

May 1, 2015

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
3930 Fairview Industrial Drive, SE
Salem, OR 97302

Attention: Filing Center

**RE: Advice 15-008 – Schedule 37 Avoided Cost Purchases from Qualifying Facilities of 10,000 KW or Less
Compliance Filing Docket UM 1610**

In compliance with ORS 758.525 and Order 14-058 of docket UM 1610, PacifiCorp d/b/a Pacific Power (PacifiCorp or Company) hereby submits for filing the following proposed tariff pages associated with Tariff P.U.C. OR No. 36, which sets forth all rates, tolls, charges, rules and regulations applicable to electric service in Oregon. The Company's filing includes updates to its standard avoided cost schedule (Schedule 37), and its standard avoided costs. The Company respectfully requests an effective date of June 1, 2015.

Third Revision of Sheet No. 37-5	Schedule 37	Avoided Cost Purchases from Qualifying Facilities of 10,000 KW or Less
Third Revision of Sheet No. 37-6	Schedule 37	Avoided Cost Purchases from Qualifying Facilities of 10,000 KW or Less

This filing satisfies the Company's obligation established in Order No. 14-058 to file avoided cost updates on May 1 of each year. Consistent with Order No. 14-058, this annual update is limited to the following four factors: i) natural gas prices; (ii) on-peak and off-peak forward looking electricity market prices; (iii) production tax credit status; and (iv) any other action or change in an acknowledged IRP relevant to the calculation of avoided costs.

In support of this filing, PacifiCorp submits Appendix 1– Avoided Cost Study and Appendix 2-Method Write-up. Also included is a redline version of the tariff pages Sheet Nos. 37-5 and 37-6, which reflect the updates since the previous filing. Also provided are the supporting documentation in both “pdf” and original formats.

It is respectfully requested that all formal data requests regarding this matter be addressed to:

By E-Mail (preferred): datarequest@pacificorp.com

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


Public Utility Commission of Oregon

May 1, 2015

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Informal inquiries on this filing may be directed to Erin Apperson, Manager of Regulatory Affairs, at (503) 813-6642.

Sincerely,

A handwritten signature in cursive script that reads "R. Bryce Dalley" followed by the initials "EEA" in a smaller, more legible font.

R. Bryce Dalley
Vice President, Regulation

Enclosures

cc: UM 1610 Service List
UM 1396 Service List

**PACIFIC POWER
PROPOSED TARIFF CHANGES TO SCHEDULE 37
AVOIDED COST PURCHASES FROM
QUALIFYING FACILITIES OF 10,000 kW OR LESS
OREGON – April 2015**

**AVOIDED COST PURCHASES FROM
 QUALIFYING FACILITIES OF 10,000 KW OR LESS**
Avoided Cost Prices
Standard Fixed Avoided Cost Prices

Fixed Prices ¢/kWh						
Deliveries During Calendar Year	Base Load QF (1)		Wind QF (2)		Solar QF	
	On-Peak Energy Price (a)	Off-Peak Energy Price (b)	On-Peak Energy Price (c)	Off-Peak Energy Price (d)	On-Peak Energy Price (e)	Off-Peak Energy Price (f)
2015	2.77	2.19	2.51	1.93	2.77	2.19
2016	2.87	2.20	2.60	1.93	2.87	2.20
2017	3.13	2.43	2.86	2.16	3.13	2.43
2018	3.38	2.54	3.10	2.26	3.38	2.54
2019	3.55	2.73	3.26	2.45	3.55	2.73
2020	3.82	2.93	3.53	2.64	3.82	2.93
2021	4.11	3.18	3.81	2.88	4.11	3.18
2022	4.41	3.44	4.10	3.14	4.41	3.44
2023	4.72	3.69	4.41	3.38	4.72	3.69
2024	6.16	3.06	2.87	2.74	3.48	3.06
2025	6.35	3.18	2.99	2.86	3.61	3.18
2026	6.41	3.18	2.98	2.84	3.62	3.18
2027	6.61	3.31	3.11	2.97	3.76	3.31
2028	6.98	3.61	3.40	3.26	4.07	3.61
2029	7.15	3.71	3.50	3.36	4.18	3.71
2030	7.30	3.79	3.58	3.43	4.27	3.79
2031	7.62	4.03	3.82	3.67	4.52	4.03
2032	7.80	4.14	3.92	3.76	4.64	4.14
2033	7.93	4.20	3.97	3.81	4.71	4.20
2034	8.15	4.34	4.11	3.95	4.86	4.34
2035	8.40	4.51	4.27	4.11	5.04	4.51
2036	8.59	4.62	4.38	4.21	5.16	4.62
2037	8.82	4.76	4.52	4.35	5.31	4.76
2038	9.05	4.91	4.65	4.48	5.47	4.91
2039	9.25	5.02	4.76	4.58	5.59	5.02
2040	9.51	5.19	4.93	4.74	5.78	5.19
2041	9.71	5.30	5.03	4.85	5.90	5.30

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- (1) Capacity Contribution to Peak for Avoided Proxy Resource and Base Load Qualifying Facility resource are assumed 100%.
- (2) The standard avoided cost price for wind is reduced by an integration charge of \$2.55/MWh (\$2012). If Wind Qualifying Facility is not in PacifiCorp's balancing authority area, then no reduction is required.

(continued)

**AVOIDED COST PURCHASES FROM
QUALIFYING FACILITIES OF 10,000 KW OR LESS**
Avoided Cost Prices (Continued)
Renewable Fixed Avoided Cost Prices
Fixed Prices ¢/kWh

Deliveries During Calendar Year (1)	Renewable Base Load QF (2)		Wind QF (3,4)		Solar QF (5)	
	On-Peak Energy Price (a)	Off-Peak Energy Price (b)	On-Peak Energy Price (c)	Off-Peak Energy Price (d)	On-Peak Energy Price (e)	Off-Peak Energy Price (f)
2015	2.77	2.19	2.51	1.93	2.77	2.19
2016	2.87	2.20	2.60	1.93	2.87	2.20
2017	3.13	2.43	2.86	2.16	3.13	2.43
2018	3.38	2.54	3.10	2.26	3.38	2.54
2019	3.55	2.73	3.26	2.45	3.55	2.73
2020	3.82	2.93	3.53	2.64	3.82	2.93
2021	4.11	3.18	3.81	2.88	4.11	3.18
2022	4.41	3.44	4.10	3.14	4.41	3.44
2023	4.72	3.69	4.41	3.38	4.72	3.69
2024	11.96	7.05	8.67	6.73	9.28	7.05
2025	12.19	7.24	8.83	6.92	9.46	7.24
2026	12.36	7.51	8.93	7.18	9.56	7.51
2027	12.59	7.71	9.09	7.37	9.73	7.71
2028	12.82	7.91	9.24	7.57	9.91	7.91
2029	13.05	8.11	9.40	7.76	10.07	8.11
2030	13.27	8.32	9.55	7.96	10.24	8.32
2031	13.47	8.59	9.67	8.22	10.37	8.59
2032	13.78	8.75	9.90	8.37	10.62	8.75
2033	13.97	9.05	10.01	8.67	10.74	9.05
2034	14.17	9.36	10.13	8.97	10.88	9.36
2035	14.47	9.55	10.34	9.15	11.11	9.55
2036	14.85	9.65	10.63	9.25	11.42	9.65
2037	15.06	9.98	10.76	9.57	11.56	9.98
2038	15.58	9.94	11.19	9.51	12.00	9.94
2039	16.04	10.01	11.55	9.58	12.38	10.01
2040	16.38	10.22	11.80	9.77	12.65	10.22
2041	16.66	10.51	11.98	10.05	12.85	10.51

(1) For the purpose of determining: (i) when the Renewable Qualifying Facility is entitled to renewable avoided cost prices; and (ii) the ownership of Environmental Attributes and the transfer of Green Tags to PacifiCorp, the Renewable Resource Sufficiency Period ends December 31, 2023, and the Renewable Resource Deficiency Period begins January 1, 2024.

(2) The renewable avoided cost price during the Renewable Resource Deficiency Period (2024-2040) has been increased by an integration charge of \$2.55/MWh (\$2012).

(3) During the Renewable Resource Deficiency Period, the renewable avoided cost price for a Wind Qualifying Facility will be adjusted by adding the difference between the avoided integration costs and the Qualifying Facility's integration costs. If the Wind Qualifying Facility is in PacifiCorp's balancing authority area (BAA), the adjustment is zero (integration costs cancel each other out). If the Wind Qualifying Facility is not in PacifiCorp's BAA, \$2.55/MWh (\$2012) will be added for avoided integration charges.

