

December 29, 2014

***VIA ELECTRONIC FILING***

Steven V. King  
Executive Director and Secretary  
Washington Utilities and Transportation Commission  
1300 S. Evergreen Park Drive SW  
PO Box 47250  
Olympia, WA 98504-7250

**RE: Advice 14-08—Schedule 37—Avoided Cost Purchases from Cogeneration and Small Power Production**

Dear Mr. King:

Pacific Power & Light Company (Pacific Power or Company), a division of PacifiCorp, submits this filing in compliance with RCW 80.28.050, RCW 80.28.060, WAC 480-107-055 and WAC 480-107-095, and the Washington Utilities and Transportation Commission's (Commission) Rules and Regulations. The Company requests an effective date of January 29, 2015.

Fourth Revision of Sheet No. 37.2    Schedule 37    Avoided Cost Purchases from Cogeneration and Small Power Production

The Company's current avoided cost prices and Schedule 37 became effective February 28, 2014. Since that time resource requirements, natural gas prices, and market prices have changed, as have the Company's avoided costs. This filing updates the Company's estimated avoided cost prices and Schedule 37 based on the costs that the Company would expect to pay "but for" the Qualifying Facility resource.

The following attachments are included with this filing:

Attachment A: Summary of the Company's Avoided Cost Calculation Methodology  
Attachment B: Summary Page of Tariffs  
Attachment C: Proposed Tariff Sheet No. 37.2

It is respectfully requested that all formal correspondence and Staff requests regarding this filing be addressed to:

By e-mail (preferred):    [datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail:            Data Request Response Center  
PacifiCorp  
825 NE Multnomah Street, Suite 2000  
Portland, Oregon, 97232

Washington Utilities & Transportation Commission

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Informal questions should be directed to Natasha Siores, Director, Regulatory Affairs & Revenue Requirement, at (503) 813-6583.

Sincerely,

A handwritten signature in cursive script that reads "R Bryce Dalley / wcs".

R. Bryce Dalley  
Vice President, Regulation

Enclosures

**ATTACHMENT A**

**PACIFIC POWER & LIGHT COMPANY**  
**AVOIDED COST CALCULATION**

**WASHINGTON - DECEMBER 2014**

**PACIFIC POWER & LIGHT COMPANY  
AVOIDED COST CALCULATION**

**WASHINGTON - DECEMBER 2014**

WAC 480-107-055, related to schedules of estimated avoided costs, states that avoided costs should be based on:

- (a) The most recent project proposals received pursuant to an RFP issued under these rules;
- (b) Estimates included in the utility's current integrated resource plan filed pursuant to WAC 480-100-23;
- (c) The results of the utilities most recent bidding process; and
- (d) Current projected market prices for power.

The starting point for the avoided cost calculation in this filing is the load and resource balance from the Company's 2013 Integrated Resource Plan (IRP) Update, filed on March 31, 2014. The avoided cost prices are then developed consistent with the West Control Area inter-jurisdictional allocation methodology adopted by the Washington Utilities and Transportation Commission in Docket No. UE-061546.

**Load and Resources**

**Table 1** presents the Company's load and resource balance from the 2013 IRP Update. Table 1 shows that the next major thermal resource acquisition is planned to occur in 2027.

**Avoided Cost Calculation Methodology**

The avoided cost calculation is separated into two distinct periods: (1) the Short Run – a period of resource sufficiency in which the avoided costs are based on the marginal production cost of existing resources, and (2) the Long Run – a resource deficit period in which new resources are required to provide both capacity and energy to meet the Company's resource requirements. Avoided costs during the deficit period are based on the cost of a combined cycle combustion turbine.

The load and resource balance from the 2013 IRP Update, shown in **Table 1**, indicates resource sufficiency for all ten years of the avoided cost study period from 2015 to 2024. Consequently, only Short Run avoided costs are included in the current filing.

