

June 5, 2018

***VIA ELECTRONIC FILING***

Public Service Commission of Utah  
Heber M. Wells Building, 4<sup>th</sup> Floor  
160 East 300 South  
Salt Lake City, UT 84111

Attn: Gary Widerburg  
Commission Secretary

**RE: Advice Filing 18-02  
Schedule 37—Avoided Cost Purchases from Qualifying Facilities (QF)  
Docket No. 18-035-T02  
Amended Filing (Requested Effective Date)**

Rocky Mountain Power (the “Company”) filed Advice Filing 18-02, requesting tariff changes to Schedule 37 – Avoided Cost Purchases from Qualifying Facilities, on May 31, 2018. The Company’s filing requested an effective date of June 8, 2018 for the tariff changes. On May 31, 2018 the Public Service Commission requested expedited comments from interested parties as to whether the proposed effective date allowed for adequate review time. The Company typically provides a minimum of 30 days for review time for its filings related to tariff revisions to Electric Service Schedule No. 37, and requested the June 8, 2018 effective date in error. The Company hereby files a revised filing with the correct requested effective date of July 1, 2018. No other changes have been made to the filing from the version filed on May 31, 2018, except the requested effective date. The Company apologizes for any inconvenience this error may have had on parties.

In its February 12, 2009 Order in Docket No. 08-035-78 on Net Metering Service, the Public Service Commission of Utah (“Commission”) directed the Company to calculate and file Schedule 37 avoided costs annually in order to establish the value or credit for net excess generation of large commercial customers under Schedule 135 Net Metering Service. In its November 28, 2012 Order in Docket No. 12-035-T10, the Commission directed that future annual filings should be made within 30 days of filing the Company’s Integrated Resource Plan (“IRP”) or IRP Update, or by April 30 of each year, whichever occurs first.

On April 6, 2018, the Company requested an extension of the Company’s Schedule 37 annual filing until 30 days following the filing of the 2017 IRP Update, which occurred on May 1<sup>st</sup>. On April 9, 2018 the Commission granted the Company’s request for extension. Pursuant to Commission Rules R746-405, the Company hereby updates the inputs to the calculation of Schedule 37 rates.

Pursuant to Commission Rules R746-405 and as directed by the Commission in the order referenced above, the Company hereby updates Schedule 37 rates consistent with the approved

methodology. Proposed tariff sheets, three appendices and accompanying workpapers are submitted herewith for electronic filing in the above referenced matter.

The enclosed proposed tariff sheets are associated with Tariff P.S.C.U No. 50 of PacifiCorp, d.b.a. Rocky Mountain Power, applicable to electric service in the State of Utah. Pursuant to the requirement of Rule R746-405D, PacifiCorp states that the proposed tariff sheets do not constitute a violation of state law or Commission rule.

PacifiCorp respectfully requests an effective date of July 1, 2018.

Sixth Revision of Sheet No. 37.3	Schedule 37	Avoided Cost Purchases From Qualifying Facilities
Eighth Revision of Sheet No. 37.4	Schedule 37	Avoided Cost Purchases From Qualifying Facilities
Seventh Revision of Sheet No. 37.5	Schedule 37	Avoided Cost Purchases From Qualifying Facilities
Seventh Revision of Sheet No. 37.6	Schedule 37	Avoided Cost Purchases From Qualifying Facilities
Seventh Revision of Sheet No. 37.7	Schedule 37	Avoided Cost Purchases From Qualifying Facilities

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

By E-mail (preferred)

[datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)  
[jana.saba@pacificorp.com](mailto:jana.saba@pacificorp.com)

By Regular Mail

Data Request Response Center  
PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232

Informal inquiries may be directed to Jana Saba at (801) 220-2823.

Very truly yours,

  
Joelle Steward  
Vice President, Regulation

Enclosures

**Proposed Tariff Sheets**  
**Clean Version**

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

**RATES FOR PURCHASES:** The non-levelized and levelized prices shown below are subject to change from time to time to reflect changes in the Company's determination of Utah avoided costs. The prices applicable to a Utah Qualifying Facility shall be those in effect at the time a written contract is executed by the parties. Contract durations of up to 15 years are available. The levelized prices shown are for a 15-year contract and assume a 2018 starting date. Levelized prices for contracts which start after 2018 and are for periods of 15 years or less are available upon request.

(continued)

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**
**Base Load Facility**
**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
 ¢/kWh**
**Non-Levelized Prices**

Deliveries During Calendar Year	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.801	2.286	1.639	1.416
2019	1.896	2.325	1.660	1.479
2020	1.668	2.421	1.440	1.692
2021	1.844	2.365	1.581	1.738
2022	1.944	2.535	1.684	1.826
2023	1.935	2.904	1.710	2.095
2024	2.119	3.165	1.914	2.381
2025	2.478	3.531	2.275	2.785
2026	2.736	3.467	2.513	2.767
2027	2.823	3.557	2.608	2.872
2028	3.241	4.249	3.027	3.507
2029	3.631	4.947	3.393	4.089
2030	4.118	5.637	3.869	4.643
2031	4.154	5.688	3.915	4.711
2032	4.506	6.057	4.235	5.107
2033	4.586	6.130	4.345	5.221
2034	4.566	6.187	4.316	5.286
2035	4.955	6.515	4.695	5.547
2036	5.109	6.766	4.832	5.727
2037	5.198	6.877	4.948	5.870

**Levelized Prices (Nominal)**

	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
15-year (2018-2032) Nominal Levelized	2.481	3.338	2.255	2.548

(continued)

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**FILED:** June 5, 2018

**EFFECTIVE:** July 1, 2018

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

**Fixed Solar Facility**

**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
¢/kWh**

**Non-Levelized Prices**

Deliveries During Calendar Year	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.526	1.758	1.457	1.110
2019	1.525	1.731	1.385	1.096
2020	1.184	1.823	1.018	1.285
2021	1.345	1.836	1.174	1.357
2022	1.421	1.960	1.255	1.421
2023	1.483	2.273	1.331	1.683
2024	1.571	2.455	1.431	1.834
2025	1.811	3.186	1.670	2.520
2026	1.862	2.720	1.705	2.190
2027	1.901	2.819	1.778	2.297
2028	2.465	3.334	2.377	2.845
2029	2.529	3.733	2.423	3.157
2030	3.940	5.186	3.704	4.268
2031	4.103	5.263	3.868	4.359
2032	4.200	5.379	3.948	4.523
2033	3.871	4.978	3.677	4.212
2034	4.037	5.122	3.814	4.343
2035	4.286	5.465	4.038	4.619
2036	4.561	5.964	4.300	5.041
2037	4.667	6.069	4.432	5.148

**Levelized Prices (Nominal)(3)**

	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
15-year (2018-2032) Nominal Levelized	1.941	2.686	1.793	2.071

(1): On- and off- peak prices are reduced by integration charges and reflect 0.5% annual degradation rate

(continued)

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**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**
**Tracking Solar Facility**
**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
¢/kWh**
**Non-Levelized Prices**

Deliveries During Calendar Year	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.686	1.826	1.590	1.128
2019	1.657	1.825	1.478	1.146
2020	1.211	1.946	1.031	1.362
2021	1.382	1.905	1.184	1.392
2022	1.459	2.039	1.270	1.455
2023	1.522	2.406	1.335	1.767
2024	1.613	2.600	1.456	1.937
2025	1.880	3.242	1.719	2.530
2026	1.940	2.899	1.761	2.330
2027	1.996	2.996	1.841	2.436
2028	2.575	3.552	2.433	3.001
2029	2.763	3.994	2.632	3.342
2030	4.515	6.004	4.231	4.918
2031	4.711	6.103	4.435	5.035
2032	4.830	6.236	4.531	5.221
2033	4.508	5.852	4.271	4.932
2034	4.719	6.035	4.441	5.102
2035	5.042	6.465	4.731	5.450
2036	5.307	7.000	4.977	5.898
2037	5.438	7.114	5.153	6.023