(4) During Renewable Resource Sufficiency Period, the renewable avoided cost price for a Wind Qualifying Facility has been reduced by an integration charge of \$2.55/MWh (\$2012) for Wind Qualifying Facilities located in PacifiCorp's BAA (in-system). If a Wind Qualifying Facility is not in PacifiCorp's BAA, \$2.55/MWh (\$2012) will be added for avoided integration charges.

(5) The renewable avoided cost payment during the Renewable Resource Deficiency Period (2024-2040) has been increased by an integration charge of \$2.55/MWh (\$2012).

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**AVOIDED COST PURCHASES FROM
QUALIFYING FACILITIES OF 10,000 KW OR LESS**
Avoided Cost Prices
Standard Fixed Avoided Cost Prices
Fixed Prices ¢/kWh

Deliveries During Calendar Year	Base Load QF (1)		Wind QF (2)		Solar QF	
	On-Peak Energy Price (a)	Off-Peak Energy Price (b)	On-Peak Energy Price (c)	Off-Peak Energy Price (d)	On-Peak Energy Price (e)	Off-Peak Energy Price (f)
2014	3.98	2.62	3.71	2.35	3.98	2.62
2015	3.94	2.86	3.67	2.59	3.94	2.86
2016	3.85	2.84	3.58	2.57	3.85	2.84
2017	4.06	3.01	3.79	2.73	4.06	3.01
2018	4.33	3.20	4.04	2.92	4.33	3.20
2019	4.55	3.41	4.26	3.12	4.55	3.41
2020	4.78	2.84	4.48	3.54	4.78	3.84
2021	4.92	4.25	4.62	3.95	4.92	4.25
2022	5.58	4.83	5.28	4.53	5.58	4.83
2023	5.79	5.02	5.48	4.74	5.79	5.02
2024	6.97	3.94	3.72	2.59	4.32	3.01
2025	7.11	4.00	3.81	3.68	4.42	4.00
2026	7.31	4.13	3.94	3.80	4.56	4.13
2027	7.52	4.29	4.09	3.96	4.73	4.29
2028	7.74	4.44	4.24	4.11	4.89	4.44
2029	8.00	4.64	4.44	4.30	5.10	4.64
2030	8.25	4.83	4.62	4.48	5.30	4.83
2031	8.42	4.93	4.72	4.57	5.40	4.93
2032	8.59	5.03	4.81	4.66	5.51	5.03
2033	8.76	5.13	4.91	4.75	5.62	5.13
2034	8.94	5.23	5.01	4.85	5.74	5.23
2035	9.11	5.23	5.10	4.94	5.84	5.23
2036	9.30	5.44	5.21	5.05	5.97	5.44
2037	9.50	5.56	5.32	5.16	6.09	5.56
2038	9.70	5.68	5.44	5.27	6.22	5.68
2039	9.90	5.80	5.55	5.38	6.35	5.80
2040	10.11	5.94	5.66	5.48	6.48	5.94

Fixed Prices ¢/kWh

Deliveries During Calendar Year	Base Load QF (1)		Wind QF (2)		Solar QF	
	On-Peak Energy Price (a)	Off-Peak Energy Price (b)	On-Peak Energy Price (c)	Off-Peak Energy Price (d)	On-Peak Energy Price (e)	Off-Peak Energy Price (f)
2015	2.77	2.19	2.51	1.93	2.77	2.19
2016	2.87	2.20	2.60	1.93	2.87	2.20
2017	3.13	2.43	2.86	2.16	3.13	2.43

(continued)

**AVOIDED COST PURCHASES FROM
 QUALIFYING FACILITIES OF 10,000 KW OR LESS**

<u>2018</u>	<u>3.38</u>	<u>2.54</u>	<u>3.10</u>	<u>2.26</u>	<u>3.38</u>	<u>2.54</u>
<u>2019</u>	<u>3.55</u>	<u>2.73</u>	<u>3.26</u>	<u>2.45</u>	<u>3.55</u>	<u>2.73</u>
<u>2020</u>	<u>3.82</u>	<u>2.93</u>	<u>3.53</u>	<u>2.64</u>	<u>3.82</u>	<u>2.93</u>
<u>2021</u>	<u>4.11</u>	<u>3.18</u>	<u>3.81</u>	<u>2.88</u>	<u>4.11</u>	<u>3.18</u>
<u>2022</u>	<u>4.41</u>	<u>3.44</u>	<u>4.10</u>	<u>3.14</u>	<u>4.41</u>	<u>3.44</u>
<u>2023</u>	<u>4.72</u>	<u>3.69</u>	<u>4.41</u>	<u>3.38</u>	<u>4.72</u>	<u>3.69</u>
<u>2024</u>	<u>6.16</u>	<u>3.06</u>	<u>2.87</u>	<u>2.74</u>	<u>3.48</u>	<u>3.06</u>
<u>2025</u>	<u>6.35</u>	<u>3.18</u>	<u>2.99</u>	<u>2.86</u>	<u>3.61</u>	<u>3.18</u>
<u>2026</u>	<u>6.41</u>	<u>3.18</u>	<u>2.98</u>	<u>2.84</u>	<u>3.62</u>	<u>3.18</u>
<u>2027</u>	<u>6.61</u>	<u>3.31</u>	<u>3.11</u>	<u>2.97</u>	<u>3.76</u>	<u>3.31</u>
<u>2028</u>	<u>6.98</u>	<u>3.61</u>	<u>3.40</u>	<u>3.26</u>	<u>4.07</u>	<u>3.61</u>
<u>2029</u>	<u>7.15</u>	<u>3.71</u>	<u>3.50</u>	<u>3.36</u>	<u>4.18</u>	<u>3.71</u>
<u>2030</u>	<u>7.30</u>	<u>3.79</u>	<u>3.58</u>	<u>3.43</u>	<u>4.27</u>	<u>3.79</u>
<u>2031</u>	<u>7.62</u>	<u>4.03</u>	<u>3.82</u>	<u>3.67</u>	<u>4.52</u>	<u>4.03</u>
<u>2032</u>	<u>7.80</u>	<u>4.14</u>	<u>3.92</u>	<u>3.76</u>	<u>4.64</u>	<u>4.14</u>
<u>2033</u>	<u>7.93</u>	<u>4.20</u>	<u>3.97</u>	<u>3.81</u>	<u>4.71</u>	<u>4.20</u>
<u>2034</u>	<u>8.15</u>	<u>4.34</u>	<u>4.11</u>	<u>3.95</u>	<u>4.86</u>	<u>4.34</u>
<u>2035</u>	<u>8.40</u>	<u>4.51</u>	<u>4.27</u>	<u>4.11</u>	<u>5.04</u>	<u>4.51</u>
<u>2036</u>	<u>8.59</u>	<u>4.62</u>	<u>4.38</u>	<u>4.21</u>	<u>5.16</u>	<u>4.62</u>
<u>2037</u>	<u>8.82</u>	<u>4.76</u>	<u>4.52</u>	<u>4.35</u>	<u>5.31</u>	<u>4.76</u>
<u>2038</u>	<u>9.05</u>	<u>4.91</u>	<u>4.65</u>	<u>4.48</u>	<u>5.47</u>	<u>4.91</u>
<u>2039</u>	<u>9.25</u>	<u>5.02</u>	<u>4.76</u>	<u>4.58</u>	<u>5.59</u>	<u>5.02</u>
<u>2040</u>	<u>9.51</u>	<u>5.19</u>	<u>4.93</u>	<u>4.74</u>	<u>5.78</u>	<u>5.19</u>
<u>2041</u>	<u>9.71</u>	<u>5.30</u>	<u>5.03</u>	<u>4.85</u>	<u>5.90</u>	<u>5.30</u>

- (1) Capacity Contribution to Peak for Avoided Proxy Resource and Base Load Qualifying Facility resource are assumed 100%.
- (2) The standard avoided cost price for wind is reduced by an integration charge of \$2.55/MWh (\$2012). If Wind Qualifying Facility is not in PacifiCorp's balancing authority area, then no reduction is required.

