

Washington Utilities & Transportation Commission

August 1, 2017

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Enclosures:

170694-PPL-r-2017-RPS-Rpt-8-1-17 (R)

170694-PPL-r-2017-RPS-Rpt-8-1-17 (C)

170694-PPL-Rpt-Workbook-8-1-17 (R)

170694-PPL-Rpt-Workbook-8-1-17 (C)



Pacific Power & Light Company

Washington

Annual Renewable Portfolio Standard Report

**CONFIDENTIAL per WAC 480-07-160
REDACTED**

**REVISED
August 1, 2017**

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Introduction

Pacific Power & Light Company (Pacific Power or Company), a division of PacifiCorp, submits this 2017 Annual Renewable Portfolio Standard Report (Renewable Report) to the Washington Utilities and Transportation Commission (Commission) and the Washington Department of Commerce (Commerce) in accordance with reporting requirements established as part of the Energy Independence Act (EIA). The report is consistent with RCW 19.285.070 which states, in relevant part:

- (1) On or before June 1, 2012, and annually thereafter, each qualifying utility shall report to the department on its progress in the preceding year in meeting the targets established in RCW 19.285.040, including expected electricity savings from the biennial conservation target, expenditures on conservation, actual electricity savings results, the utility's annual load for the prior two years, the amount of megawatt-hours needed to meet the annual renewable energy target, the amount of megawatt-hours of each type of eligible renewable resource acquired, the type and amount of renewable energy credits acquired, and the percent of its total annual retail revenue requirement invested in the incremental cost of eligible renewable resources and the cost of renewable energy credits.*
- (2) A qualifying utility that is an investor-owned utility shall also report all information required in subsection (1) of this section to the commission, and all other qualifying utilities shall also make all information required in subsection (1) of this section available to the auditor.*

This report is consistent with the collaborative workshop documents addressing annual reporting requirements in Docket UE-110523, Order 01 in Docket UE-120813, Order 01 in Docket UE-140802, and Docket UE-131723.

Executive Summary

Under RCW 19.285.040(2)(a), each qualifying utility must use eligible renewable resources, acquire equivalent renewable energy credits (RECs), or a combination of both, to meet annual targets. As demonstrated in this report, the Company will meet the targets in accordance with WAC 480-109-200(1). The Company met the 2016 renewable energy target with a combination of eligible renewable resources and RECs and the Company is positioned to use eligible renewable resources and RECs to supply at least nine percent of its average Washington load to satisfy the 2017 renewable energy target.

A summary of the Company's 2016 and 2017 renewable targets and eligible renewable resources and RECs are provided below:

Table 1

PacifiCorp Renewable Target, Eligible Resource and RECs		
	2016	2017
Average Retail Sales (MWh)	4,112,958	4,044,962
Percentage Target	9%	9%
Renewable Target	370,166	364,047
Qualifying Resources & RECs (MWh)	370,166	364,047

The Company does not intend to rely on any of the alternative compliance mechanisms provided in WAC 480-109-210 for meeting either the 2016 or 2017 renewable energy targets.

Annual Load for Previous Two Years and Renewable Energy Target

Under RCW 19.285.040(2)(c) and WAC 480-109-200(1), a utility must calculate its annual target based on its average load for the previous two years. Accordingly, using the average of the Washington annual retail loads for the previous two years, Table 2 calculates the annual renewable targets for 2016 and 2017.

Table 2

Target Year 2016	
Prior Year Retail Sales (2014)	4,117,646 MWh
Prior Year Retail Sales (2015)	4,108,270 MWh
Average Retail Sales	4,112,958 MWh
Percentage Target	9%
Renewable Target	370,166 MWh/RECs
Target Year 2017	
Prior Year Retail Sales (2015)	4,108,270 MWh
Prior Year Retail Sales (2016)	3,981,654 MWh
Average Retail Sales	4,044,962 MWh
Percentage Target	9%
Renewable Target	364,047 MWh/RECs

Renewable Energy Acquired to Meet Renewable Energy Target

The Company met its 2016 renewable resource target and plans to meet its 2017 renewable resource target with a combination of eligible RECs, Company- and third-party-owned wind resources, and hydroelectric facilities with upgrades completed after March 1999.

The Company is submitting the Commission's Renewable Portfolio Standard (RPS) Report Tool as Confidential Attachment A. The RPS Report Tool details the renewable resource target for 2016 and 2017 and the RECs and renewable resources identified to meet the 2016 and 2017 targets.

PacifiCorp will use the following Company- and third-party-owned wind facilities for 2017 compliance:¹

Table 3

Resource Name	Location
Goodnoe Hills	Washington
Leaning Juniper	Oregon
Marengo I	Washington
Marengo II	Washington
Seven Mile Hill I	Wyoming
Dunlap I	Wyoming
Glenrock Wind I	Wyoming
Top of the World	Wyoming

Four of these eight wind facilities are located in the Pacific Northwest. The remainder are located in Wyoming and qualify as eligible to meet Washington's RPS.² Descriptions of the projects are referenced in the Supporting Documents for Renewable Report section of this report.

Additionally, the Company identified upgrades to hydroelectric facilities located in the Pacific Northwest that were completed after March 31, 1999, listed in Table 4 below.

Table 4

Resource Name	Upgrade Date
Prospect 2	1999
Lemolo 1	2003
JC Boyle	2005
Lemolo 2	2009

¹ Resources allocated to 2017 (which may be used in compliance year 2017 and 2018) include those identified in Table 3, as well as Rolling Hills Wind located in Wyoming.

² In Docket UE-151162, Order 01, the Commission found all of these resources to be eligible renewable resources under RCW 19.285.030(12)(e).

The Company performed analyses to determine the incremental energy associated with upgrades to hydroelectric facilities, consistent with method two, as identified in WAC 480-109-200(7)(c). The methodology, described in more detail in Attachment B, is consistent with the methodology the Company submitted to the Oregon Department of Energy to certify these facilities and calculate the percentage of the incremental energy for the Oregon RPS program. The Company performed an analysis of the incremental energy for upgrades to hydroelectric facilities that includes actual generation data from 2007 through 2012. The Company re-submitted the analysis to the Oregon Department of Energy in December 2013 and the Oregon Department of Energy approved the updated incremental hydropower efficiency percentages, effective January 2014. The eligibility was reviewed and made effective once again by the Oregon Department of Energy in December 2015. The Company is providing the analyses in Confidential Work Papers—PacifiCorp Hourly Incremental Hydro Analyses.

In addition to the resources listed above, the Company also executed REC-only transactions for Washington RPS compliance. PacifiCorp had two contracts for REC-only transactions executed before January 1, 2012, executed two additional REC-only contracts in November 2014, and executed six additional REC-only contracts in January 2017. The counterparties will provide RECs from Washington RPS-eligible resources.

The following pages contain the Company's Renewable report submitted to the Washington Department of Commerce on June 1, 2017, and include a summary of the forecasted number of megawatt-hours and RECs to meet the 2017 compliance target.

Please see Table 6 of this report for a summary of PacifiCorp's expected Washington-allocated resource costs compared to the annual revenue requirement.

