.^{78/} This is a cost the RPS law also requires be considered in the implementation plan along with similar costs for “shaping and integrating qualifying electricity.”^{79/} The stipulation does not specify what type of SCCT should be used.

In both its initial implementation plan and its Revised Plan, PGE uses a Frame SCCT to represent the difference in capacity value between an RPS resource and the proxy CCCT. The Company argues that this is appropriate because, while “reciprocating technology may be an appropriate measure of the cost of *flexible* capacity ... the capacity adjustment contemplated in the stipulation relates specifically to capacity value, rather than the operational.”^{80/}

ICNU disagrees with this. The point of including the costs of a SCCT is to represent the costs of firming the variability of renewable energy – to create capacity equivalence with the proxy CCCT.^{81/} If, in the absence of the RPS, PGE had built a CCCT instead of an RPS resource to meet its energy needs, it would also have obtained a certain amount of capacity associated with that CCCT that is not available from the RPS resource due to the unpredictability of its output. In including the costs of a SCCT to represent that capacity difference between the CCCT and the RPS resource, the idea is to provide the utility with the same amount of capacity it would have had with the CCCT.

^{77/} *Id.*, Appen. A at 3-4.

^{78/} *Id.*, Appen. A at 3.

^{79/} ORS 469A.075(2)(b).

^{80/} Revised Plan at 10 (emphasis in original).

^{81/} Docket No. UM 1616, Order No. 14-034 at 3.

Thus, using just any capacity resource will not do; it must be the type of capacity resource that equalizes the capacity value of the CCCT with the RPS resource. For variable RPS resources, that is flexible capacity.

The Northwest Power and Conservation Council’s (“Council”) Seventh Power Plan supports ICNU’s recommendation to use a flexible capacity resource. 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.”^{82/} 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 [WECC] region over the past decade.^{83/}

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.

Not only are flexible capacity resources the best fit for the region, they are also the best fit for PGE. The most recent capacity resource the Company built was Port Westward 2 (“PW2”), a flexible capacity resource that was built for the purpose of integrating variable RPS

^{82/} Seventh Power Plan, Appen. G at G-23 (emphasis in original).

^{83/} *Id.*, Appen. H at H-16 (emphasis added).

resources. As the Company stated in justifying the prudence for building PW2, “the growth in renewable energy supplies, mostly in the form of wind energy, has been significant. When wind energy is added to a utility system, its natural variability and uncertainty are compounded by the variability and uncertainty of loads. *As a result*, there is an increase in the need for system flexibility required to maintain utility system balance and reliability.”^{84/}

Finally, as ICNU stated in its comments on the Company’s initial implementation plan, even if a Frame SCCT could be used to firm variable RPS resources, the costs associated with doing so are not accurately reflected in the incremental cost calculations.^{85/} This is because the high heat rate of a Frame SCCT limits its ability to dispatch economically. Thus, if such a resource were actually used to integrate variable resources, it likely would need to dispatch uneconomically for significant periods of time. The costs of this uneconomic dispatch are not reflected in the incremental cost calculations.

Because a flexible capacity resource is the type of SCCT necessary to achieve capacity equivalence between variable RPS resources and the proxy CCCT, that is the type of SCCT PGE should use in its incremental cost calculations. This is consistent with the intent of the settlement that established the need for including the costs of a SCCT in the incremental cost calculation and the requirements of the RPS law.^{86/} ICNU recommends that the Commission require the Company either to use the costs of PW2, as this is the resource the Company has actually built to integrate variable renewable generation, or the costs of the proxy SCCT resource

^{84/} Docket No. UE 283, PGE/400, Pope-Lobdell/18:6-10 (emphasis added).

^{85/} Docket No. UM 1755, ICNU Comments at 6-7; *see also*, Seventh Power Plan, Chapter 13 at 13-18 (“frame machines tend to have lower efficiency and less operational flexibility than Aeroderivative machines”).

^{86/} Docket No. UM 1616, Order No. 14-034, Appen. A at 3-4.

used by the Council in the Seventh Power Plan. Additionally, to the extent not already reflected in PGE's calculations, ICNU recommends that the Company apply the framework for determining the capacity contribution of RPS resources developed in the stipulation between the parties in Docket UM 1719 and approved by the Commission in Order No. 16-326.

D. PGE's recommendation to use generation and fuel assumptions from the time an RPS resource was built does not reflect the incremental cost of RPS resources.