*Short Run Avoided Costs*

Avoided costs during the resource sufficiency period are based on the displacement of purchased power and existing thermal resources as modeled by the Generation and Regulatory Initiative Decision Tools (GRID) model. To calculate avoided costs, two production cost studies are prepared, where the only difference between the two studies is an assumed 50 aMW resource modeled at zero cost. The outputs of the production cost model run are provided as **Table 2**. The proposed avoided costs do not include any capacity payments during the sufficiency period, consistent with the 2013 IRP Update, which does not require any new resources until 2027.

Since, energy generated by a qualifying facility may vary, avoided costs at 75%, 85%, and 95% capacity factors are prepared to illustrate the impact of differing generation levels. For illustrative purposes, total avoided cost at various capacity factors are shown in **Table 3**. Since no capacity payments are included in total avoided costs rates, the rates do not vary at different capacity factors.

**Table 4** shows the calculation of avoided costs differentiated into on-peak and off-peak prices. To make this calculation, the Company assumes that all capacity costs are incurred to meet on-peak load requirements. However, since there are no capacity payments during the resource sufficiency period, total avoided costs rates are the same during on-peak and off-peak hours.

For informational purposes, **Table 5** shows a comparison between the avoided costs currently in effect in Washington and the proposed avoided costs in this filing.

Finally, the proposed Schedule 37 avoided cost rates for intermittent wind and solar qualifying facilities will be reduced by solar and wind integration costs shown in **Table 6**.

**Table 1**  
**IRP Preferred Portfolio (1)**  
**Excerpt from 2013 IRP Update Table 5.5**

		Capacity (MW)													
Resource		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	Naughton3 (Early Retirement/Conversion)	-	(330)	-	-	-	-	-	-	-	-	-	-	-	-
	Coal Ret UT - Gas RePower	-	-	-	-	387	-	-	-	-	-	-	-	-	-
	Coal Ret WY - Gas RePower	-	338	-	-	-	-	-	-	-	-	-	-	-	-
<b>East</b>	<b>Expansion Resources</b>														
	CCCT J 1x1	-	-	-	-	-	-	-	-	-	-	-	-	-	423
	Lake Side II	645	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Wind	-	-	-	-	-	-	-	-	-	-	184	296	-	-
	CHP - Biomass	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	CHP - Other	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	DSM, Class 1 Total	-	-	-	-	-	-	-	-	-	-	-	-	1	74
	DSM, Class 2 Total	62	58	56	57	55	53	48	50	50	39	42	39	37	35
	Micro Solar - PV	11	14	16	17	13	13	13	13	13	13	13	13	13	13
	Micro Solar - Water Heating	-	-	-	-	-	0	2	2	2	2	2	2	2	2
FOT Mona Q3	-	-	-	-	56	152	89	-	-	38	130	300	300	105	
<b>West</b>	<b>Expansion Resources</b>														
	Coal Plant Turbine Upgrades	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CHP - Biomass	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	DSM, Class 1 Total	-	-	-	-	-	-	-	-	-	-	-	4	48	-
	DSM, Class 2 Total	48	41	40	38	33	29	26	24	24	25	24	27	27	22
	OR Solar (Util Cap Standard & Cust Incentive Prgm)	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Signed Contract - OR Solar	5.0	1.7	-	-	-	-	-	-	-	-	-	-	-	-
	FOT COB Q3	-	-	-	-	-	-	297	297	223	297	297	297	297	297
	FOT NOB Q3	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	FOT MidColumbia Q3	345	400	400	400	400	400	400	400	400	400	400	400	400	400
	FOT MidColumbia Q3 - 2	-	83	201	331	375	375	375	245	375	375	375	375	375	375
	Existing Plant Retirements/Conversions	-	(164)	-	-	-	-	-	-	-	-	-	-	-	-
	Annual Additions, Long Term Resources	773	115	113	113	103	96	90	90	91	80	267	383	202	497
Annual Additions, Short Term Resources	445	583	701	831	931	1,027	1,261	1,042	1,098	1,210	1,302	1,472	1,472	1,277	
<b>Total Annual Additions</b>	<b>1,218</b>	<b>698</b>	<b>814</b>	<b>944</b>	<b>1,034</b>	<b>1,123</b>	<b>1,351</b>	<b>1,132</b>	<b>1,189</b>	<b>1,290</b>	<b>1,569</b>	<b>1,855</b>	<b>1,674</b>	<b>1,774</b>	

1/ Front office transaction amounts reflect one-year transaction periods, are not additive, and are reported as a 10/20-year annual average.