**Levelized Prices (Nominal)(3)**

	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
15-year (2018-2032) Nominal Levelized	2.091	2.896	1.913	2.221

(1): On- and off- peak prices are reduced by integration charges and reflect 0.5% annual degradation rate

(continued)

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**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**
**Wind Facility**
**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
 ¢/kWh**
**Non-Levelized Prices**

Deliveries During Calendar Year	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.606	1.958	1.409	1.205
2019	1.728	2.058	1.452	1.307
2020	1.320	1.677	1.134	1.173
2021	1.087	1.304	0.920	0.952
2022	1.486	1.882	1.272	1.347
2023	1.079	1.377	0.948	0.988
2024	1.277	1.673	1.144	1.266
2025	1.146	1.527	1.049	1.205
2026	1.331	1.734	1.219	1.384
2027	1.319	1.736	1.211	1.398
2028	0.821	1.068	0.766	0.873
2029	0.625	0.801	0.578	0.657
2030	1.488	1.927	1.379	1.591
2031	5.655	7.174	5.274	5.927
2032	5.739	7.283	5.364	6.093
2033	5.994	7.620	5.648	6.432
2034	6.110	7.707	5.764	6.527
2035	6.086	7.726	5.705	6.522
2036	6.194	8.035	5.814	6.775
2037	6.320	8.178	5.979	6.935

**Levelized Prices (Nominal)**

	<u>On Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
15-year (2018-2032) Nominal Levelized	1.661	2.099	1.488	1.583

(1): On- and off- peak prices are reduced by integration charges



**Proposed Tariff Sheets**  
**Redline Version**

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

**RATES FOR PURCHASES:** The non-levelized and levelized prices shown below are subject to change from time to time to reflect changes in the Company's determination of Utah avoided costs. The prices applicable to a Utah Qualifying Facility shall be those in effect at the time a written contract is executed by the parties. Contract durations of up to 15 years are available. The levelized prices shown are for a 15-year contract and assume a 2018 starting date. Levelized prices for contracts which start after ~~2016-2018~~ and are for periods of 15 years or less are available upon request.

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**FILED:** ~~March 23~~May 31~~June 5~~, 2018  
~~March 15~~June 8~~July 1~~, 2018

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P.S.C.U. No. 50

~~Seventh~~ Eighth Revision of Sheet No. 37.4  
 Canceling ~~Sixth~~ Seventh Revision of Sheet No. 37.4

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

**Base Load Facility**

**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
 ¢/kWh**

**Non-Levelized Prices**

<u>Deliveries During</u> <u>Calendar Year</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.961	2.624	1.741	1.715
2019	2.004	2.600	1.799	1.807
2020	2.289	2.613	2.042	1.904
2021	2.071	2.541	1.797	1.877
2022	2.173	2.773	1.940	2.023
2023	2.114	2.782	1.905	2.042
2024	2.423	3.055	2.244	2.359
2025	2.831	3.434	2.656	2.802
2026	2.851	3.378	2.664	2.802
2027	2.867	3.597	2.684	2.985
2028	3.361	4.246	3.162	3.572
2029	5.413	6.710	5.092	5.649
2030	5.497	6.826	5.155	5.805
2031	5.684	7.132	5.320	6.078
2032	5.929	7.329	5.518	6.266
2033	5.938	7.496	5.562	6.409
2034	6.244	7.845	5.861	6.696
2035	6.414	8.107	6.012	6.927
2036	6.611	8.496	6.211	7.245
2037	6.794	8.619	6.406	7.319

<u>Deliveries During</u> <u>Calendar Year</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.801	2.286	1.639	1.416
2019	1.896	2.325	1.660	1.479
2020	1.668	2.421	1.440	1.692
2021	1.844	2.365	1.581	1.738
2022	1.944	2.535	1.684	1.826
2023	1.935	2.904	1.710	2.095
2024	2.119	3.165	1.914	2.381
2025	2.478	3.531	2.275	2.785
2026	2.736	3.467	2.513	2.767
2027	2.823	3.557	2.608	2.872

(continued)

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**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

<u>2028</u>	<u>3.241</u>	<u>4.249</u>	<u>3.027</u>	<u>3.507</u>
<u>2029</u>	<u>3.631</u>	<u>4.947</u>	<u>3.393</u>	<u>4.089</u>
<u>2030</u>	<u>4.118</u>	<u>5.637</u>	<u>3.869</u>	<u>4.643</u>
<u>2031</u>	<u>4.154</u>	<u>5.688</u>	<u>3.915</u>	<u>4.711</u>
<u>2032</u>	<u>4.506</u>	<u>6.057</u>	<u>4.235</u>	<u>5.107</u>
<u>2033</u>	<u>4.586</u>	<u>6.130</u>	<u>4.345</u>	<u>5.221</u>
<u>2034</u>	<u>4.566</u>	<u>6.187</u>	<u>4.316</u>	<u>5.286</u>
<u>2035</u>	<u>4.955</u>	<u>6.515</u>	<u>4.695</u>	<u>5.547</u>
<u>2036</u>	<u>5.109</u>	<u>6.766</u>	<u>4.832</u>	<u>5.727</u>
<u>2037</u>	<u>5.198</u>	<u>6.877</u>	<u>4.948</u>	<u>5.870</u>

**Levelized Prices (Nominal)**

	<u><del>On Peak Energy Prices (¢/kWh)</del></u>		<u><del>Off Peak Energy Prices (¢/kWh)</del></u>	
	<u><del>Winter</del></u>	<u><del>Summer</del></u>	<u><del>Winter</del></u>	<u><del>Summer</del></u>
<del>15-year (2018-2032) Nominal Levelized</del>	<del>2.964</del>	<del>3.696</del>	<del>2.724</del>	<del>2.946</del>
	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>15-year (2018-2032) Nominal Levelized</u>	<u>2.481</u>	<u>3.338</u>	<u>2.255</u>	<u>2.548</u>

(continued)

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**EFFECTIVE:**



P.S.C.U. No. 50

~~Sixth~~ ~~Seventh~~ Revision of Sheet No. 37.5  
 Canceling ~~Fifth~~ ~~Sixth~~ Revision of Sheet No. 37.5

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

**Fixed Solar Facility**

**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
 ¢/kWh**

**Non-Levelized Prices**

<u>Deliveries During</u> <u>-Calendar Year</u>	<u>-On Peak Energy Prices (¢/kWh)</u>		<u>-Off Peak Energy Prices (¢/kWh) (1)</u>	
	<u>-Winter</u>	<u>-Summer</u>	<u>-Winter</u>	<u>-Summer</u>
2018	1.798	2.333	1.598	1.545
2019	1.830	2.303	1.645	1.588
2020	2.076	2.349	1.845	1.716
2021	1.779	2.272	1.542	1.684
2022	1.882	2.435	1.673	1.817
2023	1.851	2.457	1.662	1.850
2024	2.053	2.718	1.898	2.076
2025	2.451	3.155	2.292	2.572
2026	2.451	3.048	2.259	2.535
2027	2.373	3.164	2.218	2.633
2028	2.927	3.779	2.761	3.232
2029	3.375	4.401	3.160	3.728
2030	3.299	4.449	3.174	3.691
2031	6.167	7.763	5.771	6.616
2032	6.341	7.854	5.899	6.720
2033	6.390	8.085	5.997	6.904
2034	6.561	8.274	6.182	7.049
2035	6.719	8.519	6.318	7.276
2036	6.874	8.874	6.466	7.568
2037	7.071	9.025	6.689	7.652