Energy Independence Act (I-937) Commerce Renewable Report – 2017

Energy Independence Act (EIA) Renewable Energy Report 2017

Utility	Pacific Power & Light Company
Report Date	August 1, 2017
Utility Contact Name/Dept	Ariel Son
Phone	503-813-5410
Email	ariel.son@pacificorp.com

Loads and Resources	
2015 Annual Load (MWh)	4,108,270
2016 Annual Load (MWh)	3,981,654
Average of 2015 & 2016 Annual Loads (MWh)	4,044,962
2017 Renewable Target (% of load)	9%
2017 Eligible Renewable Energy Target (MWh)	364,047
2017 Eligible Renewable Resources and RECs	364,047

2017 Compliance Method:

- RPS Target [RCW 19.285.040(2)(a)]
- Resource Cost [RCW 19.285.050]
- No Load Growth [RCW 19.285.040(2)(d)]

Expenditures on Renewable Resources and RECs - 2017	
Amount invested in incremental cost of eligible renewable resources and the cost of RECs	\$2,035,312
Total annual retail revenue requirement - 2017	\$338,969,265
Investment in renewables and RECs as a percent of retail revenue requirement	0.6%

	Water	Wind	Solar	Geothermal	Landfill Gas	Wave, Ocean, Tidal	Gas from Sewage Treatment	Biodiesel	Biomass	Qualified Biomass	Apprentice Labor Credit	Distributed Generation Credit
Eligible Renewable Resources (MWh)	1,832	209,552	-	-	-	-	-	-	-	-	-	-
Renewable Energy Credits		108,108	44,555	-	-	-	-	-	-	-	-	-
Total Renewables (MWh+RECs)	1,832	317,660	44,555	-	-	-	-	-	-	-	-	-

2017 Reporting Year:

This renewable energy report summarizes the eligible renewables resources and renewable energy credits (RECs) that the utility has acquired by January 1, 2017 for the purpose of meeting its Energy Independence Act (EIA) renewables target for 2017. The actual resources and RECs used to comply with the 2017 EIA target may vary from those reported here. Utilities will report in June of 2019 on the actual results for 2017.

Compliance Methods:

The EIA provides three compliance methods for utilities:

- Meet the renewable energy target using any combination of renewable resources and RECs. The target for 2017 is 9% of the utility's load
- Invest at least 4% of the utility's annual revenue requirement in the incremental cost of renewable resources and RECs.
- Invest at least 1% of its annual revenue requirement in renewable resources and RECs. This option is available only to certain utilities that are not growing.

All utilities must report the renewable resources and RECs acquired for the 2017 target year. Utilities that elect to use a compliance method based on renewable investments must provide additional information demonstrating compliance with that method. Refer to WAC 194-37-110(2) and (3) for specific requirements.

NOTE: This is a general explanation of the renewable energy requirements of the Energy Independence Act, intended to help members of the public understand the information reported by the utility. Consult Chapter 19.285 RCW and Chapter 194-37 WAC for details.

Designated Information is Confidential per WAC 480-07-160

Energy Independence Act (I-937) Commerce Renewable Report – Continued

Renewable Energy Credits

Utility Pacific Power & Light Company
Compliance Year 2017

WREGIS ID	Facility Name	REC Vintage (Year)	Resource Type	Apprentice Labor Eligibility	Distributed Generation Eligibility	Quantity RECs	Apprentice Labor Amount MWh equiv.	Distributed Generation Amount MWh equiv.	Explanatory Notes (as needed)
W542	Bennett Creek Windfarm - Bennett Creek Windfarm	2016	Wind	No	No		-	-	
W543	Hot Springs Windfarm - Hot Springs Windfarm	2016	Wind	No	No		-	-	
W833	Condon Wind Power Project - Condon Phase II	2016	Wind	No	No		-	-	
W774	Condon Wind Power Project - Condon Wind Power Project	2016	Wind	No	No		-	-	
W1634	Hidden Hollow Energy LLC - Hidden Hollow Energy	2016	Wind	No	No		-	-	
W238	Klondike I - Klondike Wind Power LLC	2016	Wind	No	No		-	-	
W3186	Meadow Creek Wind Farm - Five Pine Project	2016	Wind	No	No		-	-	
W3185	Meadow Creek Wind Farm - North Point Wind Farm	2016	Wind	No	No		-	-	
W697	Nine Canyon Wind Project - Nine Canyon Phase 3	2016	Wind	No	No		-	-	
W684	Nine Canyon Wind Project - Nine Canyon Wind Project	2016	Wind	No	No		-	-	
W248	Stateline (WA) - FPL Energy Vansycle LLC	2016	Wind	No	No		-	-	
W938	Enterprise	2016	Solar	No	No		-	-	
W4619	Pavant	2016	Solar	No	No		-	-	
							-	-	
Total						152,663	-	-	

Designated Information is Confidential per WAC 480-07-160

Energy Independence Act (I-937) Commerce Renewable Incremental Cost and REC Cost Report – Continued

Incremental Cost of Renewable Resources

Utility	Pacific Power & Light Company
Compliance Year	2017

Facility Name	WREGIS ID	MWh	Renewable Resource Annual Cost in 2017	Renewable Resource Cost per MWh	Description of Substitute Resource	Substitute Resource Annual Cost in 2017	Substitute Resource Cost per MWh	Incremental Cost of Renewable Resource in 2017
Goodnoe Hills	W536							
Leaning Juniper	W200							
Marengo I	W185							
Marengo II	W772							
Dunlap I	W1687							
Glenrock Wind I	W964							
Top of the World	W1749							
Seven Mile Hill I	W975							
Prospect 2 - Upgrade	W180							
Lemolo 1 - Upgrade	W157							
JC Boyle - Upgrade	W140							
Lemolo 2 - Upgrade	W158							
Totals		211,384						

Designated Information is Confidential per WAC 480-07-160

Energy Independence Act (I-937) Commerce Renewable Incremental Cost and REC Cost Report – Continued

Cost of Renewable Energy Credits

Utility	Pacific Power & Light Company
Compliance Year	2017

Facility Name	WREGIS ID	REC Vintage (Year)	Number of RECs	Annual Cost of Renewable Energy Credits	Cost per REC	Documentation of the calculation and inputs for percentage of revenue requirement invested in renewables:
Bennett Creek Windfarm - Bennett Creek Windfarm	W542	2016				
Hot Springs Windfarm - Hot Springs Windfarm	W543	2016				
Meadow Creek Wind Farm - Five Pine Project	W3186	2016				
Condon Wind Power Project - Condon Phase II	W833	2016				
Condon Wind Power Project - Condon Wind Power Project	W774	2016				
Hidden Hollow Energy LLC - Hidden Hollow Energy	W1634	2016				
Klondike I - Klondike Wind Power LLC	W238	2016				
Meadow Creek Wind Farm - Five Pine Project	W3186	2016				
Meadow Creek Wind Farm - North Point Wind Farm	W3185	2016				
Nine Canyon Wind Project - Nine Canyon Phase 3	W697	2016				
Nine Canyon Wind Project - Nine Canyon Wind Project	W684	2016				
Stateline (WA) - FPL Energy Vansycle LLC	W248	2016				
Enterprise	W938	2016				
Pavant	W4619	2016				
#REF!						
Total			152,663			

Alternative Compliance

Under WAC 480-109-210(2)(b), the utility must state in its report if it is relying on one of the alternative compliance mechanisms provided in WAC 480-109-220 instead of meeting its renewable resource target. The Company does not anticipate investing at least four percent of its total annual retail revenue requirement on the incremental costs of eligible renewable resources, RECs, or a combination of both.