The 2013 IRP was prepared using a 13% planning reserve margin. See 2013 IRP, page 162.

Notes

- (1): Washington Commission rule, WAC 480-107-055, related to schedules of estimated avoided costs states that avoided costs should be based on
- (a) The most recent project proposals received pursuant to an RFP issued under these rules;
  - (b) Estimates included in the utility's current integrated resource plan filed pursuant to WAC 480-100-238;
  - (c) The results of the utility's most recent bidding process; and
  - (d) Current projected market prices for power

**Table 2**

**Avoided Energy - \$/MWH**

Year	Winter Season				Summer Season						Winter Season	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

**GRID Production Cost Model Study**

2015	\$38.26	\$35.68	\$32.09	\$26.45	\$23.13	\$21.03	\$31.50	\$36.16	\$36.02	\$34.13	\$35.55	\$39.69
2016	\$39.99	\$36.90	\$34.04	\$27.45	\$23.90	\$22.31	\$31.25	\$39.72	\$39.19	\$36.02	\$37.86	\$41.87
2017	\$42.36	\$39.21	\$36.30	\$29.09	\$26.01	\$24.13	\$33.36	\$42.10	\$41.54	\$38.37	\$40.20	\$44.03
2018	\$45.21	\$41.90	\$38.91	\$31.78	\$28.69	\$26.81	\$36.24	\$44.80	\$44.02	\$41.18	\$42.91	\$46.71
2019	\$47.81	\$44.49	\$41.35	\$34.68	\$31.25	\$29.01	\$39.22	\$47.39	\$46.58	\$43.81	\$45.48	\$49.25
2020	\$50.20	\$46.90	\$43.74	\$37.04	\$33.26	\$31.78	\$41.62	\$49.44	\$49.22	\$46.25	\$49.75	\$51.86
2021	\$51.89	\$49.01	\$43.34	\$39.04	\$34.33	\$36.51	\$46.36	\$52.06	\$50.09	\$48.12	\$54.62	\$54.34
2022	\$53.72	\$51.19	\$42.83	\$41.12	\$36.19	\$41.34	\$50.81	\$55.21	\$51.04	\$50.17	\$56.33	\$57.70
2023	\$54.99	\$52.25	\$43.40	\$43.66	\$38.86	\$42.94	\$53.80	\$57.90	\$53.01	\$53.60	\$60.15	\$60.99
2024	\$60.66	\$57.38	\$46.18	\$45.58	\$39.25	\$41.75	\$54.96	\$61.35	\$55.21	\$55.14	\$61.53	\$63.52

**Annual Seasonal Average**

Year	Winter Season	Summer Season	Annual Average
2015	\$34.64	\$30.35	\$32.48
2016	\$36.39	\$32.08	\$34.12
2017	\$38.56	\$34.27	\$36.40
2018	\$41.27	\$36.97	\$39.10
2019	\$43.88	\$39.56	\$41.70
2020	\$46.61	\$41.94	\$44.14
2021	\$48.72	\$44.59	\$46.64
2022	\$50.49	\$47.47	\$48.97
2023	\$52.59	\$50.04	\$51.30
2024	\$55.82	\$51.31	\$53.39

Source: GRID Production Cost Computer Model Study - Dated 2014, December 2

**Table 3**  
**Total Avoided Cost**

Year	Avoided Firm Capacity Costs	Total Avoided Energy Cost	Total Avoided Costs At Stated Capacity Factor		
			75%	85%	95%
	(\$/kW-yr)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)
	(a)	(b)	(c)	(d)	(e)
			$(b)+(a)/(8.76 \times 0.75)$	$(b)+(a)/(8.76 \times 0.85)$	$(b)+(a)/(8.76 \times 0.95)$
2015	\$0.00	\$32.48	\$32.48	\$32.48	\$32.48
2016	\$0.00	\$34.12	\$34.12	\$34.12	\$34.12
2017	\$0.00	\$36.40	\$36.40	\$36.40	\$36.40
2018	\$0.00	\$39.10	\$39.10	\$39.10	\$39.10
2019	\$0.00	\$41.70	\$41.70	\$41.70	\$41.70
2020	\$0.00	\$44.14	\$44.14	\$44.14	\$44.14
2021	\$0.00	\$46.64	\$46.64	\$46.64	\$46.64
2022	\$0.00	\$48.97	\$48.97	\$48.97	\$48.97
2023	\$0.00	\$51.30	\$51.30	\$51.30	\$51.30
2024	\$0.00	\$53.39	\$53.39	\$53.39	\$53.39