<u>Deliveries During</u> <u>Calendar Year</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.526	1.758	1.457	1.110
2019	1.525	1.731	1.385	1.096
2020	1.184	1.823	1.018	1.285
2021	1.345	1.836	1.174	1.357
2022	1.421	1.960	1.255	1.421
2023	1.483	2.273	1.331	1.683

(continued)

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**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

<u>2024</u>	<u>1.571</u>	<u>2.455</u>	<u>1.431</u>	<u>1.834</u>
<u>2025</u>	<u>1.811</u>	<u>3.186</u>	<u>1.670</u>	<u>2.520</u>
<u>2026</u>	<u>1.862</u>	<u>2.720</u>	<u>1.705</u>	<u>2.190</u>
<u>2027</u>	<u>1.901</u>	<u>2.819</u>	<u>1.778</u>	<u>2.297</u>
<u>2028</u>	<u>2.465</u>	<u>3.334</u>	<u>2.377</u>	<u>2.845</u>
<u>2029</u>	<u>2.529</u>	<u>3.733</u>	<u>2.423</u>	<u>3.157</u>
<u>2030</u>	<u>3.940</u>	<u>5.186</u>	<u>3.704</u>	<u>4.268</u>
<u>2031</u>	<u>4.103</u>	<u>5.263</u>	<u>3.868</u>	<u>4.359</u>
<u>2032</u>	<u>4.200</u>	<u>5.379</u>	<u>3.948</u>	<u>4.523</u>
<u>2033</u>	<u>3.871</u>	<u>4.978</u>	<u>3.677</u>	<u>4.212</u>
<u>2034</u>	<u>4.037</u>	<u>5.122</u>	<u>3.814</u>	<u>4.343</u>
<u>2035</u>	<u>4.286</u>	<u>5.465</u>	<u>4.038</u>	<u>4.619</u>
<u>2036</u>	<u>4.561</u>	<u>5.964</u>	<u>4.300</u>	<u>5.041</u>
<u>2037</u>	<u>4.667</u>	<u>6.069</u>	<u>4.432</u>	<u>5.148</u>

**Levelized Prices (Nominal)(3)**

	<u><del>On Peak Energy Prices (¢/kWh)</del></u>		<u><del>Off Peak Energy Prices (¢/kWh)</del></u>	
	<u><del>Winter</del></u>	<u><del>Summer</del></u>	<u><del>Winter</del></u>	<u><del>Summer</del></u>
<del>15-year (2018-2032) Nominal Levelized</del>	<del>2.531</del>	<del>3.229</del>	<del>2.322</del>	<del>2.549</del>
<del>(1): On- and off- peak prices are reduced by integration charges and reflect 0.5% annual degradation rate</del>				
	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>15-year (2018-2032) Nominal Levelized</u>	<u>1.941</u>	<u>2.686</u>	<u>1.793</u>	<u>2.071</u>

(1): On- and off- peak prices are reduced by integration charges and reflect 0.5% annual degradation rate

(continued)

Issued by authority of Report and Order of the Public Service Commission of Utah in Docket No. ~~1718~~-035-~~T07~~T02

**FILED:** ~~March 23~~May 31~~June 5~~, 2018  
~~March 15~~June 8~~July 1~~, 2018

**EFFECTIVE:**

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**
**Tracking Solar Facility**
**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours  
 ¢/kWh**
**Non-Levelized Prices**

<u>Deliveries During</u> <u>Calendar Year</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
2018	1.791	2.391	1.572	1.577
2019	1.823	2.377	1.620	1.636
2020	2.064	2.426	1.812	1.775
2021	1.797	2.348	1.540	1.743
2022	1.895	2.523	1.664	1.893
2023	1.867	2.531	1.660	1.912
2024	2.084	2.815	1.908	2.178
2025	2.492	3.227	2.297	2.647
2026	2.498	3.158	2.273	2.647
2027	2.422	3.298	2.239	2.770
2028	3.033	3.949	2.849	3.379
2029	3.267	4.523	3.112	3.837
2030	3.461	4.566	3.340	3.794
2031	7.239	9.156	6.787	7.781
2032	7.472	9.286	6.955	7.928
2033	7.590	9.647	7.138	8.216
2034	7.806	9.904	7.375	8.422
2035	8.000	10.188	7.530	8.673
2036	8.123	10.564	7.652	8.986
2037	8.357	10.752	7.927	9.112

  

<u>Deliveries During</u> <u>Calendar Year</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>2018</u>	<u>1.686</u>	<u>1.826</u>	<u>1.590</u>	<u>1.128</u>
<u>2019</u>	<u>1.657</u>	<u>1.825</u>	<u>1.478</u>	<u>1.146</u>
<u>2020</u>	<u>1.211</u>	<u>1.946</u>	<u>1.031</u>	<u>1.362</u>
<u>2021</u>	<u>1.382</u>	<u>1.905</u>	<u>1.184</u>	<u>1.392</u>
<u>2022</u>	<u>1.459</u>	<u>2.039</u>	<u>1.270</u>	<u>1.455</u>
<u>2023</u>	<u>1.522</u>	<u>2.406</u>	<u>1.335</u>	<u>1.767</u>
<u>2024</u>	<u>1.613</u>	<u>2.600</u>	<u>1.456</u>	<u>1.937</u>
<u>2025</u>	<u>1.880</u>	<u>3.242</u>	<u>1.719</u>	<u>2.530</u>
<u>2026</u>	<u>1.940</u>	<u>2.899</u>	<u>1.761</u>	<u>2.330</u>

(continued)

 Issued by authority of Report and Order of the Public Service Commission of Utah in Docket No. ~~1718~~-035-~~T07T02~~

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

<u>2027</u>	<u>1.996</u>	<u>2.996</u>	<u>1.841</u>	<u>2.436</u>
<u>2028</u>	<u>2.575</u>	<u>3.552</u>	<u>2.433</u>	<u>3.001</u>
<u>2029</u>	<u>2.763</u>	<u>3.994</u>	<u>2.632</u>	<u>3.342</u>
<u>2030</u>	<u>4.515</u>	<u>6.004</u>	<u>4.231</u>	<u>4.918</u>
<u>2031</u>	<u>4.711</u>	<u>6.103</u>	<u>4.435</u>	<u>5.035</u>
<u>2032</u>	<u>4.830</u>	<u>6.236</u>	<u>4.531</u>	<u>5.221</u>
<u>2033</u>	<u>4.508</u>	<u>5.852</u>	<u>4.271</u>	<u>4.932</u>
<u>2034</u>	<u>4.719</u>	<u>6.035</u>	<u>4.441</u>	<u>5.102</u>
<u>2035</u>	<u>5.042</u>	<u>6.465</u>	<u>4.731</u>	<u>5.450</u>
<u>2036</u>	<u>5.307</u>	<u>7.000</u>	<u>4.977</u>	<u>5.898</u>
<u>2037</u>	<u>5.438</u>	<u>7.114</u>	<u>5.153</u>	<u>6.023</u>

**Levelized Prices (Nominal)(3)**

	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<del>15-year (2018-2032) Nominal Levelized</del>	<del>2.640</del>	<del>3.428</del>	<del>2.410</del>	<del>2.719</del>
<del>(1): On- and off- peak prices are reduced by integration charges and reflect 0.5% annual degradation rate</del>				
	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>15-year (2018-2032) Nominal Levelized</u>	<u>2.091</u>	<u>2.896</u>	<u>1.913</u>	<u>2.221</u>
<u>(1): On- and off- peak prices are reduced by integration charges and reflect 0.5% annual degradation rate</u>				

(continued)

 Issued by authority of Report and Order of the Public Service Commission of Utah in Docket No. ~~1718~~-035-~~T07~~T02



**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**
**Wind Facility**
**Volumetric Winter and Summer Energy Prices for On-Peak and Off-Peak hours**  
**¢/kWh**
**Non-Levelized Prices**