Further, the Company does not plan to rely on any other alternative compliance mechanisms to meet its renewable resource targets for 2016 or 2017.

Resource Cost Compared to Annual Retail Revenue Requirement

Under RCW 19.285.070(1), a utility must report the percent of its total annual retail revenue requirement invested in the incremental cost of eligible renewable resources and the cost of RECs. Similarly, under WAC 480-109-210, a utility must report the incremental cost of eligible renewable resources and RECs, and the ratio of this investment relative to the utility's total annual retail revenue requirement.

The incremental cost of an eligible renewable resource is defined in RCW 19.285.050(1)(b) as the difference between the levelized delivered cost of the eligible renewable resource, regardless of ownership, compared to the levelized delivered cost of an equivalent amount of reasonably available substitute resources that do not qualify as eligible renewable resources, where the resources being compared have the same contract length or facility life.

With the adoption of General Order R-578 in Docket UE-131723, the Commission revised rules implementing RCW 19.285, the EIA, including the application of a new methodology for calculating incremental cost. The Company performed the incremental cost calculations as defined in WAC 480-109-210.

REC Costs for REC-only Purchases

The cost of RECs from the REC-only purchase is based on the contractual price set forth in the applicable bilateral agreement between the Company and the counterparty.

Incremental Costs for Wind Resources

The estimated cost of the RECs from renewable wind resources is the calculated levelized cost of each eligible renewable resource at the time of acquisition, compared to an equivalent amount of the lowest-reasonable-cost resource available to the utility at the time of the eligible resource's acquisition.³

Incremental Costs for Renewable Energy from Incremental Hydro Upgrades

The estimated cost of eligible renewable energy from incremental hydro represents the calculated levelized cost of each hydro upgrade at the time of investment in the upgrade, compared to an equivalent amount of the lowest-reasonable-cost resource available to the utility at the time of the eligible resource's acquisition.

Confidential Work Papers—PacifiCorp Resource Cost Analysis provides the key assumptions and analysis that the Company used to forecast the estimated incremental

³ The cost of RECs from PacifiCorp's resource(s) located outside of the West Control Area are not included in Washington customers' rates. To determine the ratio of incremental cost to revenue requirement, resource costs *outside* the West Control Area are calculated using the weighted average cost of the resources *within* the West Control Area (Goodnoe Hills, Leaning Juniper, Marengo I and Marengo II). Please refer to PacifiCorp Workpaper, PacifiCorp Resource Cost Analysis.

costs associated with the renewable resources and costs associated with RECs for the target years 2016 and 2017.

Revenue Requirement

The revenue requirement amounts are from recent general rate cases. The 2016 revenue requirement is \$333,118,962, prorated from Dockets UE-140762 and UE-152253, and the 2017 revenue requirement is \$338,969,265 from Docket UE-152253.

Resource Incremental Costs Compared to Revenue Requirement

Table 6 shows the expected Washington-allocated resource costs (incremental cost of eligible renewable resources and the cost of RECs) compared to the annual revenue requirement for 2016 and 2017.

Table 6

Calendar Year	Total Washington Allocated Incremental Resource Costs	Washington Annual Revenue Requirement	% of Washington Expected Allocated Resource Costs to Annual Revenue Requirement
2016	\$ 2,734,178	\$ 333,118,962	0.82%
2017	\$ 2,035,312	\$ 338,969,265	0.60%

Based on this analysis, the Company will not exceed the four percent of annual revenue requirement threshold.

Multistate Allocations

Under WAC 480-109-210(e)(i), a utility serving retail customers in more than one state must allocate certificates consistent with the utility's most recent commission-approved interstate cost allocation methodology. This section explains how the Company applied the allocation methodology to arrive at the number of RECs allocated to Washington customers.

PacifiCorp is a multi-jurisdictional utility providing electric retail service to approximately 1.8 million customers in California, Idaho, Oregon, Utah, Washington, and Wyoming. Of those customers, the Company serves approximately 133,000 customers in the state of Washington.

PacifiCorp allocates RECs to its states consistent with the inter-jurisdictional allocation methodologies approved in each state. All of PacifiCorp's jurisdictions, except Washington, use the 2010 Protocol inter-jurisdictional allocation methodology, which allocates all generation-related costs, revenues, rate base balances and RECs to each state using the system generation (SG) allocation factor. The SG factor is calculated based on each state's contribution to PacifiCorp's energy and capacity requirements for its entire six-state system. Using this methodology, Washington's SG factor is approximately 8 percent (i.e. Washington comprises approximately 8 percent of PacifiCorp's six-state system).

In Washington, however, PacifiCorp uses the West Control Area (WCA) inter-jurisdictional allocation methodology. This methodology allocates west control area generation resources, primarily located in California, Oregon, and Washington, using the control area generation west (CAGW) allocation factor. The CAGW factor is calculated based on each state's contribution to PacifiCorp's energy and capacity requirements for the west control area (California, Oregon, and Washington). Washington's CAGW factor is approximately 23 percent (i.e. Washington comprises approximately 23 percent of the west control area).

As a result of Washington's use of the WCA methodology, PacifiCorp's Washington rates reflect a CAGW share, approximately 23 percent, of west control area generation resources. Accordingly, Washington customers are entitled to approximately 23 percent of RECs from these facilities. Using different inter-jurisdictional allocation methodologies for different states, however, creates challenges because the sum of each state's allocated share may not equal 100 percent. To address this issue, PacifiCorp first allocates each state its share of RECs using the SG factor. Using this process, Washington receives approximately 8 percent of RECs from west control area resources.

The WCA contains the following eligible resources:

- Goodnoe Hills (wind)
- Leaning Juniper (wind)
- Marengo I (wind)
- Marengo II (wind)

- Prospect 2 (incremental hydro)
- Lemolo 1 (incremental hydro)
- Lemolo 2 (incremental hydro)
- JC Boyle (incremental hydro)

PacifiCorp addresses the variance between Washington’s SG share of west control area resources (approximately 8 percent) and Washington’s CAGW share (approximately 23 percent) by providing Washington RECs from other eligible resources. In the past, PacifiCorp’s shareholders have purchased unbundled RECs to make up the difference.⁴ Recent changes in the EIA allow PacifiCorp to use RECs from PacifiCorp facilities in other states where PacifiCorp makes retail sales.⁵ This means that the actual RECs used to fulfill Washington’s CAGW share may include RECs from resources located in any of PacifiCorp’s jurisdictions or include unbundled REC purchases, but the total will equal Washington’s CAGW share of west control area resources.