(continued)

**AVOIDED COST PURCHASES FROM
QUALIFYING FACILITIES OF 10,000 KW OR LESS**
Avoided Cost Prices (Continued)
Renewable Fixed Avoided Cost Prices

Fixed Prices ¢/kWh			Renewable Fixed Avoided Cost Prices			
Deliveries During Calendar Year (1)	Base Load Renewable QF (2)		Wind QF (3,4)		Solar QF (5)	
	On-Peak Energy Price	Off-Peak Energy Price	On-Peak Energy Price	Off-Peak Energy Price	On-Peak Energy Price	Off-Peak Energy Price
	(a)	(b)	(c)	(d)	(e)	(f)
2014	3.98	2.62	3.71	2.36	3.98	2.62
2015	3.94	2.86	3.67	2.59	3.94	2.86
2016	3.85	2.84	3.58	2.67	3.85	2.84
2017	4.06	3.01	3.79	2.73	4.06	3.01
2018	4.33	3.20	4.04	2.92	4.33	3.20
2019	4.55	3.41	4.26	3.12	4.55	3.41
2020	4.78	3.94	4.48	3.54	4.78	3.94
2021	4.92	4.25	4.62	3.95	4.92	4.25
2022	5.58	4.83	5.28	4.62	5.58	4.83
2023	5.79	5.02	5.48	4.71	5.79	5.02
2024	11.48	7.36	8.24	7.05	8.84	7.36
2025	11.70	7.49	8.30	7.17	9.01	7.49
2026	11.91	7.64	8.54	7.31	9.17	7.64
2027	12.14	7.78	8.71	7.45	9.34	7.78
2028	12.36	7.94	8.87	7.61	9.52	7.94
2029	12.58	8.11	9.02	7.77	9.66	8.11
2030	12.81	8.28	9.18	7.93	9.85	8.28
2031	13.05	8.46	9.34	8.10	10.03	8.46
2022	13.29	9.66	9.51	8.30	10.21	9.66
2023	13.53	8.87	9.66	8.50	10.39	8.87
2034	13.79	9.07	9.66	8.69	10.58	9.07
2025	14.04	9.27	10.03	8.69	10.78	9.27
2036	14.32	9.49	10.23	9.09	10.99	9.49
2037	14.59	9.72	10.42	9.32	11.19	9.72
2028	14.87	9.96	10.60	9.55	11.39	9.96
2029	15.15	10.21	10.80	9.79	11.60	10.21
2040	15.47	10.43	11.02	10.00	11.85	10.43

Fixed Prices ¢/kWh			Renewable Fixed Avoided Cost Prices			
Deliveries During Calendar Year (1)	Renewable Base Load QF (2)		Wind QF (3,4)		Solar QF (5)	
	On-Peak Energy Price	Off-Peak Energy Price	On-Peak Energy Price	Off-Peak Energy Price	On-Peak Energy Price	Off-Peak Energy Price
	(a)	(b)	(c)	(d)	(e)	(f)
2015	2.77	2.19	2.51	1.93	2.77	2.19
2016	2.87	2.20	2.60	1.93	2.87	2.20
2017	3.13	2.43	2.86	2.16	3.13	2.43
2018	3.38	2.54	3.10	2.26	3.38	2.54
2019	3.55	2.73	3.26	2.45	3.55	2.73
2020	3.82	2.93	3.53	2.64	3.82	2.93
2021	4.11	3.18	3.81	2.88	4.11	3.18

(continued)

**AVOIDED COST PURCHASES FROM
 QUALIFYING FACILITIES OF 10,000 KW OR LESS**

<u>2022</u>	<u>4.41</u>	<u>3.44</u>	<u>4.10</u>	<u>3.14</u>	<u>4.41</u>	<u>3.44</u>
<u>2023</u>	<u>4.72</u>	<u>3.69</u>	<u>4.41</u>	<u>3.38</u>	<u>4.72</u>	<u>3.69</u>
<u>2024</u>	<u>11.96</u>	<u>7.05</u>	<u>8.67</u>	<u>6.73</u>	<u>9.28</u>	<u>7.05</u>
<u>2025</u>	<u>12.19</u>	<u>7.24</u>	<u>8.83</u>	<u>6.92</u>	<u>9.46</u>	<u>7.24</u>
<u>2026</u>	<u>12.36</u>	<u>7.51</u>	<u>8.93</u>	<u>7.18</u>	<u>9.56</u>	<u>7.51</u>
<u>2027</u>	<u>12.59</u>	<u>7.71</u>	<u>9.09</u>	<u>7.37</u>	<u>9.73</u>	<u>7.71</u>
<u>2028</u>	<u>12.82</u>	<u>7.91</u>	<u>9.24</u>	<u>7.57</u>	<u>9.91</u>	<u>7.91</u>
<u>2029</u>	<u>13.05</u>	<u>8.11</u>	<u>9.40</u>	<u>7.76</u>	<u>10.07</u>	<u>8.11</u>
<u>2030</u>	<u>13.27</u>	<u>8.32</u>	<u>9.55</u>	<u>7.96</u>	<u>10.24</u>	<u>8.32</u>
<u>2031</u>	<u>13.47</u>	<u>8.59</u>	<u>9.67</u>	<u>8.22</u>	<u>10.37</u>	<u>8.59</u>
<u>2032</u>	<u>13.78</u>	<u>8.75</u>	<u>9.90</u>	<u>8.37</u>	<u>10.62</u>	<u>8.75</u>
<u>2033</u>	<u>13.97</u>	<u>9.05</u>	<u>10.01</u>	<u>8.67</u>	<u>10.74</u>	<u>9.05</u>
<u>2034</u>	<u>14.17</u>	<u>9.36</u>	<u>10.13</u>	<u>8.97</u>	<u>10.88</u>	<u>9.36</u>
<u>2035</u>	<u>14.47</u>	<u>9.55</u>	<u>10.34</u>	<u>9.15</u>	<u>11.11</u>	<u>9.55</u>
<u>2036</u>	<u>14.85</u>	<u>9.65</u>	<u>10.63</u>	<u>9.25</u>	<u>11.42</u>	<u>9.65</u>
<u>2037</u>	<u>15.06</u>	<u>9.98</u>	<u>10.76</u>	<u>9.57</u>	<u>11.56</u>	<u>9.98</u>
<u>2038</u>	<u>15.58</u>	<u>9.94</u>	<u>11.19</u>	<u>9.51</u>	<u>12.00</u>	<u>9.94</u>
<u>2039</u>	<u>16.04</u>	<u>10.01</u>	<u>11.55</u>	<u>9.58</u>	<u>12.38</u>	<u>10.01</u>
<u>2040</u>	<u>16.38</u>	<u>10.22</u>	<u>11.80</u>	<u>9.77</u>	<u>12.65</u>	<u>10.22</u>
<u>2041</u>	<u>16.66</u>	<u>10.51</u>	<u>11.98</u>	<u>10.05</u>	<u>12.85</u>	<u>10.51</u>

(1) For the purpose of determining: (i4) when the Renewable Qualifying Facility is entitled to renewable avoided cost prices; and (ii2) the ownership of Environmental Attributes and the transfer of Green Tags to PacifiCorp, the Renewable Resource Sufficiency Period ends December 31, 2023, and the Renewable Resource Deficiency Period begins January 1, 2024.

(2) The renewable avoided cost price during the Renewable Resource Deficiency Period (2024-2040) has been increased by an integration charge of \$2.55/MWh (\$2012).

(3) During the Renewable Resource Deficiency Period, the renewable avoided cost price for a Wind Qualifying Facility will be adjusted by adding the difference between the avoided integration costs and the Qualifying Facility's integration costs. If the Wind Qualifying Facility is in PacifiCorp's balancing authority area (BAA), the adjustment is zero (integration costs cancel each other out). If the Wind Qualifying Facility is not in PacifiCorp's BAA, \$2.55/MWh (\$2012) will be added for avoided integration charges.

(4) During Renewable Resource Sufficiency Period, the renewable avoided cost price for a Wind Qualifying Facility has been reduced by an integration charge of \$2.55/MWh (\$2012) for Wind Qualifying Facilities located in PacifiCorp's BAA (in-system). If a Wind Qualifying Facility is not in PacifiCorp's BAA, \$2.55/MWh (\$2012) will be added for avoided integration charges.

(5) The renewable avoided cost payment during the Renewable Resource Deficiency Period (2024-2040) has been increased by an integration charge of \$2.55/MWh (\$2012).