<u>Deliveries During</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>Calendar Year</u>				
2018	1.928	2.339	1.690	1.523
2019	1.943	2.299	1.722	1.608
2020	2.176	2.308	1.920	1.682
2021	5.041	6.060	4.316	4.478
2022	5.049	6.362	4.482	4.589
2023	5.068	6.489	4.564	4.708
2024	5.074	6.486	4.663	5.020
2025	5.321	6.779	4.996	5.526
2026	5.412	6.825	5.070	5.656
2027	5.566	7.049	5.204	5.829
2028	5.315	6.602	4.992	5.511
2029	5.365	6.644	5.030	5.571
2030	5.505	6.800	5.128	5.767
2031	5.624	7.041	5.237	5.972
2032	5.760	7.095	5.335	6.046
2033	5.839	7.333	5.441	6.257
2034	5.955	7.444	5.572	6.345
2035	6.110	7.700	5.699	6.557
2036	6.285	8.028	5.877	6.817
2037	6.489	8.171	6.068	6.922

  

<u>Deliveries During</u>	<u>On-Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh) (1)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>Calendar Year</u>				
2018	1.606	1.958	1.409	1.205
2019	1.728	2.058	1.452	1.307
2020	1.320	1.677	1.134	1.173
2021	1.087	1.304	0.920	0.952
2022	1.486	1.882	1.272	1.347
2023	1.079	1.377	0.948	0.988
2024	1.277	1.673	1.144	1.266
2025	1.146	1.527	1.049	1.205
2026	1.331	1.734	1.219	1.384
2027	1.319	1.736	1.211	1.398
2028	0.821	1.068	0.766	0.873

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**FILED:** ~~March 23~~May 31~~June 5~~, 2018  
~~March 15~~June 8~~July 1~~, 2018

**EFFECTIVE:**

**ELECTRIC SERVICE SCHEDULE NO. 37 - Continued**

<u>2029</u>	<u>0.625</u>	<u>0.801</u>	<u>0.578</u>	<u>0.657</u>
<u>2030</u>	<u>1.488</u>	<u>1.927</u>	<u>1.379</u>	<u>1.591</u>
<u>2031</u>	<u>5.655</u>	<u>7.174</u>	<u>5.274</u>	<u>5.927</u>
<u>2032</u>	<u>5.739</u>	<u>7.283</u>	<u>5.364</u>	<u>6.093</u>
<u>2033</u>	<u>5.994</u>	<u>7.620</u>	<u>5.648</u>	<u>6.432</u>
<u>2034</u>	<u>6.110</u>	<u>7.707</u>	<u>5.764</u>	<u>6.527</u>
<u>2035</u>	<u>6.086</u>	<u>7.726</u>	<u>5.705</u>	<u>6.522</u>
<u>2036</u>	<u>6.194</u>	<u>8.035</u>	<u>5.814</u>	<u>6.775</u>
<u>2037</u>	<u>6.320</u>	<u>8.178</u>	<u>5.979</u>	<u>6.935</u>

**Levelized Prices (Nominal)**

	<u>-On Peak Energy Prices (¢/kWh)</u>		<u>-Off Peak Energy Prices (¢/kWh)</u>	
	<u>-Winter</u>	<u>-Summer</u>	<u>-Winter</u>	<u>-Summer</u>
<u>-15 year (2018-2032)</u> <u>Nominal Levelized</u>	<u>4.367</u>	<u>5.412</u>	<u>3.983</u>	<u>4.242</u>

  

	<u>On Peak Energy Prices (¢/kWh)</u>		<u>Off-Peak Energy Prices (¢/kWh)</u>	
	<u>Winter</u>	<u>Summer</u>	<u>Winter</u>	<u>Summer</u>
<u>15-year (2018-2032)</u> <u>Nominal Levelized</u>	<u>1.661</u>	<u>2.099</u>	<u>1.488</u>	<u>1.583</u>

(1): On- and off- peak prices are reduced by integration charges

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**FILED:** ~~March 23~~May 31~~June 5~~, 2018  
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**EFFECTIVE:**

## **Appendix 1**

Table 1  
2017 IRP Update Preferred Portfolio  
Excerpt from 2017 IRP Update Table 8.1, Page 108

Resource	Capacity (MW)																				Resource Totals 1/				
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	10-year	20-year			
<b>East</b>																									
<b>Expansion Resources</b>																									
Wind, Djohston	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	-	-	-	-	-	-	121	
Wind, GO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	800	-	-	-	-	800	
Wind, UT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	149	-	-	149	
251C-Cedar Springs WD - 2	-	-	-	-	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	400	400	
100B-Ekola Flats WD - 1 (P)	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	250	
102B-TB Flats WD - 3 (P)	-	-	-	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	500	
245B-Uinta WD Energy Center - 2	-	-	-	161	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	161	
<b>Total Wind</b>	-	-	-	911	400	-	-	-	-	-	-	-	-	-	-	-	121	-	-	800	-	-	149	1,311	2,380
Utility Solar - PV - Utah-S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	799	-	6	-	-	805	
<b>Total Solar</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	799	-	6	-	-	805	
DSM, Class 1, ID-Cool/WH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	1.3	-	4.7	
DSM, Class 1, ID-Curtail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	1.9	
DSM, Class 1, ID-Irrigate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.2	-	3.1	-	-	21.3	
DSM, Class 1, UT-Cool/WH	-	-	-	-	-	-	-	-	-	-	-	-	-	68.4	-	-	-	-	-	-	-	-	-	68.4	
DSM, Class 1, UT-Curtail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43.2	40.5	2.2	-	85.9	
DSM, Class 1, UT-Irrigate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	-	3.3	-	6.3	
DSM, Class 1, WY-Cool/WH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	-	2.9	-	7.7	
DSM, Class 1, WY-Curtail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	40.7	2.0	-	45.8	
DSM, Class 1, WY-Irrigate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	-	-	1.9	
<b>DSM, Class 1 Total</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	68.4	-	-	-	-	26.3	48.0	89.6	11.6	-	243.8	
DSM, Class 2, ID	3	6	6	5	4	4	5	5	5	5	4	4	4	4	4	4	4	3	3	2	2	47	83		
DSM, Class 2, UT	78	51	58	56	54	50	48	47	54	52	49	52	48	53	52	43	42	35	33	33	33	549	989		
DSM, Class 2, WY	7	10	10	10	9	11	12	12	12	13	12	11	10	9	9	7	6	7	7	7	7	106	189		
<b>DSM, Class 2 Total</b>	88	67	74	71	67	66	65	64	71	70	65	67	62	66	65	54	51	45	42	42	42	702	1,261		
Battery Storage - East	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	
FOT Mona - SMR	-	-	-	-	-	-	-	-	-	-	-	142	300	300	300	300	300	289	300	300	300	-	127		
FOT Mona - WTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	300	300	-	30		

Table 1  
2017 IRP Update Preferred Portfolio  
Excerpt from 2017 IRP Update Table 8.1, Page 108