In 2017, PacifiCorp plans to use generation from the following resources to provide Washington with its full CAGW allocation:

- Top of the World (wind – Wyoming)
- Dunlap I (wind – Wyoming)
- Glenrock I (wind – Wyoming)
- Rolling Hills (wind – Wyoming)
- Seven Mile Hill (wind – Wyoming)

PacifiCorp does not plan to use any unbundled REC purchases to supply Washington’s CAGW allocation in 2016. Table 7 summarizes how PacifiCorp plans to supply Washington with its CAGW share of renewable generation in 2017.

**Table 7: Allocation of PacifiCorp’s Eligible Generation to Washington
[CONFIDENTIAL]**

Year	Total WCA Eligible Generation (Projected)	Washington CAGW Allocation Factor ⁶	Washington CAGW Allocation ⁷	SG ⁸ Allocation of WCA Generation	Adjustments from Other Eligible (Company) Resources	Adjustments from Purchased RECs	Final Allocation
2017	██████████	22.47%	██████████	██████████	██████████	-	██████████

⁴ Washington customers received the full value of their CAGW share of renewable generation through shareholder-purchased unbundled RECs and revenues from REC sales through the REC revenue tracking mechanism.

⁵ RCW 19.285.030(12)(e).

⁶ Washington’s forecast CAGW factor for 2017.

⁷ Washington’s allocation of all RPS-eligible WCA resources - wind and incremental hydro.

⁸ Washington’s actual SG factor for 2016 and 2017.

Any unbundled REC purchases necessary for RPS compliance in excess of Washington's CAGW share of west control area resources will be reflected in Washington customers' rates.⁹ This treatment ensures that Washington customers receive an allocation of costs and benefits of RECs proportionate to its share of renewable resource costs reflected in rates.

PacifiCorp follows the Western Renewable Energy Generation Information System (WREGIS) and state renewable portfolio standards (RPS) requirements to ensure that RECs are not double-counted.

⁹ The Company filed a petition for an order authorizing the Company to defer its 2014 purchase of unbundled RECs necessary for compliance with the renewable portfolio standard in Docket UE-143915. In December 2016, the Commission issued an order authorizing recovery of the costs of this 2014 purchase. On February 9, 2017, in Docket UE-161067, the Washington Utilities and Transportation Commission approved PacifiCorp's request to defer costs associated with the 2016 unbundled REC purchase and recover those costs through Schedule 95.

Prior Year Progress

As evidenced in this report, the Company met its Washington 2016 renewable compliance target with a combination of eligible renewable resources, unbundled REC purchases and renewable energy from hydroelectric facilities with upgrades completed after March 1999. The Company has set aside the WREGIS certificates for the 2016 compliance target and upon Commission approval, will retire these WREGIS certificates. The Company is providing a listing of the WREGIS certificates in Confidential Work Papers—WREGIS Certificates for Washington Compliance for 2016.

The Company will invest less than four percent of its total annual retail Washington revenue requirement on the incremental costs of eligible renewable resources, RECs, or a combination of both for 2016.

Further, the Company does not rely on any other alternative compliance mechanisms to meet its renewable resource targets for 2016.

Current Year Progress

The Company is positioned to meet its Washington 2017 renewable compliance target with a combination of eligible renewable resources, REC-only purchases, and renewable energy from hydroelectric facilities with upgrades completed after March 1999. The Company has also identified, to date, the WREGIS certificates that it intends to use toward the 2017 compliance target. The Company is providing a listing of the WREGIS certificates in Confidential Work Papers—WREGIS Certificates for Washington Compliance for 2017.

The Company will invest less than four percent of its total annual retail Washington revenue requirement on the incremental costs of eligible renewable resources, RECs, or a combination of both for 2017.

Further, the Company does not rely on any other alternative compliance mechanisms to meet its renewable resource targets for 2017.

Supporting Documents for Renewable Report

Provided below are links to supporting documents in support of the Company's Renewable Report.

I. Wind Project Fact Sheets/Information

1. Goodnoe Hills
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/PP_GFS_Goodnoe_Hills.pdf
2. Leaning Juniper
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/PP_GFS_Leaning_Juniper.pdf
3. Marengo
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/PP_GFS_Marengo.pdf
4. Marengo II
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/PP_GFS_Marengo_II.pdf
5. Seven Mile Hill Wind
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Seven_Mile_Hill.pdf
6. Dunlap I
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Dunlap.pdf
7. Glenrock
http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Glenrock.pdf
8. Top of the World
<http://www.pacificorp.com/es/re/totw.html>

Collaborative group documents from workshops conducted at the Commission and through a number of multiple issues-specific teleconference meetings, filed in Dockets UE-110523 and UE-131723.¹⁰

¹⁰ UE-110523 <http://www.utc.wa.gov/docs/Pages/DocketLookup.aspx?FilingID=110523>
UE-131723 <http://www.utc.wa.gov/docs/Pages/DocketLookup.aspx?FilingID=131723>

List of Attachments

Attachment A (Confidential) – Washington Utilities and Transportation
Commission RPS Report Tool (Updated June 1, 2017)

Attachment B – PacifiCorp Description of Incremental Hydro Methodology and
Oregon Department of Energy Correspondence on Updated Certification for
Efficiency Upgrades at Eleven Hydropower Generating Units

Attachment A

Redacted

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Pacific Power & Light Company

Renewable Report

RPS Reporting Tool

REDACTED

June 1, 2017

Resubmitted - August 4, 2017

General Instructions:

- Grey shading indicates cells where information is not required
- Yellow shading indicate cells where inputs are entered
- Green shading indicate cells with dropdown lists
- White shading indicate formulated cells
- Blue shading indicates summary calculations

"Compliance Summary" Worksheet

Enter "X" When Complete	Checklist Item	Cell/Row Description	Units	Cell/Row	Comments
	1	Reporting Entity	Text	B2	Enter the name of the reporting entity
	2	Reporting Date	Year	B4	Enter the date the report is submitted
	3	Delivered Load to Retail Customers	MWh	B7:E7	Enter the MWh delivered to customers

"Facility Detail" Worksheet

Enter "X" When Complete	Checklist Item	Cell/Row Description	Units	Cell/Row	Comments
Instructions in the section are for the cells B2:F31. Each row represents a different facility.					
	1	Facility Name	Text	B2:B31	Enter the name of the qualifying facility or contract
	2	WREGIS ID	Text	C2:C31	Enter the WREGIS ID for the qualifying facility
	3	Facility Type	Toggle	D2:D31	Select the generation type for the qualifying facility
	4	Extra Apprenticeship Credit Eligibility	Toggle	E2:E31	For facilities that qualify for extra apprenticeship credits select "Eligible". Select "Not Eligible for non-qualifying facilities.
	5	Distributed Generation Eligibility	Toggle	F2:F31	For facilities that qualify for distributed generation select "Eligible". Select "Not Eligible for non-qualifying facilities.