(continued)

**PACIFIC POWER
AVOIDED COST CALCULATION**

**STANDARD RATES FOR AVOIDED COST PURCHASES FROM
QUALIFYING FACILITIES OF 10,000 kW OR LESS, THAT
QUALIFY FOR SCHEDULE NO. 37**

OREGON – May 2015

Exhibit 1
Standard Avoided Cost Prices for Base Load QF (1)
\$/MWH

Year	Standard Avoided Resource			Base Load QF Resource	
	Capacity Price	Capacity Cost Allocated to On-Peak Hours	Energy Only Price	On-Peak	Off-Peak
	\$/kW-yr	(\$/MWh)	\$/MWh	\$/MWh	\$/MWh
	(a)	(b)	(c)	(d)	(e)
		(a)/(8.76 x 91.8% x 57%)		(b) + (c)	= (c)
2015				\$27.71	\$21.91
2016				\$28.66	\$22.00
2017				\$31.33	\$24.29
2018				\$33.75	\$25.40
2019				\$35.47	\$27.32
2020				\$38.18	\$29.31
2021				\$41.05	\$31.82
2022				\$44.08	\$34.42
2023				\$47.22	\$36.87
2024	\$142.08	\$31.00	\$30.57	\$61.57	\$30.57
2025	\$145.21	\$31.68	\$31.83	\$63.51	\$31.83
2026	\$148.25	\$32.34	\$31.76	\$64.10	\$31.76
2027	\$151.38	\$33.03	\$33.06	\$66.09	\$33.06
2028	\$154.56	\$33.72	\$36.08	\$69.80	\$36.08
2029	\$157.65	\$34.39	\$37.12	\$71.51	\$37.12
2030	\$160.81	\$35.08	\$37.92	\$73.00	\$37.92
2031	\$164.18	\$35.82	\$40.34	\$76.16	\$40.34
2032	\$167.63	\$36.57	\$41.39	\$77.96	\$41.39
2033	\$171.14	\$37.34	\$41.98	\$79.32	\$41.98
2034	\$174.74	\$38.12	\$43.41	\$81.53	\$43.41
2035	\$178.42	\$38.92	\$45.06	\$83.98	\$45.06
2036	\$182.17	\$39.74	\$46.17	\$85.91	\$46.17
2037	\$185.98	\$40.57	\$47.62	\$88.19	\$47.62
2038	\$189.87	\$41.42	\$49.06	\$90.48	\$49.06
2039	\$194.04	\$42.33	\$50.19	\$92.52	\$50.19
2040	\$198.12	\$43.22	\$51.88	\$95.10	\$51.88
2041	\$202.27	\$44.13	\$53.00	\$97.13	\$53.00

(1) Capacity Contribution of the Avoided Proxy and Base Load QF resources are assumed to be 100%.

Columns

- (a) Full Fixed Cost of a Proxy CCCT less capitalized energy
- (b) 91.8% is the on-peak capacity factor of the Proxy Resource
57.0% is the percent of all hours that are on-peak
- (c) Fuel and Capitalized Energy Cost of the Proxy CCCT
- (d) 2015-2023 On-Peak Market Prices for QF resource
- (e) 2015-2023 Off-Peak Market Prices for QF resource

Exhibit 2
Standard Avoided Cost Prices for Wind QF Resource (1,2)
S/MWH

Year	Standard Avoided Resource			Wind QF Resource			
	Capacity Price	Capacity Cost Allocated to On-Peak Hours	Energy Only Price	Capacity Contribution	Capacity Payment On-Peak Hours	On-Peak	Off-Peak
	\$/kW-yr	(\$/MWh)	\$/MWh		\$/MWh	\$/MWh	\$/MWh
(a)	(b)	(c)	(d)	(e)	(f)	(g)	
	(a) / (8.76 x 91.8% x 57%)				= (b) * (d)	= (c) + (e)	= (c)
2015						\$25.07	\$19.27
2016						\$25.97	\$19.31
2017						\$28.59	\$21.55
2018						\$30.95	\$22.60
2019						\$32.61	\$24.46
2020						\$35.26	\$26.39
2021						\$38.07	\$28.84
2022						\$41.04	\$31.38
2023						\$44.11	\$33.76
2024	\$142.08	\$31.00	\$30.57	4.20%	\$1.30	\$28.69	\$27.39
2025	\$145.21	\$31.68	\$31.83	4.20%	\$1.33	\$29.91	\$28.58
2026	\$148.25	\$32.34	\$31.76	4.20%	\$1.36	\$29.80	\$28.44
2027	\$151.38	\$33.03	\$33.06	4.20%	\$1.39	\$31.06	\$29.67
2028	\$154.56	\$33.72	\$36.08	4.20%	\$1.42	\$34.04	\$32.62
2029	\$157.65	\$34.39	\$37.12	4.20%	\$1.44	\$35.03	\$33.59
2030	\$160.81	\$35.08	\$37.92	4.20%	\$1.47	\$35.79	\$34.32
2031	\$164.18	\$35.82	\$40.34	4.20%	\$1.50	\$38.16	\$36.66
2032	\$167.63	\$36.57	\$41.39	4.20%	\$1.54	\$39.17	\$37.63
2033	\$171.14	\$37.34	\$41.98	4.20%	\$1.57	\$39.71	\$38.14
2034	\$174.74	\$38.12	\$43.41	4.20%	\$1.60	\$41.09	\$39.49
2035	\$178.42	\$38.92	\$45.06	4.20%	\$1.63	\$42.69	\$41.06
2036	\$182.17	\$39.74	\$46.17	4.20%	\$1.67	\$43.76	\$42.09
2037	\$185.98	\$40.57	\$47.62	4.20%	\$1.70	\$45.15	\$43.45
2038	\$189.87	\$41.42	\$49.06	4.20%	\$1.74	\$46.54	\$44.80
2039	\$194.04	\$42.33	\$50.19	4.20%	\$1.78	\$47.62	\$45.84
2040	\$198.12	\$43.22	\$51.88	4.20%	\$1.82	\$49.26	\$47.44
2041	\$202.27	\$44.13	\$53.00	4.20%	\$1.85	\$50.32	\$48.47

(1) The avoided cost prices have been reduced by a wind integration charge of \$2.55/MWh (\$2012) for a wind QF resources located in PacifiCorp's Balancing Area Authority (BAA) (in-system).
 If QF wind resource is not in PacifiCorp's BAA, prices will be increased by the \$2.55/MWh (\$2012) integration charges

(2) Wind Integration Charge is \$2.55 (2012 \$ per MWh) - 2013 IRP Volume II-Appendix H, Table H.2, page 86
 Table 11 - 2013 IRP Wyoming Wind Resource - Column (g)

Columns

- (a) Full Fixed Cost of a Proxy CCCT less capitalized energy
- (b) 91.8% is the on-peak capacity factor of the Proxy Resource
57.0% is the percent of all hours that are on-peak
- (c) Fuel and Capitalized Energy Cost of the Proxy CCCT
- (d) Wind Resource Peak Contribution (% of nameplate capacity), 2013 IRP Volume II-Appendix 0, Table O.1, page 361
- (f) 2015-2023 On-Peak Market Prices for QF resource
- (g) 2015-2023 Off-Peak Market Prices for QF resource

Exhibit 3
Standard Avoided Cost Prices for Solar QF Resource
\$/MWH

Year	Standard Avoided Resource			Solar QF			
	Capacity Price	Capacity Cost Allocated to On-Peak Hours	Energy Only Price	Capacity Contribution	Capacity Payment On-Peak Hours	On-Peak	Off-Peak
	\$/kW-yr	(\$/MWh)	\$/MWh		\$/MWh	\$/MWh	\$/MWh
(a)	(b)	(c)	(d)	(e)	(f)	(g)	
	(a) / (8.76 x 91.8% x 57%)				= (b) * (d)	= (c) + (e)	= (c)
2015						\$27.71	\$21.91
2016						\$28.66	\$22.00
2017						\$31.33	\$24.29
2018						\$33.75	\$25.40
2019						\$35.47	\$27.32
2020						\$38.18	\$29.31
2021						\$41.05	\$31.82
2022						\$44.08	\$34.42
2023						\$47.22	\$36.87
2024	\$142.08	\$31.00	\$30.57	13.60%	\$4.22	\$34.79	\$30.57
2025	\$145.21	\$31.68	\$31.83	13.60%	\$4.31	\$36.14	\$31.83
2026	\$148.25	\$32.34	\$31.76	13.60%	\$4.40	\$36.16	\$31.76
2027	\$151.38	\$33.03	\$33.06	13.60%	\$4.49	\$37.55	\$33.06
2028	\$154.56	\$33.72	\$36.08	13.60%	\$4.59	\$40.67	\$36.08
2029	\$157.65	\$34.39	\$37.12	13.60%	\$4.68	\$41.80	\$37.12
2030	\$160.81	\$35.08	\$37.92	13.60%	\$4.77	\$42.69	\$37.92
2031	\$164.18	\$35.82	\$40.34	13.60%	\$4.87	\$45.21	\$40.34
2032	\$167.63	\$36.57	\$41.39	13.60%	\$4.97	\$46.36	\$41.39
2033	\$171.14	\$37.34	\$41.98	13.60%	\$5.08	\$47.06	\$41.98
2034	\$174.74	\$38.12	\$43.41	13.60%	\$5.18	\$48.59	\$43.41
2035	\$178.42	\$38.92	\$45.06	13.60%	\$5.29	\$50.35	\$45.06
2036	\$182.17	\$39.74	\$46.17	13.60%	\$5.40	\$51.57	\$46.17
2037	\$185.98	\$40.57	\$47.62	13.60%	\$5.52	\$53.14	\$47.62
2038	\$189.87	\$41.42	\$49.06	13.60%	\$5.63	\$54.69	\$49.06
2039	\$194.04	\$42.33	\$50.19	13.60%	\$5.76	\$55.95	\$50.19
2040	\$198.12	\$43.22	\$51.88	13.60%	\$5.88	\$57.76	\$51.88
2041	\$202.27	\$44.13	\$53.00	13.60%	\$6.00	\$59.00	\$53.00