Columns

- (a) Avoided capacity costs are zero consistent with 2013 IRP Update which does not include any new resources until 2027.
- (b) Table 2 Annual Average



**Table 4**  
**Illustrative On- & Off Peak- Avoided Cost Prices (1)**

Year	Avoided Firm Capacity Costs	Base Load QF			
		Capacity Cost Allocated to On-Peak Hours	Total Avoided Energy Cost	On-Peak 4,993 Hours	Off-Peak 3,767 Hours
		(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)
(a)	(b)	(c)	(d)	(e)	
2015	\$0.00	\$0.00	\$32.48	\$32.48	\$32.48
2016	\$0.00	\$0.00	\$34.12	\$34.12	\$34.12
2017	\$0.00	\$0.00	\$36.40	\$36.40	\$36.40
2018	\$0.00	\$0.00	\$39.10	\$39.10	\$39.10
2019	\$0.00	\$0.00	\$41.70	\$41.70	\$41.70
2020	\$0.00	\$0.00	\$44.14	\$44.14	\$44.14
2021	\$0.00	\$0.00	\$46.64	\$46.64	\$46.64
2022	\$0.00	\$0.00	\$48.97	\$48.97	\$48.97
2023	\$0.00	\$0.00	\$51.30	\$51.30	\$51.30
2024	\$0.00	\$0.00	\$53.39	\$53.39	\$53.39

Columns

- (a) Table 3 Column (a)
- (c) Table 3 Column (b)

Notes

- (1) Total Avoided Costs at Stated Capacity Factor are provided for illustrative purposes and are not used for QF pricing.
- (2) Energy payments for wind and solar qualifying facilities will be reduced by integration cost of \$3.06/MWh and \$0.77/MWh (in 2015\$), respectively.

**Table 5**  
**Comparison between Proposed and Current Avoided Costs**

Year	Total Avoided Costs with Capacity Costs included at 85.0% Capacity Factor		
	Proposed Avoided Costs (\$/MWH) (a)	Current Avoided Costs (\$/MWH) (b)	Difference (\$/MWH) (a) - (b) (c)
2015	\$32.48	\$35.93	(\$3.45)
2016	\$34.12	\$37.74	(\$3.62)
2017	\$36.40	\$39.74	(\$3.34)
2018	\$39.10	\$41.65	(\$2.55)
2019	\$41.70	\$44.51	(\$2.81)
2020	\$44.14	\$47.64	(\$3.50)
2021	\$46.64	\$50.48	(\$3.84)
2022	\$48.97	\$57.63	(\$8.66)
2023	\$51.30	\$62.06	(\$10.76)
2024	\$53.39		

9 Year (2015 to 2023) Levelized Prices (Nominal) @ 6.882% Discount Rate (1)  
 \$/MWH            \$40.58                      \$44.99                      (\$4.41)

Columns

- (a) Table 3 Column (d)
- (b) Avoided Costs Approved by the Commission January 30, 2014