Enter "X" When Complete	Checklist Item	Cell/Row Description	Units	Cell/Row	Comments
Instructions in this section identify the input locations for the 1st facility found in the "Facility Detail" worksheet. Inputs for facilities 2 through 30, also found in the "Facility Detail" worksheet, are identical to facility 1.					
	6	Total MWh Produced from Facility	Number	D39:F39	Enter the annual MWh output from the qualifying facility
	7	Percent of MWh Qualifying	%	D40:F40	Enter the percent of MWh produced that are eligible for meeting RCW 19.285
	8	Percent of Qualifying MWh Allocated to WA State Compliance	%	D41:F41	Enter the percent of qualifying MWh used for compliance with RCW 19.285. Used for facilities that are utilized for RPS compliance in two or more states.
	9	Quantity of RECs from MWh Sold	Number	D50:F50	Enter the annual amount of RECs sold. For Multi-Jurisdictional Utilities, enter in annual WA allocated amount of RECs sold.
	10	Bonus Incentives Transferred	Number	D51:F51	Enter the annual amount of transferred RECs procured from bonus incentives
	11	Bonus Incentives Not Realized	Number	D52:F52	Enter the annual number of bonus incentives that were not realized
	12	2011 Surplus Applied to 2012	Number	D56	Enter the amount of RECs procured in 2011 used for compliance in 2012
	13	2012 Surplus Applied to 2011	Number	E57	Enter the amount of RECs procured in 2012 used for compliance in 2011
	14	2012 Surplus Applied to 2013	Number	E58	Enter the amount of RECs procured in 2012 used for compliance in 2013
	15	2013 Surplus Applied to 2012	Number	F59	Enter the amount of RECs procured in 2013 used for compliance in 2012
	16	Adjustment for Events Beyond Control	Number	D62:F62	Enter the annual MWh not produced due to events beyond control as outlined in RCW 19.285.040 (2)(i)

Reporting Entity:

Pacific Power & Light Company

Reporting Date:

June 1, 2017

RCW 19.285 Compliance Need

	2010	2011	2012	2013	2014	2015	2016	2017
Delivered Load to Retail Customers (MWh)	3,984,631	4,005,863	4,041,898	4,092,688	4,117,646	4,108,270	3,981,654	
WA State RCW 19.285 Requirement		0%	3%	3%	3%	3%	9%	9%
Quantity Required for Compliance		0	119,857	120,716	122,019	123,155	370,166	364,047

Eligible Quantity Acquired

	2010	2011	2012	2013	2014	2015	2016	2017
Qualifying MWh Allocated to WA		104,826	107,711	107,158	114,902	270,792	221,637	
Quantity from Non REC Eligible Generation		-	-	-	-	-	-	-
Total Quantity Available for RCW 19.285 Compliance		104,826	107,711	107,158	114,902	270,792	221,637	

Sales and Transfers

	2010	2011	2012	2013	2014	2015	2016	2017
Quantity of RECs Sold		-	-	-	-	-	-	-
Bonus Incentives Transferred		-	-	-	-	-	-	-
Bonus Incentives Not Realized		-	-	-	-	-	-	-
Total Sold / Transferred / Unrealized		-	-	-	-	-	-	-

Adjustments

	2010	2011	2012	2013	2014	2015	2016	2017
2011 Surplus Applied to 2012		(104,826)	104,826					
2012 Surplus Applied to 2011		-	-					
2012 Surplus Applied to 2013			(92,679)	92,679				
2013 Surplus Applied to 2012				-				
2013 Surplus Applied to 2014				(79,121)	79,121			
2014 Surplus Applied to 2013					-			
2014 Surplus Applied to 2015					(72,004)	72,004		
2015 Surplus Applied to 2014						-		
2015 Surplus Applied to 2016						(219,641)	219,641	
2016 Surplus Applied to 2015								
2016 Surplus Applied to 2017							(71,112)	71,112
2017 Surplus Applied to 2016								
2017 Surplus Applied to 2018								

Net Surplus Adjustments (104,826) 12,147 13,558 7,117 (147,637) 148,529

Adjustment for Events Beyond Control - - - - - - - -

	2010	2011	2012	2013	2014	2015	2016*	2017*
RCW 19.285 Compliance Surplus / (Deficit)		0	1	(0)	0	(0)	(0)	1

* Any surplus shown in 2017 or 2018 may be sold or used for compliance in subsequent years. Compliance deficits shown in 2018 may be filled by REC procurement from subsequent years.

In both the "Compliance Summary" and "Facility Detail" worksheets, utilities may need to protect commercially sensitive information by use of the CONFIDENTIAL designation.

Note 1: Any surplus or deficit in row 43 (RCW 19.285 Compliance Surplus / (Deficit)) is a result of rounding in the Facility Detail tab. The correct target amount of RECs have been retired for all compliance years.

PACIFICORP Notes and Assumptions

Retail Sales:
2010 - 2016 actual retail sales. 2017 load forecast based on 2017 IRP.

Facility Generation:
2011 -2016 is based on actual generation or REC purchase data. 2017 is the generation forecast as of March 2017.
The Company uses one of three patterning methods to model wind resources. First, and if the appropriate data is available, historical monthly/seasonal patterns are developed using hourly data. This is the Company's preferred method. Second, if historical information is unavailable, but hourly data from wind site studies is, on/off peak engineering estimate patterns are developed. Third, if neither of the first two types of data is available, Energy Information Agency (EIA) wind patterning is used.

REC Sales:
The company does not plan to sell any excess RECs and will hold any excess RECs and apply to a future year target.