Columns

- (a) Full Fixed Cost of a Proxy CCCT less capitalized energy
- (b) 91.8% is the on-peak capacity factor of the Proxy Resource
57.0% is the percent of all hours that are on-peak
- (c) Fuel and Capitalized Energy Cost of the Proxy CCCT
- (d) Solar Resource Peak Contribution (% of nameplate capacity), 2013 IRP Volume II-Appendix 0, Table O.1, page 361
- (f) 2015-2023 On-Peak Market Prices for Solar QF resource
- (g) 2015-2023 Off-Peak Market Prices for Solar QF resource

Exhibit 4
Renewable Avoided Cost Prices for Wind QF Resource (1) (2)
\$/MWh

Year	Renewable Wind Avoided Resource		Wind QF Resource			
	On-Peak	Off-Peak	Capital Cost Allocated to Capacity (On-Peak Hours)	QF Capacity Adder	QF Price On-Peak	QF Price Off-Peak
	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)
	(a)	(b)	(c)	(d)	(e)	(f)
				= (c) * 0.0%	= (a) + (d)	= (b)
2015					\$25.07	\$19.27
2016					\$25.97	\$19.31
2017	Market Based Prices				\$28.59	\$21.55
2018	2015 through 2023				\$30.95	\$22.60
2019	less Wind Integration (3)				\$32.61	\$24.46
2020					\$35.26	\$26.39
2021					\$38.07	\$28.84
2022					\$41.04	\$31.38
2023					\$44.11	\$33.76
2024	\$86.69	\$67.31	\$31.00	\$0.00	\$86.69	\$67.31
2025	\$88.33	\$69.16	\$31.68	\$0.00	\$88.33	\$69.16
2026	\$89.26	\$71.80	\$32.34	\$0.00	\$89.26	\$71.80
2027	\$90.85	\$73.67	\$33.03	\$0.00	\$90.85	\$73.67
2028	\$92.43	\$75.66	\$33.72	\$0.00	\$92.43	\$75.66
2029	\$93.97	\$77.55	\$34.39	\$0.00	\$93.97	\$77.55
2030	\$95.50	\$79.55	\$35.08	\$0.00	\$95.50	\$79.55
2031	\$96.68	\$82.17	\$35.82	\$0.00	\$96.68	\$82.17
2032	\$98.96	\$83.72	\$36.57	\$0.00	\$98.96	\$83.72
2033	\$100.06	\$86.70	\$37.34	\$0.00	\$100.06	\$86.70
2034	\$101.25	\$89.67	\$38.12	\$0.00	\$101.25	\$89.67
2035	\$103.40	\$91.49	\$38.92	\$0.00	\$103.40	\$91.49
2036	\$106.34	\$92.45	\$39.74	\$0.00	\$106.34	\$92.45
2037	\$107.58	\$95.66	\$40.57	\$0.00	\$107.58	\$95.66
2038	\$111.85	\$95.12	\$41.42	\$0.00	\$111.85	\$95.12
2039	\$115.46	\$95.75	\$42.33	\$0.00	\$115.46	\$95.75
2040	\$117.96	\$97.71	\$43.22	\$0.00	\$117.96	\$97.71
2041	\$119.79	\$100.53	\$44.13	\$0.00	\$119.79	\$100.53

- (1) During the deficiency period, avoided cost prices will be adjusted by the difference between the avoided integration costs and QF's integration costs. If the QF is in PacifiCorp's Balancing Area Authority (BAA), the adjustment is zero (integration costs cancel each other out).
If QF wind resource is not in PacifiCorp's BAA, \$2.55/MWh (\$2012) will be added for avoided integration charges.
- (2) During the sufficiency period, avoided cost prices have been reduced by an integration charge of \$2.55/MWh (\$2012) for wind QF resources located in PacifiCorp's BAA (in-system).
If QF wind resource is not in PacifiCorp's BAA, prices will be increased by the \$2.55/MWh (\$2012) integration charges.
- (3) Wind Integration Charge is \$2.55 (2012 \$ per MWh) - 2013 IRP Volume II-Appendix H, Table H.2, page 86
Table 11 - 2013 IRP Wyoming Wind Resource - Column (g)

Columns

- (a) Table 12 Column (d)
- (b) Table 12 Column (e)
- (c) Table 6 Column (b)
- (d) The Wind QF contribution to peak (4.2%) less Renewable Proxy Resource contribution to peak (4.2%) results in a QF Incremental Capacity contribution of 0.0%.
Wind Peak Contribution (4.2% of nameplate capacity), 2013 IRP Volume II-Appendix O, Table O.1, page 361
- (e) 2015-2023 On-Peak Market Prices for Wind QF resource
- (f) 2015-2023 Off-Peak Market Prices for Wind QF resource

Exhibit 5
Renewable Avoided Cost Prices for a Baseload QF Resource (1)
\$/MWh

Year	Renewable Wind Avoided Resource		Renewable Base Load QF Resource			
	On-Peak	Off-Peak	Capital Cost Allocated to Capacity (On-Peak Hours)	QF Capacity Adder	QF Price On-Peak	QF Price Off-Peak
	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)
	(a)	(b)	(c)	(d)	(e)	(f)
				= (c) * 95.8%	= (a) + (d)	= (b)
2015					\$27.71	\$21.91
2016					\$28.66	\$22.00
2017					\$31.33	\$24.29
2018					\$33.75	\$25.40
2019					\$35.47	\$27.32
2020					\$38.18	\$29.31
2021					\$41.05	\$31.82
2022					\$44.08	\$34.42
2023					\$47.22	\$36.87
2024	\$86.69	\$67.31	\$31.00	\$29.70	\$119.57	\$70.49
2025	\$88.33	\$69.16	\$31.68	\$30.35	\$121.93	\$72.41
2026	\$89.26	\$71.80	\$32.34	\$30.98	\$123.56	\$75.12
2027	\$90.85	\$73.67	\$33.03	\$31.64	\$125.88	\$77.06
2028	\$92.43	\$75.66	\$33.72	\$32.30	\$128.19	\$79.12
2029	\$93.97	\$77.55	\$34.39	\$32.95	\$130.45	\$81.08
2030	\$95.50	\$79.55	\$35.08	\$33.61	\$132.71	\$83.15
2031	\$96.68	\$82.17	\$35.82	\$34.32	\$134.68	\$85.85
2032	\$98.96	\$83.72	\$36.57	\$35.03	\$137.75	\$87.48
2033	\$100.06	\$86.70	\$37.34	\$35.77	\$139.67	\$90.54
2034	\$101.25	\$89.67	\$38.12	\$36.52	\$141.69	\$93.59
2035	\$103.40	\$91.49	\$38.92	\$37.29	\$144.69	\$95.49
2036	\$106.34	\$92.45	\$39.74	\$38.07	\$148.49	\$96.53
2037	\$107.58	\$95.66	\$40.57	\$38.87	\$150.62	\$99.83
2038	\$111.85	\$95.12	\$41.42	\$39.68	\$155.79	\$99.38
2039	\$115.46	\$95.75	\$42.33	\$40.55	\$160.36	\$100.10
2040	\$117.96	\$97.71	\$43.22	\$41.40	\$163.80	\$102.15
2041	\$119.79	\$100.53	\$44.13	\$42.28	\$166.60	\$105.06

(1) The avoided cost prices during the deficiency period (2024-2041) have been increased by the avoided integration charge of \$2.55/MWh (\$2012).