Note: (1) Discount Rate - 2013 IRP Update Discount Rate

**Table 6**  
**Integration Costs**  
**\$/MWh**

Year	Inter-hour Wind Integration Costs \$/MWh	Intra-hour Wind Integration Costs \$/MWh	Total Wind Integration Costs \$/MWh	Solar Integration Costs \$/MWh	Inflation Forecast
	(a)	(b)	(c) = (a) +(b)	(d) = (c) * 25%	(e)
2015	\$0.71	\$2.35	\$3.06	\$0.77	1.8%
2016	\$0.72	\$2.39	\$3.11	\$0.78	1.5%
2017	\$0.73	\$2.43	\$3.16	\$0.79	1.8%
2018	\$0.75	\$2.47	\$3.22	\$0.81	1.9%
2019	\$0.76	\$2.52	\$3.28	\$0.82	1.8%
2020	\$0.78	\$2.57	\$3.34	\$0.84	1.9%
2021	\$0.79	\$2.62	\$3.41	\$0.85	2.0%
2022	\$0.81	\$2.67	\$3.48	\$0.87	2.0%
2023	\$0.82	\$2.72	\$3.55	\$0.89	2.0%
2024	\$0.84	\$2.78	\$3.62	\$0.91	2.1%
2025	\$0.86	\$2.84	\$3.69	\$0.92	2.0%
2026	\$0.87	\$2.89	\$3.77	\$0.94	2.0%
2027	\$0.89	\$2.95	\$3.84	\$0.96	2.0%
2028	\$0.91	\$3.01	\$3.92	\$0.98	1.9%
2029	\$0.93	\$3.06	\$3.99	\$1.00	1.9%
2030	\$0.94	\$3.12	\$4.07	\$1.02	1.9%
2031	\$0.96	\$3.18	\$4.14	\$1.04	1.9%
2032	\$0.98	\$3.24	\$4.22	\$1.06	1.9%
2033	\$1.00	\$3.31	\$4.31	\$1.08	2.0%
2034	\$1.02	\$3.37	\$4.39	\$1.10	1.9%
2035	\$1.04	\$3.44	\$4.48	\$1.12	2.0%
2036	\$1.06	\$3.51	\$4.57	\$1.14	2.0%
2037	\$1.08	\$3.58	\$4.66	\$1.17	2.0%
2038	\$1.10	\$3.65	\$4.75	\$1.19	2.0%

Source:

Wind Integration costs -Table H.21 of 2014 Wind Integration study

Solar Integration - 25% of wind integration costs as used by the most recent IRP study

**ATTACHMENT B**

The proposed tariff sheet to be revised in Pacific Power & Light Company's currently effective Tariff WN U-75 are designated as follows:

Fourth Revision of Sheet No. 37.2    Schedule 37    Avoided Cost Purchases from Cogeneration and Small Power Production

**ATTACHMENT C**

PACIFIC POWER & LIGHT COMPANY

WN U-75

Fourth Revision of Sheet No. 37.2  
Canceling Third Revision of Sheet No. 37.2

**Schedule 37**  
**COGENERATION AND SMALL POWER PRODUCTION**

TERMS AND CONDITIONS: (continued)

- 6. The Company will purchase the entire output from the Seller's facility, or if the Seller wishes to reduce his net delivery and billing from the Company, the Company will purchase the net output from the Seller's facility. The metering configuration to measure such purchases will be specified in the Power Purchase Agreement and/or Interconnection Agreement.
- 7. The Avoided Cost rates are fixed for five years. However, these rates are recalculated every year and applicable to any seller that enters into power purchase agreement with PacifiCorp in that year. (C)
- 8. Avoided Cost rates for wind and solar Qualifying Facilities will be reduced by integration costs of \$3.06/MWh and \$0.77/Mwh (in 2015\$), respectively (N)  
(N)

GENERAL RULES AND PROVISIONS:

Service under this schedule is subject to the General Rules and Provisions contained in this tariff.

AVOIDED COST RATES:

Deliveries During Calendar Year	Capacity Payment \$/kW - Month	Energy Payment \$/MWH
2015	\$0.00	\$32.48
2016	\$0.00	\$34.12
2017	\$0.00	\$36.40
2018	\$0.00	\$39.10
2019	\$0.00	\$41.70
2020	\$0.00	\$44.14
2021	\$0.00	\$46.64
2022	\$0.00	\$48.97
2023	\$0.00	\$51.30
2024	\$0.00	\$53.39

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Issued: December 29, 2014  
Advice No. 14-08

Effective: January 29, 2015

Issued by Pacific Power & Light Company

By: RBDalley R. Bryce Dalley

Title: Vice President, Regulation