Facility Name:	Facility WREGIS ID:	Facility Type	Extra Apprenticeship Credit Eligibility:	Distributed Generation Bonus Eligibility:	Online Date:
Goodnoe Hills	W536	Wind	Not Eligible	Not Eligible	31-May-08
Leaning Juniper	W200	Wind	Not Eligible	Not Eligible	14-Sep-06
Marengo I	W185	Wind	Not Eligible	Not Eligible	1-Aug-07
Marengo II	W772	Wind	Not Eligible	Not Eligible	28-Jun-08
Bennett Creek Windfarm - REC Only	W542	Wind	Not Eligible	Not Eligible	30-Sep-08
Hot Springs Windfarm - REC Only	W543	Wind	Not Eligible	Not Eligible	30-Sep-08
*Tuana Springs - REC Only	W1503	Wind	Not Eligible	Not Eligible	14-May-10
Wanapum (Upgrade)	NA	Water (Incremental Hydr	Not Eligible	Not Eligible	1-Jul-63
Prospect 2 (Upgrade 1999)	W180	Water (Incremental Hydr	Not Eligible	Not Eligible	1-Oct-58
Lemolo 1 (Upgrade 2003)	W157	Water (Incremental Hydr	Not Eligible	Not Eligible	1-Jul-55
JC Boyle (Upgrade 2005)	W140	Water (Incremental Hydr	Not Eligible	Not Eligible	1-Jan-28
Lemolo 2 (Upgrade 2009)	W158	Water (Incremental Hydr	Not Eligible	Not Eligible	1-Nov-56
Seven Mile Hill I	W975	Wind	Not Eligible	Not Eligible	31-Dec-08
Nine Canyon Wind Project - REC Only	W684	Wind	Not Eligible	Not Eligible	1-Sep-02
Top of the World	W1749	Wind	Not Eligible	Not Eligible	1-Oct-10
Dunlap I	W1687	Wind	Not Eligible	Not Eligible	1-Oct-10
Campbell Hill/Three Buttes	W1383	Wind	Not Eligible	Not Eligible	31-Dec-09
Glenrock Wind I	W964	Wind	Not Eligible	Not Eligible	31-Dec-08
Rolling Hills	W928	Wind	Not Eligible	Not Eligible	17-Jan-09
SPI Aberdeen - REC Only	W1640	Biomass	Not Eligible	Not Eligible	15-Mar-03
Hidden Hollow - REC Only	W1634	Landfill Gas	Not Eligible	Not Eligible	11-Oct-05
Fighting Creek - REC Only	W2659	Landfill Gas	Not Eligible	Not Eligible	5-Mar-12
Lower Snake - Phalen Gulch - REC Only	W2670	Wind	Not Eligible	Not Eligible	29-Feb-12
Elkhorn Valley Wind - REC Only	W186	Wind	Not Eligible	Not Eligible	20-Nov-07
Condon Wind Power Project - Condon Phase II - REC Only	W833	Wind	Not Eligible	Not Eligible	1-Jun-02
Condon Wind Power Project - Condon Wind Power Project	W774	Wind	Not Eligible	Not Eligible	31-Dec-01
Klondike I - Klondike Wind Power LLC - REC Only	W238	Wind	Not Eligible	Not Eligible	1-Jan-02
Meadow Creek Wind Farm - Five Pine Project - REC Only	W3186	Wind	Not Eligible	Not Eligible	22-Dec-12
Meadow Creek Wind Farm - North Point Wind Farm - REC	W3185	Wind	Not Eligible	Not Eligible	11-Dec-12
Nine Canyon Wind Project - Nine Canyon Phase 3 - REC On	W697	Wind	Not Eligible	Not Eligible	1-May-08
Stateline (WA) - FPL Energy Vansycle LLC - REC Only	W248	Wind	Not Eligible	Not Eligible	14-Dec-01
Adams Solar	TBD	Solar	Not Eligible	Not Eligible	TBD (2017)
Bear Creek Solar	TBD	Solar	Not Eligible	Not Eligible	TBD (2017)
Bly Solar	TBD	Solar	Not Eligible	Not Eligible	TBD (2017)
Elbe Solar	TBD	Solar	Not Eligible	Not Eligible	TBD (2017)
Enterprise Solar	W4938	Solar	Not Eligible	Not Eligible	29-Jul-16
Pavant Solar	W4619	Solar	Not Eligible	Not Eligible	30-Dec-15
Element Markets - REC Only	TBD	TBD	---	---	

*Note: Includes eligible substitute RECs from Power County Wind Park South (WREGIS ID W2533)

In both the "Compliance Summary" and "Facility Detail" worksheets, utilities may need to protect commercially sensitive information by use of the CONFIDENTIAL designation.

Facility Name:

Goodnoe Hills

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Goodnoe Hills
Percent of MWh Qualifying Under RCW 19.285
Percent of Qualifying MWh Allocated to WA
Eligible MWh Available for RCW 19.285 Compliance

2011	2012	2013	2014	2015	2016	2017	2018
239,431	221,156	227,258	216,762	186,746	223,899		
100%	100%	100%	100%	100%	100%	100%	
8%	8%	8%	8%	8%	8%	8%	
18,896	17,608	17,896	17,392	15,039	18,292		

Non REC Eligible Generation

Extra Apprenticeship Credit
Distributed Generation Bonus
Total Quantity from Non REC Eligible Generation

2011	2012	2013	2014	2015	2016	2017	2018
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
Bonus Incentives Transferred
Bonus Incentives Not Realized
Total Sold / Transferred / Unrealized

2011	2012	2013	2014	2015	2016	2017	2018

Adjustments

2011 Surplus Applied to 2012
2012 Surplus Applied to 2011
2012 Surplus Applied to 2013
2013 Surplus Applied to 2012
2013 Surplus Applied to 2014
2014 Surplus Applied to 2013
2014 Surplus Applied to 2015
2015 Surplus Applied to 2014
2015 Surplus Applied to 2016
2016 Surplus Applied to 2015
2016 Surplus Applied to 2017
2017 Surplus Applied to 2016
2017 Surplus Applied to 2018
Net Surplus Adjustments

2011	2012	2013	2014	2015	2016	2017	2018
18,896	18,896						
-							
	17,608	17,608					
	-						
		17,896	17,896				
		-					
			11,234	11,234			
			-				
				5,383	5,383		
				-			
					-		
						-	
							-
(18,896)	1,288	(288)	6,662	5,851	5,383	-	-

Adjustment for Events Beyond Control

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Contribution to RCW 19.285 Compliance

-	18,896	17,608	24,054	20,890	23,675		-
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Facility Name:

Leaning Juniper

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Leaning Juniper
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Leaning Juniper	234,789	190,905	206,164	215,245	188,567	202,605		
Percent of MWh Qualifying Under RCW 19.285	100%	100%	100%	100%	100%	100%	100%	100%
Percent of Qualifying MWh Allocated to WA	8%	8%	8%	8%	8%	8%	8%	8%
Eligible MWh Available for RCW 19.285 Compliance	18,530	15,200	16,235	17,270	15,187	16,552		

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2015
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012	18,530	18,530						
2012 Surplus Applied to 2011	-							
2012 Surplus Applied to 2013		15,200	15,200					
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014			16,235	16,235				
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				17,270	17,270			
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					15,187	15,187		
2016 Surplus Applied to 2015					-			
2016 Surplus Applied to 2017						-	-	
2017 Surplus Applied to 2016						-		
2017 Surplus Applied to 2018							-	-
Net Surplus Adjustments	(18,530)	3,330	(1,035)	(1,035)	2,083	15,187	-	-

Adjustment for Events Beyond Control

Adjustment for Events Beyond Control								
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Contribution to RCW 19.285 Compliance

Contribution to RCW 19.285 Compliance	-	18,530	15,200	16,235	17,270	31,739		-
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Facility Name:

Marengo I

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Marengo I
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Marengo I	403,408	358,669	331,240	367,390	298,771	356,053		
Percent of MWh Qualifying Under RCW 19.285	100%	100%	100%	100%	100%	100%	100%	100%
Percent of Qualifying MWh Allocated to WA	8%	8%	8%	8%	8%	8%	8%	8%
Eligible MWh Available for RCW 19.285 Compliance	31,837	28,557	26,084	29,478	24,062	29,087		

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2015
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012	31,837	31,837						
2012 Surplus Applied to 2011	-							
2012 Surplus Applied to 2013		28,557	28,557					
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014			26,084	26,084				
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				29,478	29,478			
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					24,062	24,062		
2016 Surplus Applied to 2015					-			
2016 Surplus Applied to 2017						-	-	
2017 Surplus Applied to 2016						-		
2017 Surplus Applied to 2018							-	-
Net Surplus Adjustments	(31,837)	3,280	2,473	(3,394)	5,416	24,062	-	-