Columns

- (a) Table 12 Column (d)
- (b) Table 12 Column (e)
- (c) Table 6 Column (b)
- (d) The Baseload QF contribution to peak (100%) less Renewable Proxy Resource contribution to peak (4.2%) results in a QF incremental capacity contribution of 95.8%.
Wind Peak Contribution (4.2% of nameplate capacity), 2013 IRP Volume II-Appendix 0, Table O.1, page 361
- (e) 2015-2023 On-Peak Market Prices for QF resource
- (f) 2015-2023 Off-Peak Market Prices for QF resource

Exhibit 6
Renewable Avoided Cost Prices for Solar QF Resource (1)
\$/MWh

Year	Renewable Wind Avoided Resource		Solar QF Resource			
	On-Peak	Off-Peak	Capital Cost Allocated to Capacity (On-Peak Hours)	QF Capacity Adder	QF Price On-Peak	QF Price Off-Peak
	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)
	(a)	(b)	(c)	(d)	(e)	(f)
				= (c) * 9.4%	= (a) + (d)	= (b)
2015					\$27.71	\$21.91
2016					\$28.66	\$22.00
2017					\$31.33	\$24.29
2018					\$33.75	\$25.40
2019					\$35.47	\$27.32
2020					\$38.18	\$29.31
2021					\$41.05	\$31.82
2022					\$44.08	\$34.42
2023					\$47.22	\$36.87
2024	\$86.69	\$67.31	\$31.00	\$2.91	\$92.78	\$70.49
2025	\$88.33	\$69.16	\$31.68	\$2.98	\$94.56	\$72.41
2026	\$89.26	\$71.80	\$32.34	\$3.04	\$95.62	\$75.12
2027	\$90.85	\$73.67	\$33.03	\$3.10	\$97.34	\$77.06
2028	\$92.43	\$75.66	\$33.72	\$3.17	\$99.06	\$79.12
2029	\$93.97	\$77.55	\$34.39	\$3.23	\$100.73	\$81.08
2030	\$95.50	\$79.55	\$35.08	\$3.30	\$102.40	\$83.15
2031	\$96.68	\$82.17	\$35.82	\$3.37	\$103.73	\$85.85
2032	\$98.96	\$83.72	\$36.57	\$3.44	\$106.16	\$87.48
2033	\$100.06	\$86.70	\$37.34	\$3.51	\$107.41	\$90.54
2034	\$101.25	\$89.67	\$38.12	\$3.58	\$108.75	\$93.59
2035	\$103.40	\$91.49	\$38.92	\$3.66	\$111.06	\$95.49
2036	\$106.34	\$92.45	\$39.74	\$3.74	\$114.16	\$96.53
2037	\$107.58	\$95.66	\$40.57	\$3.81	\$115.56	\$99.83
2038	\$111.85	\$95.12	\$41.42	\$3.89	\$120.00	\$99.38
2039	\$115.46	\$95.75	\$42.33	\$3.98	\$123.79	\$100.10
2040	\$117.96	\$97.71	\$43.22	\$4.06	\$126.46	\$102.15
2041	\$119.79	\$100.53	\$44.13	\$4.15	\$128.47	\$105.06

(1) The avoided cost prices during the deficiency period (2024-2041) have been increased by the avoided integration charge of \$2.55/MWh (\$2012).

Columns

- (a) Table 12 Column (d)
- (b) Table 12 Column (e)
- (c) Table 6 Column (b)
- (d) The Solar QF contribution to peak (13.6%) less Renewable Proxy Resource contribution to peak (4.2%) results in a QF incremental capacity contribution of 9.4%.
Wind Peak Contribution (4.2% of nameplate capacity), 2013 IRP Volume II-Appendix 0, Table O.1, page 361
Solar Peak Contribution (13.6% of nameplate capacity), 2013 IRP Volume II-Appendix 0, Table O.1, page 361
- (e) 2015-2023 On-Peak Market Prices for Solar QF resource
- (f) 2015-2023 Off-Peak Market Prices for Solar QF resource

Exhibit 7
Market Price - Blending Matrix

Period	On-Peak				Off-Peak			
	COB	Mid Columbia	Palo Verde	Total	COB	Mid Columbia	Palo Verde	Total
1/1/2015								
2/1/2015								
3/1/2015								
4/1/2015								
5/1/2015	1.3%	85.2%	13.5%	100.0%	0.2%	95.3%	4.5%	100.0%
6/1/2015	3.8%	94.3%	1.9%	100.0%	22.9%	65.4%	11.7%	100.0%
7/1/2015	1.0%	97.7%	1.3%	100.0%	11.9%	70.3%	17.8%	100.0%
8/1/2015	3.8%	89.4%	6.8%	100.0%	0.0%	78.2%	21.8%	100.0%
9/1/2015	0.0%	85.2%	14.8%	100.0%	0.0%	12.1%	87.9%	100.0%
10/1/2015	0.0%	85.1%	14.9%	100.0%	0.0%	100.0%	0.0%	100.0%
11/1/2015	0.7%	39.8%	59.5%	100.0%	0.2%	0.4%	99.3%	100.0%
12/1/2015	0.0%	14.9%	85.1%	100.0%	0.0%	7.3%	92.7%	100.0%
1/1/2016	0.2%	6.5%	93.3%	100.0%	0.0%	91.5%	8.5%	100.0%
2/1/2016	6.7%	40.2%	53.1%	100.0%	1.7%	88.6%	9.7%	100.0%
3/1/2016	0.3%	94.3%	5.5%	100.0%	0.0%	90.2%	9.8%	100.0%
4/1/2016	0.1%	80.5%	19.3%	100.0%	0.0%	97.4%	2.6%	100.0%
5/1/2016	9.2%	78.5%	12.3%	100.0%	3.7%	96.3%	0.0%	100.0%
6/1/2016	21.7%	77.7%	0.6%	100.0%	30.6%	69.4%	0.0%	100.0%
7/1/2016	32.5%	63.0%	4.4%	100.0%	58.5%	39.7%	1.8%	100.0%
8/1/2016	15.2%	82.9%	1.9%	100.0%	0.4%	63.5%	36.1%	100.0%
9/1/2016	22.7%	70.6%	6.6%	100.0%	0.0%	20.8%	79.2%	100.0%
10/1/2016	0.0%	97.3%	2.7%	100.0%	0.0%	87.5%	12.5%	100.0%
11/1/2016	1.9%	51.6%	46.5%	100.0%	2.0%	0.0%	98.0%	100.0%
12/1/2016	10.6%	83.3%	6.1%	100.0%	0.0%	17.5%	82.5%	100.0%
1/1/2017	0.0%	72.5%	27.5%	100.0%	0.0%	57.9%	42.1%	100.0%
2/1/2017	9.3%	84.1%	6.6%	100.0%	0.0%	81.8%	18.2%	100.0%
3/1/2017	1.0%	94.8%	4.2%	100.0%	0.0%	94.5%	5.5%	100.0%
4/1/2017	5.2%	86.9%	7.9%	100.0%	0.4%	91.8%	7.8%	100.0%
5/1/2017	17.5%	71.1%	11.4%	100.0%	3.9%	94.4%	1.7%	100.0%
6/1/2017	10.9%	86.1%	3.0%	100.0%	35.1%	63.8%	1.1%	100.0%
7/1/2017	4.7%	95.1%	0.2%	100.0%	64.2%	34.3%	1.4%	100.0%
8/1/2017	9.0%	88.5%	2.5%	100.0%	0.0%	96.6%	3.4%	100.0%
9/1/2017	27.7%	48.9%	23.4%	100.0%	0.0%	49.3%	50.7%	100.0%
10/1/2017	2.8%	87.5%	9.7%	100.0%	0.0%	46.5%	53.5%	100.0%
11/1/2017	27.9%	32.8%	39.2%	100.0%	2.1%	1.6%	96.3%	100.0%
12/1/2017	40.3%	51.4%	8.3%	100.0%	0.0%	11.6%	88.4%	100.0%
1/1/2018	5.5%	84.3%	10.2%	100.0%	0.0%	44.7%	55.3%	100.0%
2/1/2018	13.5%	78.1%	8.4%	100.0%	1.3%	78.6%	20.1%	100.0%
3/1/2018	13.9%	70.2%	15.9%	100.0%	0.0%	85.4%	14.6%	100.0%
4/1/2018	4.7%	76.3%	19.0%	100.0%	0.0%	85.5%	14.4%	100.0%
5/1/2018	16.4%	74.0%	9.6%	100.0%	1.7%	91.1%	7.2%	100.0%
6/1/2018	15.1%	83.3%	1.7%	100.0%	26.8%	66.8%	6.4%	100.0%
7/1/2018	4.5%	95.1%	0.4%	100.0%	66.5%	32.7%	0.8%	100.0%
8/1/2018	9.6%	88.9%	1.5%	100.0%	1.0%	96.1%	2.9%	100.0%
9/1/2018	35.9%	55.8%	8.3%	100.0%	0.4%	95.2%	4.4%	100.0%
10/1/2018	1.5%	86.9%	11.6%	100.0%	0.0%	31.6%	68.4%	100.0%
11/1/2018	20.0%	47.5%	32.5%	100.0%	3.8%	2.1%	94.1%	100.0%
12/1/2018	35.8%	45.5%	18.7%	100.0%	2.0%	39.4%	58.6%	100.0%
1/1/2019	33.3%	31.1%	35.6%	100.0%	0.5%	6.9%	92.6%	100.0%
2/1/2019	17.2%	71.7%	11.1%	100.0%	3.7%	36.4%	59.9%	100.0%
3/1/2019	18.0%	67.0%	15.0%	100.0%	3.3%	50.4%	46.3%	100.0%
4/1/2019	5.4%	73.4%	21.2%	100.0%	0.0%	85.3%	14.7%	100.0%
5/1/2019	12.7%	74.2%	13.1%	100.0%	3.0%	87.7%	9.3%	100.0%
6/1/2019	7.9%	92.1%	0.0%	100.0%	31.5%	59.1%	9.3%	100.0%
7/1/2019	6.9%	90.7%	2.4%	100.0%	65.0%	34.3%	0.7%	100.0%
8/1/2019	9.3%	90.5%	0.2%	100.0%	1.8%	93.8%	4.4%	100.0%
9/1/2019	21.4%	73.6%	5.0%	100.0%	0.0%	66.7%	33.3%	100.0%
10/1/2019	1.2%	72.0%	26.8%	100.0%	0.0%	30.6%	69.4%	100.0%
11/1/2019	18.9%	42.7%	38.4%	100.0%	4.0%	2.7%	93.3%	100.0%
12/1/2019	35.4%	37.7%	26.9%	100.0%	0.0%	15.9%	84.1%	100.0%