In its Revised Plan, the Company recommends that the rules governing the incremental cost calculation be modified because they "may not capture the true incremental cost of complying with Oregon's RPS requirements."^{87/} The Company notes that gas prices associated with the proxy CCCT are updated in each implementation plan, as is actual generation.^{88/} This "amounts [to] hindsight review of the cost-effectiveness of the resource decision, rather than one based on the information known at the time," PGE states.^{89/}

While the Company's position may be appropriate for determining the prudence of a resource selection, it is not relevant for determining the incremental cost of RPS compliance. The point of determining the incremental cost of compliance is to establish what customers would have paid in the absence of an RPS.^{90/} PGE built Port Westward 1 in 2007. The cost customers pay today associated with this resource is not based on the gas price that existed in 2007 nor the generation output the Company assumed at that time. It is based on the actual gas price and generation output that exists today. The same should be true for the proxy CCCT. The

^{87/} PGE Revised Plan at 11.

^{88/} *Id.*

^{89/} *Id.*

^{90/} *See* ORS 469A.100(4).

question is what are the actual incremental costs customers are paying for RPS compliance, not what the projected incremental costs were years earlier.

ICNU notes that the Company's proposal could go both ways. If it ultimately does choose to procure a new RPS resource in the near term, it is likely that this will be done while gas prices are at historic lows. Under PGE's proposal, the incremental cost of this new RPS resource will forever be compared to this historically low gas price even though customers ten years from now may be paying much higher prices. This would artificially inflate the incremental cost of RPS compliance.

E. The Company should analyze a low gas price scenario.

As it did with its initial implementation plan, the Company has excluded a low gas price scenario from its analysis. The Company states that this is appropriate because "gas prices are relatively low at this time. Providing an additional low gas scenario would offer limited information and is not a scenario that is anticipated at this time, thus reference gas may be considered to also represent a low gas scenario."^{91/} The Company's reference gas price, however, assumes gas prices will steadily increase over the study period. It is also possible that gas prices will stay low. The practical impact of this alternative scenario on the Company's incremental cost of RPS compliance over the near term is small, so ICNU does not oppose this aspect of the Revised Plan. However, the Company's suggestion that the reference gas price scenario and a low gas price scenario are the same thing is not accurate, and it should not proceed with this position in its IRP modeling.

^{91/} Revised Plan at 9.

IV. CONCLUSION AND RECOMMENDATIONS

For the foregoing reasons, ICNU does not believe the Company has fully addressed all of the issues the Commission requested analysis of in its order instituting this docket. In particular, the Company has not provided sufficient analysis to demonstrate a least-cost/least-risk strategy for RPS compliance post-SB 1547. The statute, however, requires the Commission to acknowledge the Company's implementation plan, although it may do so subject to conditions.^{92/} ICNU, therefore, recommends that the Commission acknowledge PGE's Revised Plan, subject to the following conditions:

- (1) That the Revised Plan is insufficient to demonstrate a least-cost/least-risk strategy for RPS compliance following passage of SB 1547;
- (2) That the Company analyze the cost of purchasing RECs compared with the cost of physical compliance in its upcoming IRP;
- (3) That the Company assume the purchase of unbundled RECs in its upcoming IRP to inform its resource procurement strategy;
- (4) That the Commission require the Company to use a flexible capacity resource to provide capacity equivalence with the proxy CCCT when calculating the incremental cost of RPS compliance;
- (5) That the Company project the incremental cost of RPS compliance in its IRP based on the cost of RECs generated in the compliance year and the use of a flexible capacity SCCT to provide capacity equivalence with the proxy CCCT; and
- (6) That the Company analyze a low gas price scenario in the IRP separately from the reference price.

^{92/} ORS 469A.075(3).

Dated this 12th day of September, 2016.

Respectfully submitted,

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August 15, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 002
Submitted to Huddle on August 1, 2016**

Request:

Please identify the seller of each unbundled REC the Company has purchased since 2011, the quantity, and the price.

Response:

Attachment 002-A, which is confidential and subject to Protective Order No. 16-262, provides the information requested.

The table consists of approximately 10 columns and 2-3 rows of data. The content is almost entirely obscured by black redaction boxes. There are several vertical columns of light green highlighting, which appear to be highlighting specific data points or sections within the table. The redaction covers the majority of the text and numbers in the cells.