Adjustment for Events Beyond Control

Adjustment for Events Beyond Control								
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Contribution to RCW 19.285 Compliance

Contribution to RCW 19.285 Compliance	-	31,837	28,557	26,084	29,478	53,149		-
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Facility Name:

Marengo II

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Marengo II
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Marengo II	194,378	177,552	154,612	174,766	137,848	170,369		
Percent of MWh Qualifying Under RCW 19.285	100%	100%	100%	100%	100%	100%	100%	100%
Percent of Qualifying MWh Allocated to WA	8%	8%	8%	8%	8%	8%	8%	8%
Eligible MWh Available for RCW 19.285 Compliance	15,341	14,137	12,175	14,022	11,102	13,918		

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2015
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012	15,341	15,341						
2012 Surplus Applied to 2011	-							
2012 Surplus Applied to 2013		14,137	14,137					
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014			12,175	12,175				
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				14,022	14,022			
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					11,102	11,102		
2016 Surplus Applied to 2015					-			
2016 Surplus Applied to 2017						-	-	
2017 Surplus Applied to 2016						-	-	
2017 Surplus Applied to 2018							-	-
Net Surplus Adjustments	(15,341)	1,204	1,962	(1,847)	2,920	11,102	-	-

Adjustment for Events Beyond Control

Adjustment for Events Beyond Control								
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Contribution to RCW 19.285 Compliance

Contribution to RCW 19.285 Compliance	-	15,341	14,137	12,175	14,022	25,020		-
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Facility Name:

Bennett Creek Windfarm - REC Only

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Bennett Creek Windfarm - REC Only
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Bennett Creek Windfarm - REC Only	12,259				8,656			
Percent of MWh Qualifying Under RCW 19.285	100%				100%	100%		
Percent of Qualifying MWh Allocated to WA	100%				100%	100%		
Eligible MWh Available for RCW 19.285 Compliance	12,259	-	-	-	8,656		-	-

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2015
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012	12,259	12,259						
2012 Surplus Applied to 2011	-							
2012 Surplus Applied to 2013		-	-					
2013 Surplus Applied to 2012								
2013 Surplus Applied to 2014			-	-				
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				-	-			
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					8,656	8,656		
2016 Surplus Applied to 2015					-			
2016 Surplus Applied to 2017						-	-	
2017 Surplus Applied to 2016						-	-	
2017 Surplus Applied to 2018							-	-
Net Surplus Adjustments	(12,259)	12,259	-	-	(8,656)	8,656		-

Adjustment for Events Beyond Control

Adjustment for Events Beyond Control								
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Contribution to RCW 19.285 Compliance

Contribution to RCW 19.285 Compliance	-	12,259	-	-	-	8,656		-
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Facility Name: Hot Springs Windfarm - REC Only

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Hot Springs Windfarm - REC Only
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Hot Springs Windfarm - REC Only	7,963				8,028			
Percent of MWh Qualifying Under RCW 19.285	100%				100%	100%		
Percent of Qualifying MWh Allocated to WA	100%				100%	100%		
Eligible MWh Available for RCW 19.285 Compliance	7,963	-	-	-	8,028		-	-

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2015
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012	7,963							
2012 Surplus Applied to 2011	-	7,963						
2012 Surplus Applied to 2013								
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014								
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015								
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					8,028			
2016 Surplus Applied to 2015					-	8,028		
2016 Surplus Applied to 2017								
2017 Surplus Applied to 2016								
2017 Surplus Applied to 2018								
Net Surplus Adjustments	(7,963)	7,963	-	-	(8,028)	8,028		-

Adjustment for Events Beyond Control

Adjustment for Events Beyond Control								
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Contribution to RCW 19.285 Compliance

Contribution to RCW 19.285 Compliance	-	7,963	-	-	-	8,028		-
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Facility Name: *Tuana Springs - REC Only

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from *Tuana Springs - REC Only
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from *Tuana Springs - REC Only		29,430	32,556	35,021				
Percent of MWh Qualifying Under RCW 19.285		100%	100%	100%				
Percent of Qualifying MWh Allocated to WA		100%	100%	100%				
Eligible MWh Available for RCW 19.285 Compliance	-	29,430	32,556	35,021	-	-	-	-

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 Net Surplus Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012		-						
2012 Surplus Applied to 2011	-	17,177						
2012 Surplus Applied to 2013			17,177					
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014			6,731	6,731				
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				-	-			
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016								
Net Surplus Adjustments	-	(17,177)	10,446	6,731	-	-		

Adjustment for Events Beyond Control

Adjustment for Events Beyond Control								
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Contribution to RCW 19.285 Compliance

Contribution to RCW 19.285 Compliance	-	12,253	43,002	41,752	-	-	-	-
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1,063 RECs from Power County Wind Park South

Facility Name: Elkhorn Valley Wind - REC Only

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Elkhorn Valley Wind - REC Only
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

2011	2012	2013	2014	2015	2016	2017	2018
				4,468			
				100%		100%	100%
				100%			
-	-	-	-	4,468	-	-	-

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

2011	2012	2013	2014	2015	2016	2017	2018
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

2011	2012	2013	2014	2015	2016	2017	2018
-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

2011	2012	2013	2014	2015	2016	2017	2018
-							
	-						
		-					
			-				
				-			
					-		
				4,468	4,468		
						-	
							-
				(4,468)	4,468		

Adjustment for Events Beyond Control

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Contribution to RCW 19.285 Compliance

-	-	-	-	-	4,468	-	-
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Facility Name: Condon Wind Power Project - Condon Phase II - REC Only

MWh Allocated to WA Compliance

Total MWh Produced / Purchased from Condon Wind Power Project - Condon Phase II - REC Only
 Percent of MWh Qualifying Under RCW 19.285
 Percent of Qualifying MWh Allocated to WA
 Eligible MWh Available for RCW 19.285 Compliance

2011	2012	2013	2014	2015	2016	2017	2018
					100%	100%	100%
					100%		
-	-	-	-	-		-	-

Non REC Eligible Generation

Extra Apprenticeship Credit
 Distributed Generation Bonus
 Total Quantity from Non REC Eligible Generation

2011	2012	2013	2014	2015	2016	2017	2018
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

REC Sales / Transfers

Quantity of RECs Sold
 Bonus Incentives Transferred
 Bonus Incentives Not Realized
 Total Sold / Transferred / Unrealized

2011	2012	2013	2014	2015	2016	2017	2018
-	-	-	-	-	-	-	-

Adjustments

2011 Surplus Applied to 2012
 2012 Surplus Applied to 2011
 2012 Surplus Applied to 2013
 2013 Surplus Applied to 2012
 2013 Surplus Applied to 2014
 2014 Surplus Applied to 2013
 2014 Surplus Applied to 2015
 2015 Surplus Applied to 2014
 2015 Surplus Applied to 2016
 2016 Surplus Applied to 2015
 2016 Surplus Applied to 2017
 2017 Surplus Applied to 2016
 2017 Surplus Applied to 2018
 Net Surplus Adjustments