Resource	Capacity (MW)																				Resource Totals 1/	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	10-year	20-year
<b>West</b>																						
<b>Expansion Resources</b>																						
Wind, WallaW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	136	-	136
Wind, YK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	-	125
Wind, SO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	-	73
<b>Total Wind</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	333	-	333
Utility Solar - PV - S-Oregon	-	-	-	-	-	-	-	-	-	-	-	-	-	21	95	120	169	-	-	-	-	405
Utility Solar - PV - Yakima	-	-	-	-	-	-	-	-	-	-	-	-	-	630	-	12	8	-	-	-	-	650
<b>Total Solar</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	651	95	132	177	-	-	-	-	1,055
DSM, Class 1, CA-Cool/WH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-	2.4
DSM, Class 1, CA-Irrigate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	-	3.7
DSM, Class 1, OR-Irrigate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.8	-	12.8
DSM, Class 1, WA-Irrigate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	-	4.8
<b>DSM, Class 1 Total</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.7	-	23.7
DSM, Class 2, CA	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	11	18
DSM, Class 2, OR	51	44	40	41	29	24	23	23	20	18	18	17	16	16	16	17	15	15	16	16	313	477
DSM, Class 2, WA	10	7	11	8	8	8	7	7	8	7	6	6	5	5	4	4	3	3	2	2	81	121
<b>DSM, Class 2 Total</b>	62	52	52	51	38	33	32	31	29	26	25	24	22	22	21	21	19	18	19	18	405	616
FOT COB - SMR	-	-	-	-	-	-	-	-	-	-	-	230	400	400	400	400	400	400	400	369	-	170
FOT MidColumbia - SMR	311	315	400	392	395	400	387	370	400	399	400	400	400	400	400	400	400	400	400	400	377	389
FOT MidColumbia - SMR - 2	-	-	124	-	-	45	-	-	38	-	-	375	375	375	375	375	375	375	375	375	21	179
FOT NOB - SMR	90	4	100	71	-	-	32	58	100	100	100	100	100	100	100	100	100	100	100	100	55	78
FOT COB - WTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	-	311	18
FOT MidColumbia - WTR	253	308	303	296	303	305	310	304	317	330	343	357	400	400	400	400	400	400	400	400	303	346
FOT MidColumbia - WTR2	-	-	-	-	-	-	-	-	-	-	-	-	258	294	309	276	368	375	231	375	-	124
FOT NOB - WTR	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	100	100	100	100	100	-	40
Existing Plant Retirements/Conversions	-	-	(280)	-	(387)	-	-	-	-	(82)	-	(762)	(354)	(357)	(77)	-	(717)	-	(82)	-		
Annual Additions, Long Term Resources	150	119	127	1,033	504	99	96	95	100	96	90	90	153	859	181	207	1,897	111	489	222		
Annual Additions, Short Term Resources	655	627	927	759	698	749	729	732	855	829	843	1,604	2,333	2,369	2,384	2,351	2,443	2,488	2,606	3,030		
<b>Total Annual Additions</b>	805	746	1,054	1,792	1,202	848	825	827	954	925	934	1,695	2,486	3,228	2,566	2,559	4,340	2,599	3,095	3,252		

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

The 2017 IRP Update was prepared using a 13% planning reserve margin. See 2017 IRP, page 10.

**Table 2**  
**Signed QF Queue**

QF Queue						
No.	QF	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
1	Tesoro Non Firm QF	0.00	25.0	85.0%	0.0%	2018 01 01
2	Soda Lake Geothermal	13.29	20.0	84.2%	66.5%	2019 09 01
3	Sprague River (terminated)	-4.54	-7.0		64.9%	
4	Ivory Pine (terminated)	-6.48	-10.0		64.8%	
5	Roseburg Dillard QF	0.00	20.0	14.3%	0.0%	2018 03 01
Total Signed MW		2.27	48.00			

Capacity Contribution			
Type	East	Type	West
Wind	15.8%	CC_W_Wind	11.8%
Fixed	37.9%	CC_W_Fixed	53.9%
Tracking	59.7%	CC_W_Tracking	64.8%
Gas	100.0%	CC_W_Gas	100.0%
Hydro	100.0%	CC_W_Hydro	100.0%

**Table 3**  
**Comparison between Proposed and Current Avoided Costs**

Year	BASE LOAD			WIND			SOLAR FIXED			SOLAR TRACKING		
	Proposed	Current	Total Difference	Proposed	Current	Total Difference	Proposed	Current	Total Difference	Proposed	Current	Total Difference
	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)	(\$/MWH)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	(a) - (b)			(d) - (e)			(g) - (h)			(j) - (k)		
2018	\$17.88	\$19.85	(\$1.97)	\$14.76	\$17.88	(\$3.13)	\$15.64	\$19.28	(\$3.64)	\$16.64	\$19.43	(\$2.78)
2019	\$18.46	\$20.26	(\$1.80)	\$15.59	\$18.20	(\$2.61)	\$15.47	\$19.43	(\$3.96)	\$16.41	\$19.64	(\$3.24)
2020	\$17.45	\$22.21	(\$4.75)	\$12.57	\$19.72	(\$7.15)	\$13.73	\$21.14	(\$7.41)	\$14.49	\$21.26	(\$6.77)
2021	\$18.49	\$20.50	(\$2.01)	\$10.17	\$47.52	(\$37.35)	\$14.81	\$19.03	(\$4.21)	\$15.34	\$19.45	(\$4.12)
2022	\$19.61	\$21.95	(\$2.34)	\$14.20	\$48.83	(\$34.63)	\$15.72	\$20.29	(\$4.57)	\$16.29	\$20.77	(\$4.48)
2023	\$20.74	\$21.68	(\$0.93)	\$10.44	\$49.65	(\$39.21)	\$17.27	\$20.21	(\$2.94)	\$18.18	\$20.68	(\$2.50)
2024	\$22.93	\$24.79	(\$1.86)	\$12.73	\$50.81	(\$38.07)	\$18.49	\$22.46	(\$3.96)	\$19.54	\$23.15	(\$3.61)
2025	\$26.61	\$28.88	(\$2.27)	\$11.71	\$54.30	(\$42.59)	\$22.71	\$26.62	(\$3.91)	\$23.78	\$27.29	(\$3.51)
2026	\$28.12	\$28.87	(\$0.75)	\$13.52	\$55.19	(\$41.67)	\$21.35	\$26.23	(\$4.88)	\$22.77	\$27.06	(\$4.29)
2027	\$29.05	\$29.68	(\$0.63)	\$13.50	\$56.78	(\$43.29)	\$22.00	\$26.21	(\$4.21)	\$23.54	\$27.26	(\$3.73)
2028	\$34.06	\$34.99	(\$0.93)	\$8.44	\$54.02	(\$45.58)	\$27.52	\$31.95	(\$4.44)	\$29.25	\$33.50	(\$4.25)
2029	\$38.75	\$55.96	(\$17.21)	\$6.37	\$54.48	(\$48.11)	\$29.34	\$36.96	(\$7.62)	\$32.14	\$37.22	(\$5.09)
2030	\$44.06	\$56.91	(\$12.84)	\$15.27	\$55.88	(\$40.61)	\$43.26	\$36.70	\$6.56	\$50.16	\$38.46	\$11.70
2031	\$44.53	\$59.06	(\$14.53)	\$57.67	\$57.40	\$0.27	\$44.57	\$66.53	(\$21.96)	\$51.73	\$78.77	(\$27.04)
2032	\$48.06	\$61.20	(\$13.15)	\$58.76	\$58.35	\$0.41	\$45.63	\$67.92	(\$22.30)	\$53.01	\$80.60	(\$27.60)
2033	\$48.98	\$61.89	(\$12.91)	\$61.74	\$59.77	\$1.97	\$42.19	\$69.12	(\$26.93)	\$49.69	\$82.83	(\$33.14)
2034	\$49.02	\$64.98	(\$15.96)	\$62.81	\$60.92	\$1.89	\$43.72	\$70.88	(\$27.16)	\$51.62	\$85.13	(\$33.51)
2035	\$52.58	\$66.89	(\$14.31)	\$62.54	\$62.62	(\$0.09)	\$46.50	\$72.76	(\$26.26)	\$55.19	\$87.39	(\$32.20)

(x) Extrapolated

15 Year (2018 to 2032) Levelized Prices (Nominal) @ 6.91% Discount Rate

\$/MWH	\$25.85	\$30.05	(\$4.20)	\$16.30	\$43.02	(\$26.72)	\$21.85	\$27.38	(\$5.52)	\$23.73	\$28.94	(\$5.21)
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15 Year (2019 to 2033) Levelized Prices (Nominal) @ 6.91% Discount Rate