[Redacted text]

August 15, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 003
Submitted to Huddle August 1, 2016**

Request:

Has PGE analyzed whether it has the ability to purchase bundled or unbundled RECs from newly eligible RPS facilities under SB 1547 (i.e., legacy biomass, municipal solid waste, or thermal RECs)? If not, please explain. If so, please identify the potential resources and whether the RECs they could provide would be bundled, unbundled, or both.

Response:

Yes. PGE has reviewed SB 1547 and its treatment of bundled or unbundled RECs from newly eligible biomass and municipal solid waste facilities. PGE will analyze the applicability and treatment of thermal RECs once the Oregon Department of Energy (ODOE) establishes guidelines. PGE is in the process of evaluating and identifying the availability of RECs from newly eligible resources. There are many factors that are researched in evaluating potential transactions and availability of RECs from such transactions. Some of the research components are:

- Are the RECs already promised to another party?
- Who is the transactional entity?
- Does the entity want to see the RECs?
- Are the RECs registered in WREGIS?

UM 1788 PGE Response to OPUC DR No. 003
August 15, 2016
Page 2

- Are the RECs certified by ODOE?

PGE is active in the market on a daily basis and gathers information by either communicating directly with facilities or through conversations with marketers and brokers to identify potential opportunities and determine the commercial terms of any potential transaction.

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 004
Submitted to Huddle August 1, 2016**

Request:

Referencing page 11 of the RPIP, please provide all documents or other information PGE relied on for its statement that “mandating the purchase of unbundled RECs for any utility will negatively impact the unbundled REC market because with such a requirement, the price will be impacted.”

Response:

This statement was derived from our power supply experience discussing supply and demand, as well as current market activity and pricing with brokers, marketers, and developers. Recently, PacifiCorp released the results of their Renewables RFP. PGE is now experiencing increases in market pricing compared to market prices PGE experienced earlier this year. See PGE’s response to ICNU Data Request No. 002 for PGE’s most recent unbundled REC transactions. Dialog with potential suppliers suggested that they were expecting to see a significant premium to current market prices in PacifiCorp’s RFP.

August 15, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 005
Submitted to Huddle August 1, 2016**

Request:

Please provide all analyses PGE has performed to determine the price impacts on unbundled RECs from a mandatory purchase requirement for PGE.

Response:

PGE has not performed a formal analysis. Please see PGE's response to ICNU Data Request Nos. 004 and 010. PacifiCorp conducted an RFP and the results were presented to the Commission at the July 26, 2016 special public meeting. PGE has experienced significant increases in market pricing since PacifiCorp's RFP was conducted.

August 15, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 007
Submitted to Huddle August 1, 2016**

Request:

Please identify the reason for the growth in RECs generated by “ETO and Other Solar” resources from 8,971 in 2019 to 422,217 in 2020 in the “RECs Generated” tab of Attachment A.

Response:

For all renewable qualifying facility (QF) power purchase agreements executed to date, PGE receives RECs for QF generation starting in 2020, but not before.

August 15, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 012
Dated August 1, 2016**