2011	2012	2013	2014	2015	2016	2017	2018
-							
	-						
		-					
			-				
				-			
					-		
						-	
							-

Adjustment for Events Beyond Control

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Contribution to RCW 19.285 Compliance

-	-	-	-	-	-		-
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Facility Name: Condon Wind Power Project - Condon Wind Power Project - REC Only

MWh Allocated to WA Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Condon Wind Power Project - Condon Wind Power Project - REC Only								
Percent of MWh Qualifying Under RCW 19.285						100%	100%	100%
Percent of Qualifying MWh Allocated to WA						100%		
Eligible MWh Available for RCW 19.285 Compliance	-	-	-	-	-			-

Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012		-						
2012 Surplus Applied to 2011	-							
2012 Surplus Applied to 2013		-						
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014			-					
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				-				
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					-			
2016 Surplus Applied to 2017						-		
2016 Surplus Applied to 2015						-		
2017 Surplus Applied to 2016							-	
2017 Surplus Applied to 2018								-
Net Surplus Adjustments	-	-	-	-	-			-

Adjustment for Events Beyond Control

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Contribution to RCW 19.285 Compliance

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Facility Name: Meadow Creek Wind Farm - Five Pine Project - REC Only

MWh Allocated to WA Compliance

	2011	2012	2013	2014	2015	2016	2017	2018
Total MWh Produced / Purchased from Meadow Creek Wind Farm - Five Pine Project - REC Only								
Percent of MWh Qualifying Under RCW 19.285						100%	100%	100%
Percent of Qualifying MWh Allocated to WA						100%		
Eligible MWh Available for RCW 19.285 Compliance	-	-	-	-	-			-

Non REC Eligible Generation

	2011	2012	2013	2014	2015	2016	2017	2018
Extra Apprenticeship Credit	-	-	-	-	-	-	-	-
Distributed Generation Bonus	-	-	-	-	-	-	-	-
Total Quantity from Non REC Eligible Generation	-	-	-	-	-	-	-	-

REC Sales / Transfers

	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of RECs Sold								
Bonus Incentives Transferred								
Bonus Incentives Not Realized								
Total Sold / Transferred / Unrealized	-	-	-	-	-	-	-	-

Adjustments

	2011	2012	2013	2014	2015	2016	2017	2018
2011 Surplus Applied to 2012		-						
2012 Surplus Applied to 2011	-							
2012 Surplus Applied to 2013		-						
2013 Surplus Applied to 2012		-						
2013 Surplus Applied to 2014			-					
2014 Surplus Applied to 2013			-					
2014 Surplus Applied to 2015				-				
2015 Surplus Applied to 2014				-				
2015 Surplus Applied to 2016					-			
2016 Surplus Applied to 2015						-		
2016 Surplus Applied to 2017							-	
2017 Surplus Applied to 2016								-
2017 Surplus Applied to 2018								-
Net Surplus Adjustments	-	-	-	-	-			-

Adjustment for Events Beyond Control

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Contribution to RCW 19.285 Compliance

-	-	-	-	-	-	-		-
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Compliance Contribution by Generation Type

	2011	2012	2013	2014	2015	2016	2017
Wind	-	117,079	118,504	120,300	81,660	352,663	-
Solar	-	-	-	-	-	-	-
Water (Incremental Hydro)	-	2,779	2,212	1,719	1,495	1,772	-
Biomass	-	-	-	-	40,000	-	-
Geothermal	-	-	-	-	-	-	-
Landfill Gas	-	-	-	-	-	730	-
Sewage Treatment Gas	-	-	-	-	-	-	-
Wave, Ocean, Tidal	-	-	-	-	-	-	-
Biodiesel Fuel	-	-	-	-	-	-	-

Attachment B

Attachment B

Description of Hydroelectric Efficiency Analysis

The incremental hydro generation resulting from efficiency gains from hydropower upgrades were calculated using the same method that PacifiCorp submitted to the Oregon Department of Energy for certification of PacifiCorp's facilities as eligible for the Oregon Renewable Portfolio Standard program.

Historical hourly generation data for the period 2007 through 2012 was collected for each unit that was upgraded. Each hour of generation was modified to create two additional hourly profiles representing the efficiency of the unit before and after the upgrade. The hourly pre- and post- efficiency values were based on curves developed from the unit index tests or manufacturer-provided theoretical curves. Efficiency gain for each hour was calculated by taking the difference between the new and old efficiency value and dividing it by the old efficiency value. This gain was then multiplied by the post upgrade generation value to produce an incremental megawatt-hour gain. The initial calculated incremental gain was subtracted from the pre/post upgraded generation profiles to exclude the generation associated with the upgrade.

Generation improvements were calculated for every instance when efficiency improvements were positive including those periods when the unit was ramping up to maximum efficiency. In some cases, portions of the post efficiency upgrade curve are less than the pre upgrade curve. In instances that the efficiency gain was negative, generation was not included in the calculation. Further, since in some cases the post upgrade curve extended beyond the pre upgrade curve (i.e. the new turbine had a higher generation capacity) generation improvements were capped at the point when flows on the pre and post upgrade curve were equal.



Oregon

Kate Brown, Governor

Department of Energy

625 Marion St NE

Salem, OR 97301-3742

Phone: 503-378-4040

Toll Free: 1-800-221-8035

FAX: 503-373-7806

www.oregon.gov/energy

December 29, 2015

Pooja Kishore
PacifiCorp
825 NE Multnomah St.
Portland, OR 97232



RE: Updated Certification for Efficiency Upgrades at Eleven Hydropower Generating Units

Dear Ms. Kishore:

The Oregon Department of Energy approved Pacific Power's request for an updated incremental hydropower efficiency percentage in April 2014 for the following eleven generating units. As part of the update, Pacific Power provided the department with hourly generation data for the time period 2007 through 2012. The Department is updating the Eligible Thru date for these facilities to reflect Oregon Administrative Rules adopted by the Department in 2014.

Generating Unit	WREGIS Number	Approval Number	Incremental Percentage	Eligible Thru Date
Prospect 2	W140	12alt002or	1.68%	January 2021
Yale 1 & 2	W141	12alt003wa	1.35%	January 2021
Copco 1	W142	12alt004ca	0.52%	January 2021
Cutler	W151	12alt005ut	3.10%	January 2021
Lemolo 1	W157	12alt006or	10.16%	January 2021
Lemolo 2	W158	12alt007or	0.78%	January 2021
Oneida	W160	12alt008id	7.87%	January 2021
Pioneer	W162	12alt009ut	6.74%	January 2021
Prospect 3	W164	12alt010or	10.71%	January 2021
Big Fork	W179	12alt011mt	4.22%	January 2021
JC Boyle	W180	12alt012or	1.33%	January 2021

If any changes are made to these facility that could affect their eligibility for the Oregon RPS, the Department must be notified.

Please contact me with any questions about this letter or approval.

Best,

Julie Peacock
WREGIS Program Administrator-Oregon
Oregon Department of Energy
503.373.2125
Julie.peacock@state.or.us