\$/MWH	\$27.65	\$32.44	(\$4.79)	\$18.29	\$46.44	(\$28.15)	\$23.35	\$29.93	(\$6.59)	\$25.54	\$32.14	(\$6.60)
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15 Year (2020 to 2034) Levelized Prices (Nominal) @ 6.91% Discount Rate

\$/MWH	\$29.51	\$35.08	(\$5.57)	\$20.37	\$50.10	(\$29.73)	\$25.02	\$32.72	(\$7.70)	\$27.58	\$35.62	(\$8.04)
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	Generation Profile_Baseload	Generation Profile_Wind*	Generation Profile_Solar Fixed	Generation Profile_Solar Tracking
on-peak Summer	19%	13%	31%	33%
on-peak Winter	37%	24%	52%	46%
off-peak Summer	15%	25%	7%	10%
off-peak Winter	29%	39%	10%	11%

**Table 4**  
**Natural Gas Price - Delivered to Plant**  
**\$/MMBtu**

Year	West Side	IRP - Wyo NE
	(a)	(b)
2018	\$2.09	\$2.21
2019	\$1.95	\$2.03
2020	\$2.02	\$2.13
2021	\$2.15	\$2.23
2022	\$2.23	\$2.34
2023	\$2.38	\$2.42
2024	\$2.86	\$2.91
2025	\$3.54	\$3.59
2026	\$3.80	\$3.85
2027	\$3.93	\$3.97
2028	\$4.19	\$4.18
2029	\$4.64	\$4.56
2030	\$5.10	\$5.02
2031	\$5.09	\$5.05
2032	\$5.48	\$5.43
2033	\$5.78	\$5.71
2034	\$5.67	\$5.65
2035	\$5.82	\$5.84
2036	\$5.77	\$5.79
2037	\$6.15	\$6.13

**Source**

Official Forward Price Curve dated March 30 2018



**Table 5**  
**Electricity Market Prices**  
**\$/MWH**

Year	Market Price \$/MWH			
	HLH		LLH	
	Mid-Columbia	Palo Verde	Mid-Columbia	Palo Verde
	(a)	(b)	(c)	(d)
2018	\$21.87	\$29.51	\$15.48	\$22.99
2019	\$23.73	\$28.56	\$17.44	\$22.07
2020	\$26.37	\$30.39	\$20.17	\$24.39
2021	\$29.98	\$33.71	\$23.52	\$27.29
2022	\$31.89	\$35.48	\$25.30	\$28.63
2023	\$33.25	\$37.30	\$26.71	\$30.57
2024	\$35.46	\$39.95	\$29.14	\$33.78
2025	\$38.35	\$42.84	\$32.09	\$37.19
2026	\$39.89	\$44.21	\$33.62	\$38.53
2027	\$41.10	\$45.17	\$34.71	\$39.62
2028	\$42.94	\$46.92	\$36.55	\$41.57
2029	\$46.67	\$50.10	\$40.14	\$44.52
2030	\$50.21	\$53.85	\$43.32	\$48.13
2031	\$50.22	\$54.73	\$43.56	\$49.13
2032	\$53.79	\$58.54	\$46.77	\$52.71
2033	\$56.11	\$60.64	\$49.03	\$55.01
2034	\$56.02	\$61.14	\$48.94	\$55.33
2035	\$57.86	\$63.85	\$50.76	\$57.73
2036	\$58.33	\$64.58	\$51.33	\$58.51
2037	\$62.41	\$68.12	\$54.62	\$61.95

**Source**

Official Forward Price Curve dated March 30 2018

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

Year	System Balancing Integration Costs	Wind Integration (Incremental)	Tracking Solar Integration (Incremental)	Fixed Solar Integration Costs (Incremental)	Company Official Inflation Forecast Dated March 2018		
	\$/MWh	\$/MWh	\$/MWh	\$/MWh	Year	Annual	Cumulative
2016	\$0.145	\$0.429	\$0.458	\$0.458	2016		1.000
2017	\$0.15	\$0.44	\$0.47	\$0.47	2017	2.0%	1.020
2018	\$0.15	\$0.45	\$0.48	\$0.48	2018	1.9%	1.039
2019	\$0.15	\$0.46	\$0.49	\$0.49	2019	2.2%	1.062
2020	\$0.16	\$0.47	\$0.50	\$0.50	2020	2.6%	1.090
2021	\$0.16	\$0.48	\$0.51	\$0.51	2021	2.4%	1.116
2022	\$0.17	\$0.49	\$0.52	\$0.52	2022	2.3%	1.142
2023	\$0.17	\$0.50	\$0.53	\$0.53	2023	2.3%	1.168
2024	\$0.17	\$0.51	\$0.55	\$0.55	2024	2.3%	1.195
2025	\$0.18	\$0.52	\$0.56	\$0.56	2025	2.3%	1.222
2026	\$0.18	\$0.54	\$0.57	\$0.57	2026	2.3%	1.250
2027	\$0.18	\$0.55	\$0.59	\$0.59	2027	2.3%	1.279
2028	\$0.19	\$0.56	\$0.60	\$0.60	2028	2.3%	1.309
2029	\$0.19	\$0.57	\$0.61	\$0.61	2029	2.3%	1.339
2030	\$0.20	\$0.59	\$0.63	\$0.63	2030	2.3%	1.369
2031	\$0.20	\$0.60	\$0.64	\$0.64	2031	2.3%	1.401
2032	\$0.21	\$0.61	\$0.66	\$0.66	2032	2.2%	1.432
2033	\$0.21	\$0.63	\$0.67	\$0.67	2033	2.2%	1.463
2034	\$0.22	\$0.64	\$0.69	\$0.69	2034	2.3%	1.497
2035	\$0.22	\$0.66	\$0.70	\$0.70	2035	2.3%	1.531
2036	\$0.23	\$0.67	\$0.72	\$0.72	2036	2.3%	1.567
2037	\$0.23	\$0.69	\$0.73	\$0.73	2037	2.2%	1.601
2038	\$0.24	\$0.70	\$0.75	\$0.75	2038	2.2%	1.636
2039	\$0.24	\$0.72	\$0.77	\$0.77	2039	2.2%	1.672
2040	\$0.25	\$0.73	\$0.78	\$0.78	2040	2.2%	1.709
2041	\$0.25	\$0.75	\$0.80	\$0.80	2041	2.2%	1.747
2042	\$0.26	\$0.77	\$0.82	\$0.82	2042	2.2%	1.785

2016 Flexible Reserve Study Results from 2017 IRP

Incremental Flex Capacity Costs (2016 \$/MWh) \*

	Regulation Reserve	System Balancing	Total
Wind	0.429	0.145	0.573
Solar	0.458	0.145	0.603

\* Costs per MWh of wind/solar generation

## **Appendix 2**

**ROCKY MOUNTAIN POWER**  
**AVOIDED COST CALCULATION**

**STANDARD RATES FOR AVOIDED COST PURCHASES FROM**  
**QUALIFYING FACILITIES THAT QUALIFY FOR**  
**SCHEDULE NO. 37**

**UTAH – May 2018**

**ROCKY MOUNTAIN POWER  
AVOIDED COST CALCULATION**

**STANDARD RATES FOR AVOIDED COST PURCHASES FROM QUALIFYING  
FACILITIES THAT QUALIFY FOR SCHEDULE NO. 37**

**UTAH – MAY 2018**

**OVERVIEW**

Schedule 37 contains avoided cost prices to be paid to small qualifying facilities (“QF”) and applies to QFs with a design capacity of 1 MW or less for qualifying cogeneration facilities and 3 MW or less for small power production facilities. Prices are available for a cumulative total of 25 MW. In compliance with the Commission’s February 12, 2009, Order in Docket No. 08-035-78 on Net Metering Service, Schedule No. 37 avoided costs also establish the value or credit for net excess generation of large commercial customers under the Schedule No. 135 Net Metering Service.<sup>1</sup>

In compliance with Commission’s January 23, 2018 Order in Docket No. 17-035-T07 and 17-035-37, the Company provides avoided costs rates for Schedule 37 reflecting the Proxy/PDDRR methodology applicable under Schedule 38 and with only signed QFs included in the QF queue.