1/1/2020	35.3%	36.0%	28.7%	100.0%	0.6%	7.2%	92.2%	100.0%
2/1/2020	19.9%	53.7%	26.4%	100.0%	1.1%	24.2%	74.7%	100.0%
3/1/2020	11.8%	56.0%	32.1%	100.0%	0.0%	25.2%	74.8%	100.0%
4/1/2020	4.6%	75.3%	20.1%	100.0%	0.0%	84.1%	15.9%	100.0%
5/1/2020	15.1%	72.5%	12.3%	100.0%	0.2%	95.8%	4.1%	100.0%
6/1/2020	9.8%	90.2%	0.0%	100.0%	34.0%	63.3%	2.7%	100.0%
7/1/2020	7.2%	90.8%	2.0%	100.0%	61.4%	36.1%	2.4%	100.0%
8/1/2020	11.8%	88.2%	0.0%	100.0%	0.0%	94.7%	5.3%	100.0%
9/1/2020	19.1%	70.4%	10.4%	100.0%	0.0%	83.5%	16.5%	100.0%
10/1/2020	2.1%	74.4%	23.5%	100.0%	0.0%	27.4%	72.6%	100.0%
11/1/2020	22.6%	37.3%	40.1%	100.0%	5.0%	4.8%	90.3%	100.0%
12/1/2020	35.5%	36.6%	27.8%	100.0%	0.0%	8.5%	91.5%	100.0%
1/1/2021	35.4%	44.5%	20.1%	100.0%	0.5%	10.0%	89.5%	100.0%
2/1/2021	18.6%	55.8%	25.5%	100.0%	0.3%	21.8%	77.8%	100.0%
3/1/2021	18.2%	61.1%	20.8%	100.0%	0.5%	27.8%	71.7%	100.0%
4/1/2021	7.8%	75.6%	16.6%	100.0%	1.2%	85.7%	13.1%	100.0%
5/1/2021	12.7%	83.2%	4.1%	100.0%	7.3%	89.1%	3.6%	100.0%
6/1/2021	8.5%	87.7%	3.8%	100.0%	41.6%	55.4%	3.0%	100.0%
7/1/2021	4.9%	92.7%	2.4%	100.0%	46.5%	36.9%	16.6%	100.0%
8/1/2021	11.6%	88.4%	0.0%	100.0%	0.3%	96.5%	3.2%	100.0%
9/1/2021	18.4%	79.5%	2.1%	100.0%	0.0%	46.8%	53.2%	100.0%
10/1/2021	2.1%	89.4%	8.5%	100.0%	0.0%	65.7%	34.3%	100.0%
11/1/2021	14.7%	57.5%	27.8%	100.0%	7.5%	10.3%	82.2%	100.0%
12/1/2021	25.1%	53.1%	21.8%	100.0%	1.9%	40.5%	57.6%	100.0%
1/1/2022	18.7%	66.0%	15.3%	100.0%	0.5%	61.0%	38.5%	100.0%
2/1/2022	20.4%	63.8%	15.8%	100.0%	5.1%	34.7%	60.2%	100.0%
3/1/2022	18.7%	68.9%	12.4%	100.0%	9.4%	72.6%	18.1%	100.0%
4/1/2022	11.2%	75.2%	13.6%	100.0%	0.0%	90.0%	10.0%	100.0%
5/1/2022	3.4%	96.6%	0.0%	100.0%	5.8%	90.1%	4.0%	100.0%
6/1/2022	8.7%	82.9%	8.4%	100.0%	51.1%	39.8%	9.2%	100.0%
7/1/2022	7.4%	88.5%	4.1%	100.0%	46.8%	34.2%	19.0%	100.0%
8/1/2022	9.9%	89.3%	0.8%	100.0%	0.6%	99.4%	0.0%	100.0%
9/1/2022	16.6%	83.4%	0.0%	100.0%	0.0%	34.1%	65.9%	100.0%
10/1/2022	5.0%	94.7%	0.3%	100.0%	0.3%	88.9%	10.8%	100.0%
11/1/2022	16.3%	77.0%	6.7%	100.0%	9.2%	76.8%	14.0%	100.0%
12/1/2022	18.2%	72.9%	8.9%	100.0%	2.7%	94.8%	2.5%	100.0%
1/1/2023	12.4%	79.6%	8.0%	100.0%	5.6%	94.4%	0.0%	100.0%
2/1/2023	19.3%	62.7%	18.0%	100.0%	5.8%	88.2%	5.9%	100.0%
3/1/2023	17.8%	68.6%	13.6%	100.0%	9.2%	90.4%	0.4%	100.0%
4/1/2023	12.9%	74.9%	12.1%	100.0%	0.4%	88.1%	11.6%	100.0%
5/1/2023	2.8%	96.6%	0.7%	100.0%	3.1%	93.0%	3.9%	100.0%
6/1/2023	13.2%	75.0%	11.8%	100.0%	53.9%	39.3%	6.8%	100.0%
7/1/2023	5.9%	89.8%	4.3%	100.0%	33.2%	35.8%	30.9%	100.0%
8/1/2023	8.9%	91.1%	0.0%	100.0%	0.0%	97.7%	2.3%	100.0%
9/1/2023	17.9%	80.8%	1.2%	100.0%	0.0%	4.2%	95.8%	100.0%
10/1/2023	3.6%	95.0%	1.4%	100.0%	0.5%	69.0%	30.5%	100.0%
11/1/2023	13.6%	64.3%	22.1%	100.0%	7.7%	52.2%	40.0%	100.0%
12/1/2023	20.2%	67.2%	12.6%	100.0%	2.0%	89.9%	8.1%	100.0%

Blended to be applied to any contract starting 2024 and after - Average of last two deficit years

Jan	15.6%	72.8%	11.7%	100.0%	3.1%	77.7%	19.2%	100.0%
Feb	19.8%	63.3%	16.9%	100.0%	5.5%	61.5%	33.1%	100.0%
Mar	18.3%	68.7%	13.0%	100.0%	9.3%	81.5%	9.2%	100.0%
Apr	12.1%	75.1%	12.9%	100.0%	0.2%	89.1%	10.8%	100.0%
May	3.1%	96.6%	0.3%	100.0%	4.5%	91.6%	4.0%	100.0%
Jun	10.9%	78.9%	10.1%	100.0%	52.5%	39.5%	8.0%	100.0%
Jul	6.7%	89.1%	4.2%	100.0%	40.0%	35.0%	25.0%	100.0%
Aug	9.4%	90.2%	0.4%	100.0%	0.3%	98.6%	1.1%	100.0%
Sep	17.3%	82.1%	0.6%	100.0%	0.0%	19.1%	80.9%	100.0%
Oct	4.3%	94.9%	0.8%	100.0%	0.4%	79.0%	20.7%	100.0%
Nov	15.0%	70.6%	14.4%	100.0%	8.5%	64.5%	27.0%	100.0%
Dec	19.2%	70.1%	10.8%	100.0%	2.3%	92.4%	5.3%	100.0%

Table 1
IRP Preferred Portfolio
Excerpt from 2013 IRP Preferred Portfolio, Table 8.7