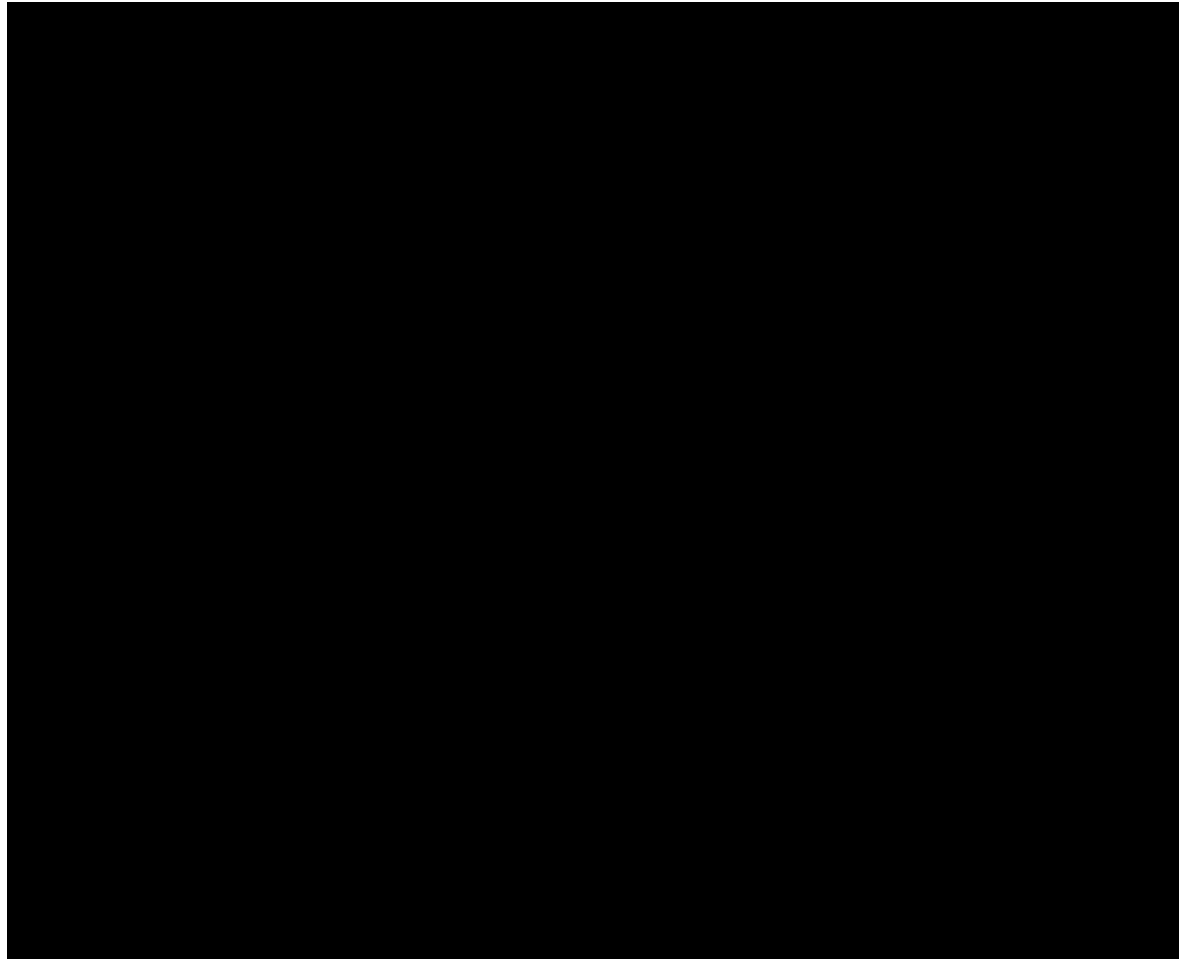
Request:

Please identify all Qualifying Facilities with which PGE has an existing power purchase agreement or with which PGE forecasts it will have a PPA within the next year.

- a. Please provide the effective date of each contract, the length of the contract, and the location of the QF.**
- b. Please provide the capacity for each QF and the type of generation (i.e., wind, solar, etc.).**
- c. If applicable, please also identify whether PGE is currently purchasing RECs from each QF and, if not, whether it has the option to do so.**

Response:

PGE does not forecast Qualifying Facilities PPAs. Attachment 012-A, which is confidential and subject to Protective Order No. 16-262, provides the information requested.



August 15, 2016

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FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 013
Dated August 1, 2016**

Request:

Please describe all steps PGE has taken since the passage of SB 1547 to identify the availability and cost of RECs (both bundled and unbundled) that are eligible for Oregon RPS compliance.

Response:

Prior to and since the passing of SB1547, PGE has been an active market participant executing several transaction and engaging in conversations regarding supply and demand, and current market activity (including availability and pricing) with multiple brokers, marketers, and developers. The market continues to be fragmented and illiquid. See PGE's response to ICNU's Data Response Nos. 004 and 010.

August 30, 2016

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FROM: Patrick G. Hager
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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 014
Dated August 16, 2016**

Request:

Reference PGE's responses to ICNU Data Requests 004 and 005.

- a. Please provide a list of each and every offer the Company has received for RECs that demonstrate the recent "significant increase in market pricing." Please identify the offeror, the price, the quantity, the location of the generating facility and type of generation, and whether the RECs were bundled or unbundled.**
- b. Please provide any other data or documentation the Company relied on for its statement that there has been a "significant increase in market pricing" for RECs recently.**

Response:

PGE objects to this request on the grounds that it is overly broad and unduly burdensome. Subject to and without waiving its objection, PGE responds as follows:

PGE engages in conversations with brokers on a frequent basis. The brokers provide PGE with a high level indication of supply, demand and price available in the market. The vast majority of offers do not move forward as parties are unable to agree on price and terms. PGE does not retain information for offers associated with such conversations or for potential transactions that do not result in an executed agreement.