The proposed rates are based on the Schedule 38 avoided cost inputs contained in the Company’s May 29, 2018 quarterly avoided cost inputs compliance filing (2018.Q1 Filing). The following routine updates have been incorporated since the prior quarterly filing:

- Routine GRID Update – Update of generic GRID model inputs to include the assumptions reflecting semi-annual update for the historical period ending December 2017.
- Qualifying Facility Queue – update of signed contract queue to reflect resources not included in the 2017 IRP Update.
- March 2018 Official Forward Price Curve – prices for electricity and natural gas.
- 2017 IRP Update - Changes associated with the 2017 IRP Update include:
  - Preferred portfolio
  - Discount rate
  - Tax rates
  - Non-levelized PTCs for proxy wind resources
  - Hourly market price scalars.

Consistent with the Commission’s January 23, 2018 Order in Docket No. 17-035-T07 and 17-035-37, when a QF defers or avoids a renewable resource, the Company retains the QFs

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<sup>1</sup> Docket No. 08-035-78, February 12, 2009 Order, U.P.S.C 24 (2009).

renewable energy credits (RECs) on behalf of ratepayers. When a QF's avoided capacity costs are not based on the costs of a renewable resource, the QF is entitled to the RECs associated with its output.

### **DESCRIPTION OF THE AVOIDED COST STUDY WORKPAPERS**

“18-035-T07 RMP Appendix 1 - AC Study Summary 05-22-18” contains the summary of proposed avoided cost rates by QF type under the Commission-approved methodology.

**Table 1** presents the timing of deferrable resources as listed in Table 8.1 of the Company's 2017 IRP Update filing dated May 1, 2018. Table 1 shows the renewable resources the Company plans to acquire over the 20-year planning period. The 2017 IRP Update preferred portfolio does not include any thermal resources. The planned solar resources are located in Yakima, Utah South, and Southern Oregon. The planned wind resources include Energy Vision 2020 resources in Wyoming near Aeolus and near Trona, as well as proxy resources near Dave Johnston, near Goshen, and in Utah South.

The timing of the deficiency period for a baseload QF is determined based on the next deferrable thermal resource that has not been already displaced by signed QFs. Since the 2017 IRP Update preferred portfolio does not include any thermal resources, the sufficiency period covers whole the study period from 2018-2036, and a baseload QF displaces only Front Office Transactions (FOTs). **Table 2** shows the current queue of signed or terminated contracts after the 2017 IRP Update was prepared, which totals 48 MW nameplate capacity.

The deficiency period for a solar QF is based on the next deferrable IRP solar resource that has not been already displaced by signed solar contracts. Based on current signed contracts, an incremental solar QF partially displaces 2030 Yakima Solar.

The deficiency period for a wind QF is based on the next deferrable IRP wind resource that has not been already displaced by signed wind contracts. Based on the current signed contracts, an incremental wind QF partially displaces Energy Vision 2020 new wind resource in 2020 and Aeolus-Bridger/Anticline transmission capacity (Gateway Segment D2).

In its Order in Docket No. 09-035-T14, the Commission directed the Company “to label Table 1 with the applicable planning reserve margin assumption (e.g., 12 or 15 percent) in all subsequent filings of Schedule No. 37 rates.” The IRP uses planning reserves to account for operating reserves, regulating reserves, load forecast errors and other planning uncertainties. As shown on Table 1, the 2017 IRP Update utilized a 13 percent planning reserve margin.

**Table 3** presents a comparison of the proposed avoided cost rates to the currently effective rates for each QF type. **Table 4** and **Table 5** summarize natural gas and electricity market

price forecasts used in the calculation of proposed rates in this filing. **Table 6** provides the integration costs used in the filing, reflecting values from the 2017 IRP Update.

## **DESCRIPTION OF AVOIDED COST STUDY WORKPAPERS**

### **Baseload QF**

The following supporting files contain calculations of avoided cost rates for Baseload QFs:

**18-035-T07 RMP CONF Workpaper 1a - GRID AC Study Thermal 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2018-2027

**18-035-T07 RMP CONF Workpaper 1b - GRID AC Study Thermal 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2028-2036

### **18-035-T07 RMP Wkpr - Avoided Cost Study-Thermal 05-15-18.xlsx:**

- **Table 1:** summarizes the annual avoided energy costs based on GRID runs and shows the calculation of the annual avoided capacity costs. Since, the 2017 IRP Update preferred portfolio does not include any thermal resources, the avoided costs rates for a baseload QF reflects displacement of Front Office Transactions (FOTs).
- **Table 2:** summarizes monthly avoided energy costs based on the GRID runs
- **Table 4:** summarizes annual natural gas price forecasts for East and West side locations
- **Table 5:** shows the monthly calculation of avoided capacity costs and avoided energy costs. Total unit avoided costs (\$/MWh) are calculated by summing the avoided energy cost dollars (based on GRID runs) and the avoided capacity cost dollars (based deferred resource fixed costs) and dividing by the generation of the QF.

**18-035-T07 RMP Wkpr - QF Pricing Detail-Thermal 05-15-18.xlsx:** contains the calculations of the monthly on-peak (HLH) and off-peak (LLH) avoided cost rates by spreading total monthly avoided cost dollars (both energy and capacity) based on projected Palo Verde (“PV”) HLH and LLH market prices.

### **Wind QF**

The following supporting files contain calculations of avoided cost rates for Wind QFs:

**18-035-T07 RMP CONF Workpaper 1a - GRID AC Study Wind 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2018-2027.

**18-035-T07 RMP CONF Workpaper 1b - GRID AC Study Wind 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2028-2036

**18-035-T07 RMP Wkpr - Avoided Cost Study-Wind 05-15-18.xlsx:**

- **Table 1:** summarizes the annual avoided energy costs based on GRID runs and shows the calculation of the annual avoided capacity costs. During the deficiency period of 2018-2019, the avoided capacity costs are based on the avoided fixed costs of the next deferrable wind resource from 2017 IRP Update (that has not been already displaced by signed contracts). Specifically, the avoided capacity cost for a wind QF reflects avoided fixed costs of the Energy Vision 2020 new wind resource in Wyoming in 2020 and Aeolus-Bridger/Anticline transmission upgrade from the 2017 IRP Update. PacifiCorp retains the RECs generated starting in Nov. 2020.
- **Table 2:** summarizes monthly avoided energy costs based on the GRID runs
- **Table 3:** shows the total resource cost information for each the planned new resources in 2017 IRP Update preferred portfolio. Total resource cost information included capital costs, and fixed and variable Operation and Maintenance (O&M) expenses, and tax credits if applicable.
- **Table 4:** summarizes annual natural gas price forecasts for East and West side locations
- **Table 5:** shows the monthly calculation of avoided capacity costs and avoided energy costs. Total unit avoided costs (\$/MWh) are calculated by summing the avoided energy cost dollars (based on GRID runs) and the avoided capacity cost dollars (based deferred resource fixed costs) and dividing by the generation of the QF.

**118-035-T07 RMP Wkpr - QF Pricing Detail-Wind 05-15-18.xlsx:** contains the calculations of the monthly on-peak (HLH) and off-peak (LLH) avoided cost rates for a Wind QF by spreading total monthly avoided cost dollars (both energy and capacity) based on projected Palo Verde (“PV”) HLH and LLH market prices.

**Tracking Solar QF**

The following supporting files contain calculations of avoided cost rates for Tracking Solar QFs:

**18-035-T07 RMP CONF Workpaper 1a - GRID AC Study Solar T 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2018-2027

**18-035-T07 RMP CONF Workpaper 1b - GRID AC Study Solar T 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2028-2036



**18-035-T07 RMP Wkpr - Avoided Cost Study-Solar T 05-15-18.xlsx:**

- **Table 1:** summarizes the annual avoided energy costs based on GRID runs and shows the calculation of the annual avoided capacity costs. During the deficiency period, the avoided capacity costs are based on the avoided fixed costs of the next deferrable solar resource from 2017 IRP Update (that has not been already displaced by signed contracts). Specifically, the avoided capacity cost for a solar QF reflects avoided fixed costs of the 2030 Yakima South solar resource from the 2017 IRP Update. PacifiCorp retains the RECs generated starting in 2030.
- **Table 2:** summarizes monthly avoided energy costs based on the GRID runs
- **Table 3:** shows the total resource cost information for each planned new resources in the 2017 IRP Update preferred portfolio. Total resource cost information included capital costs, and fixed and variable Operation and Maintenance (O&M) expenses, and tax credits if applicable.
- **Table 4:** summarizes annual natural gas price forecasts for East and West side locations
- **Table 5:** shows the monthly calculation of avoided capacity costs and avoided energy costs. Total unit avoided costs (\$/MWh) are calculated by summing the avoided energy cost dollars (based on GRID runs) and the avoided capacity cost dollars (based deferred resource fixed costs) and dividing by the generation of the QF.

**18-035-T07 RMP Wkpr - QF Pricing Detail-Solar T 05-15-18.xlsx:** contains the calculations of the monthly on-peak (HLH) and off-peak (LLH) avoided cost rates for a tracking Solar QF by spreading total monthly avoided cost dollars (both energy and capacity) based on projected Palo Verde (“PV”) HLH and LLH market prices.

**Fixed Solar QF**

The following supporting files contain calculations of avoided cost rates for Fixed Solar QFs:

**18-035-T07 RMP CONF Workpaper 1a - GRID AC Study Solar F 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2018-2027

**18-035-T07 RMP CONF Workpaper 1b - GRID AC Study Solar F 05-15-18.xlsx:** contains results of the GRID runs for the Base Case and the Avoided Cost Case for 2028-2036

**18-035-T07 RMP Wkpr - Avoided Cost Study-Solar F 05-15-18.xlsx:**

- **Table 1:** summarizes the annual avoided energy costs based on GRID runs and shows the calculation of the annual avoided capacity costs. During the deficiency period, the avoided capacity costs are based on the avoided fixed costs of the next deferrable solar resource from 2017 IRP Update (that has not been already displaced by signed contracts). Specifically, the avoided capacity cost for a solar

- QF reflects avoided fixed costs of the 2030 Yakima solar resource from the 2017 IRP Update. PacifiCorp retains the RECs generated starting in 2030.
- **Table 2:** summarizes monthly avoided energy costs based on the GRID runs
  - **Table 3:** shows the total resource cost information for each the planned new resources in 2017 IRP Update preferred portfolio. Total resource cost information included capital costs, and fixed and variable Operation and Maintenance (O&M) expenses, and tax credits if applicable.
  - **Table 4:** summarizes annual natural gas price forecasts for East and West side locations
  - **Table 5:** shows the monthly calculation of avoided capacity costs and avoided energy costs. Total unit avoided costs (\$/MWh) are calculated by summing the avoided energy cost dollars (based on GRID runs) and the avoided capacity cost dollars (based deferred resource fixed costs) and dividing by the generation of the QF.

**18-035-T07 RMP Wkpr - QF Pricing Detail-Solar F 05-15-18.xlsx:** contains the calculations of the monthly on-peak (“HLH”) and off-peak (“LLH”) avoided cost rates for a fixed Solar QF by spreading total monthly avoided cost dollars (both energy and capacity) based on projected Palo Verde (“PV”) HLH and LLH market prices.

## **Appendix 3**

**ROCKY MOUNTAIN POWER**

**UTAH – May 2018**

**Schedule 37 QFs on the Distribution System**

**OVERVIEW**

Schedule 37 contains avoided cost prices to be paid to small qualifying facilities (“QF”) and applies to QFs with a design capacity of 1 MW or less for qualifying cogeneration facilities and 3 MW or less for small power production facilities.

In compliance with Commission’s January 23, 2018 Order in Docket No. 17-035-T07 and 17-035-37, the Company hereby provides details on the existing QF resources that qualify for Schedule 37 and deliver on PacifiCorp’s distribution system.

**QFS ON THE DISTRIBUTION SYSTEM**

At present, the Company has contracts with 25 QF resources under Schedule 37, totaling 51 MW. The interconnection voltage for these resources is summarized in the table below.

<b>Interconnection Voltage</b>	<b>Count</b>	<b>Capacity (MW)</b>
<b>Transmission</b>	1	1.7
<b>Distribution</b>	22	49.3
<b>Secondary</b>	2	0.2

While the majority of these resources are interconnected at distribution voltages, this does not necessarily indicate that they do not rely upon the Company’s transmission system. For instance, using interconnection studies the Company identified five distribution-connected resources totaling 12.5 MW of capacity which were expected to result in net generation exports from the distribution circuit on which they were located back into the local sub-station under some operating conditions. The majority of the resources that resulted in potential exports to the transmission system were solar resources, and three resources totaling 9 MW were on a single distribution circuit.

All of these resources studies are based on assumptions for minimum circuit loading which are now several years out of date. To the extent load has dropped on these circuits as a result of energy efficiency, customer-sited generation, or other reductions in customer demand, exports may occur and distribution or transmission system modifications may become necessary, even if they were not identified in interconnection studies.

**LOSSES**

Line losses occur at several stages between generation interconnected to the transmission system and customers, depending on the customer’s interconnection voltage. Retail customers are generally classified as taking service at transmission, primary, or secondary voltage. Transmission represents a high voltage level, primary is a medium voltage, and secondary is a low voltage. Since resources are primarily connected at transmission voltage, additional losses are incurred at each stage as voltages are stepped down for delivery to customers.

Service to retail customers at transmission voltage only incurs transmission system losses. Service to retail customers at primary voltage incurs transmission system losses as well as losses in primary transformers and primary lines. Service to retail customers at secondary voltage incurs transmission and primary losses, as well as losses in secondary transformers and lines.

PacifiCorp's current transmission system losses are specified in its open access transmission tariff (OATT), and are currently 4.45%. The losses included in retail customer rates are based on a loss study from 2009. In that study, system-wide transmission losses were 4.527%, total losses for Utah deliveries at primary voltage were 6.635%, and total losses for Utah deliveries at secondary voltage were 9.322%.

When a resource is exporting to PacifiCorp's system, losses will still be incurred in delivering that generation to retail customers. For instance, if resources connect at the secondary voltage level and are delivered using only that secondary distribution system, they will not avoid the full level of secondary losses, but may avoid primary losses (i.e. 6.635%). To the extent those resources have to be transformed back to higher voltage levels, losses would be incurred at both the primary and secondary voltage levels and may only avoid transmission losses (i.e. 4.45%).

To the extent a resource is fully utilized behind a customer's meter, for instance in a buy-all, sell-all arrangement, it will avoid all of the losses that would have been incurred to deliver power to that customer. If a customer takes service at secondary voltage and has a buy-all, sell-all contract, whenever the resource's is less than its own load, it could avoid secondary losses (i.e. 9.322%).

**CERTIFICATE OF SERVICE**

Docket No. 18-035-T02  
Advice 18-02

I hereby certify that on June 5, 2018, a true and correct copy of the foregoing was served by electronic mail to the following:

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