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August 30, 2016
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If initial discussions lead to a confirmation, then the parties will enter more formal negotiations which can sometimes take significant time to reach full agreement. Due to the length of negotiations and the time needed to close the deal, an offer may be withdrawn by the seller before the negotiation is completed. Information related to unexecuted transactions is not retained.

PGE negotiated and executed two transactions [**confidential**] since the release of PacifiCorp's RFP, and none since the RFP's results were made public. These transactions were provided in PGE's confidential response to ICNU Data Request No. 002. The price in both of these transactions were at a significant premium [**confidential**] to transactions executed in December 2015 and March 2016 [**confidential**]. Although the two transactions with BPA were executed in May and June, they were negotiated in March.

Attachment 014-A, which is protected information subject to Protective Order No. 16-262, provides an un-redacted response.

PGE negotiated and executed two transactions ([REDACTED]) since the release of PacifiCorp's RFP, and none since the RFP's results were made public. These transactions were provided in PGE's confidential response to ICNU Data Request No. 002. The price in both of these transactions were at a significant premium [REDACTED] to transactions executed in December 2015 and March 2016 [REDACTED]. Although the two transactions with BPA were executed in May and June, they were negotiated in March.

[REDACTED]

August 30, 2016

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FROM: Patrick G. Hager
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 015
Dated August 16, 2016**

Request:

Does PGE have plans to conduct an RFP for RECs? Please explain your answer. If the answer is yes, please identify the scope of the RFP (i.e., the type of REC products sought and any geographic limitations or preferences) and when PGE plans to issue it.

Response:

PGE has not made a decision on whether to conduct an RFP for RECs. The IRP will include analysis on unbundled REC value. The results of the IRP analysis will inform PGE's identification of a least cost, least risk action plan and PGE's RFP design decision.

August 30, 2016

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FROM: Patrick G. Hager
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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 016
Dated August 19, 2016**

Request:

Reference ICNU DR 002 Confidential Attachment A.

- a. Please provide the date PGE purchased each listed unbundled REC (as opposed to the date the RECs were transferred).**
- b. Please describe why the attachment does not show unbundled RECs retired for 2015 RPS compliance.**
- c. Please update this attachment when PGE receives transfer of the RECs identified in rows 19 and 20.**

Response:

- a. Attachment 016-A, which is protected information subject to Protective Order No. 16-262, provides the requested information.
- b. The RECs retired for 2015 RPS compliance are not included in PGE's response to ICNU Data Request No. 002, Attachment 002-A, because PGE has not yet received a final order approving PGE's Compliance Report (UM 1783). Once a final order is issued in Docket No. UM 1783, PGE will retire in WREGIS the requisite RECs.

UM 1788 PGE Response to ICNU DR No. 016
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- c. PGE will update PGE's response to ICNU Data Request No. 002, Attachment 002-A when PGE receives the referenced RECs.

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September 8, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 018
Dated August 31, 2016**

Request:

Regarding PGE’s response to ICNU DR 014, please explain why PGE executed the referenced transactions given the Company’s statement that they were executed “at a significant premium ... to transactions executed in December 2015 and March 2016.”

Response:

As noted in PGE’s Response to ICNU Data Request No. 014, REC prices increased significantly beginning in April 2016 when PacifiCorp announced their RFP for environmental products, including RECs. Prices in the unbundled REC market remained at the higher price levels and PGE did not foresee a return to the previous lower prices. Thus, while we couldn’t transact for the lower prices we were experiencing earlier, we were able to transact for RECs at price(s) close to or lower than those in the market. However, the price(s) may be different from other transactions depending on the specific terms of the transaction.

PGE purchased the RECs in March and June 2016 in order to acquire the necessary unbundled RECs for its 2015 requirements, which was more economical than using bundled RECs.

September 12, 2016

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**PORTLAND GENERAL ELECTRIC
UM 1788
PGE Response to ICNU Data Request No. 019
Dated September 12, 2016**

Request:

Please provide ICNU with permission to use the information contained in Confidential Attachment A to OPUC DR 001 in Docket No. UM 1773 under the protective order in this proceeding.

Response:

Attachment 019-A is PGE's response to OPUC Data Request No. 001, Attachment 001-A, in UM 1773. PGE notes that the underlying data used to develop Attachment 001-A are stale and remain confidential. Updated analysis and data will be provided in PGE's IRP Draft to be filed on September 26, 2016.

Attachment 019-A is protected information subject to Protective Order No. 16-262.