		Capacity (MW)											
Resource	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
East	Existing Plant Retirements/Conversions												
Carbon1 (Early Retirement/Conversion)	-	-	(67)	-	-	-	-	-	-	-	-	-	
Carbon2 (Early Retirement/Conversion)	-	-	(105)	-	-	-	-	-	-	-	-	-	
Naughton3 (Early Retirement/Conversion)	-	-	(330)	-	-	-	-	-	-	-	-	-	
Coal Ret_WY - Gas RePower	-	-	338	-	-	-	-	-	-	-	-	-	
Expansion Resources	Expansion Resources												
CCCT J 1x1	-	-	-	-	-	-	-	-	-	-	-	423	
Lake Side II	-	645	-	-	-	-	-	-	-	-	-	-	
Coal Plant Turbine Upgrades	1.8	-	-	-	-	-	-	-	-	-	-	-	
Wind, Wyoming, 40	-	-	-	-	-	-	-	-	-	-	-	432	
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	
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	
DSM, Class 1 Total	-	-	-	-	-	-	-	-	-	-	-	-	
DSM, Class 2 Total	69	67	61	60	59	57	58	52	52	51	39	42	
Micro Solar - PV	7.11	11.0	14.2	16.4	17.0	13.1	13.1	13.1	13.1	13.1	13.1	13.1	
Micro Solar - Water Heating	-	-	-	-	0.8	0.4	0.5	0.6	2.4	2.4	2.4	2.4	
FOT Mona Q3	-	-	-	-	-	37	151	248	19	161	255	-	
West	Expansion Resources												
Coal Plant Turbine Upgrades	12	-	-	-	-	-	-	-	-	-	-	-	
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	
DSM, Class 1 Total	-	-	-	-	-	-	-	-	-	-	-	-	
DSM, Class 2 Total	45	49	42	41	38	35	32	28	27	30	28	28	
OR Solar (Util Cap Standard & Cust Incentive Prgm)	4.45	3	3	-	-	-	-	-	-	-	-	-	
FOT COB Q3	131	130	247	262	297	297	297	297	297	297	297	237	
FOT NOB Q3	100	100	100	100	100	100	100	100	100	100	100	100	
FOT Mid-Columbia Q3	400	400	400	400	400	400	400	400	400	400	400	400	
FOT Mid-Columbia Q3 - 2	19	79	98	221	305	375	375	375	375	375	375	375	
Existing Plant Retirements/Conversions	-	-	(164)	-	-	-	-	-	-	-	-	-	
Annual Additions, Long Term Resources	141	777	121	119	116	106	104	95	96	98	84	942	
Annual Additions, Short Term Resources	650	709	845	983	1,102	1,209	1,323	1,420	1,191	1,333	1,427	1,112	
Total Annual Additions	791	1,486	966	1,102	1,218	1,315	1,427	1,515	1,287	1,431	1,511	2,054	

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

Table 2
Avoided Costs (\$/MWh)
Energy Prices 2015 through 2023

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

On-Peak (HLH Market Purchase)

2015					22.46	23.02	31.57	34.40	28.87	26.06	27.43	27.84
2016	28.39	27.80	24.97	25.03	23.36	21.94	31.38	34.50	32.98	28.81	30.44	34.34
2017	31.69	29.77	27.20	26.59	25.40	23.88	33.84	38.30	36.27	32.11	33.46	37.44
2018	35.49	33.40	31.11	29.03	27.24	25.80	35.75	40.20	38.55	34.05	35.49	38.87
2019	36.98	35.86	33.57	31.01	29.10	27.09	37.99	42.10	40.85	35.32	36.23	39.60
2020	40.10	38.40	36.27	33.62	31.78	29.84	40.67	44.82	43.46	38.06	38.91	42.24
2021	42.69	40.57	38.54	35.72	34.74	35.86	42.25	45.75	46.17	42.08	43.26	45.01
2022	44.90	44.78	41.78	39.60	37.47	41.86	44.10	46.69	48.59	45.74	46.61	46.84
2023	46.69	48.67	45.08	43.54	41.98	44.63	46.80	48.86	51.17	48.94	50.46	49.83

Off-Peak (LLH Market Purchase)

2015					15.77	17.86	23.65	25.06	23.89	21.60	23.53	23.90
2016	24.97	23.68	21.62	17.20	13.36	12.18	19.71	26.13	25.82	24.80	26.48	28.00
2017	28.00	26.21	23.99	19.38	15.52	14.77	20.64	26.63	27.33	28.92	29.32	30.80
2018	29.84	28.15	26.05	21.38	17.70	17.09	21.65	27.61	26.68	28.67	28.50	31.47
2019	30.66	30.27	28.58	23.25	19.75	19.46	23.51	29.56	29.65	30.40	30.20	32.55
2020	32.86	32.54	30.83	25.30	21.35	20.93	25.97	31.56	31.03	32.47	32.42	34.45
2021	34.44	33.97	32.37	26.75	24.22	25.79	30.68	32.24	34.86	34.48	35.28	36.73
2022	37.25	37.56	35.14	31.51	26.95	30.90	34.63	32.82	37.62	35.79	36.56	36.30
2023	37.15	39.59	36.63	36.49	30.04	33.33	37.58	35.21	39.56	38.31	39.33	39.22

Combined

2015					19.58	20.80	28.17	30.38	26.73	24.14	25.75	26.15
2016	26.92	26.03	23.53	21.66	19.06	17.74	26.36	30.90	29.90	27.09	28.74	31.61
2017	30.10	28.24	25.82	23.49	21.15	19.97	28.16	33.28	32.43	30.74	31.68	34.59
2018	33.06	31.14	28.93	25.74	23.14	22.06	29.69	34.79	33.45	31.73	32.48	35.69
2019	34.26	33.45	31.42	27.67	25.08	23.81	31.77	36.71	36.03	33.20	33.63	36.57
2020	36.99	35.88	33.93	30.04	27.30	26.01	34.35	39.12	38.12	35.66	36.12	38.89
2021	39.14	37.73	35.89	31.86	30.22	31.53	37.27	39.94	41.31	38.82	39.83	41.45
2022	41.61	41.67	38.93	36.12	32.95	37.15	40.03	40.72	43.88	41.46	42.29	42.31
2023	42.58	44.76	41.44	40.51	36.85	39.77	42.83	42.99	46.17	44.37	45.67	45.27

Annual Average

	On-Peak	Off-Peak	Combined
2015	\$27.71	\$21.91	\$25.21
2016	\$28.66	\$22.00	\$25.80
2017	\$31.33	\$24.29	\$28.30
2018	\$33.75	\$25.40	\$30.16
2019	\$35.47	\$27.32	\$31.97
2020	\$38.18	\$29.31	\$34.37
2021	\$41.05	\$31.82	\$37.08
2022	\$44.08	\$34.42	\$39.93
2023	\$47.22	\$36.87	\$42.77

Source Official Market Price Forecast dated March 2015
Blended Market Prices

Table 3
Capitalized Energy Costs

Year	Combined Cycle CT Fixed Costs	Simple Cycle CT Fixed Costs	Capitalized Energy Costs	Capitalized Energy Costs 52.3% CF
	(\$/kW-yr)	(\$/kW-yr)	(\$/kW-yr)	(\$/MWh)
	(a)	(b)	(c) ((a) - (b))	(d) (c)/(8.760 x 52.3%)
2024	\$142.32	\$142.08	\$0.24	\$0.05
2025	\$145.47	\$145.21	\$0.26	\$0.06
2026	\$148.51	\$148.25	\$0.26	\$0.06
2027	\$151.60	\$151.38	\$0.22	\$0.05
2028	\$154.81	\$154.56	\$0.25	\$0.05
2029	\$157.89	\$157.65	\$0.24	\$0.05
2030	\$161.07	\$160.81	\$0.26	\$0.06
2031	\$164.45	\$164.18	\$0.27	\$0.06
2032	\$167.90	\$167.63	\$0.27	\$0.06
2033	\$171.41	\$171.14	\$0.27	\$0.06
2034	\$174.99	\$174.74	\$0.25	\$0.05
2035	\$178.69	\$178.42	\$0.27	\$0.06
2036	\$182.45	\$182.17	\$0.28	\$0.06
2037	\$186.29	\$185.98	\$0.31	\$0.07
2038	\$190.20	\$189.87	\$0.33	\$0.07
2039	\$194.40	\$194.04	\$0.36	\$0.08
2040	\$198.46	\$198.12	\$0.34	\$0.07
2041	\$202.64	\$202.27	\$0.37	\$0.08

Columns

- (a) Table 9 Column (f)
- (b) Table 9 Column (f)
- (d) 52.3% CCCT Energy Weighted Capacity Factor - Table 9 page 3

Table 4
Total Avoided Energy Cost

Year	Combined Cycle		Capitalized Energy Costs 52.3% CF	Total Avoided Energy Cost
	Gas Price	Energy Cost		
	(\$/MMBtu)	(\$/MWh)	(\$/MWh)	(\$/MWh)
	(a)	(b)	(c)	(d)
		(a) x 6.550		(b) + (c)
2024	\$4.66	\$30.52	\$0.05	\$30.57
2025	\$4.85	\$31.77	\$0.06	\$31.83
2026	\$4.84	\$31.70	\$0.06	\$31.76
2027	\$5.04	\$33.01	\$0.05	\$33.06
2028	\$5.50	\$36.03	\$0.05	\$36.08
2029	\$5.66	\$37.07	\$0.05	\$37.12
2030	\$5.78	\$37.86	\$0.06	\$37.92
2031	\$6.15	\$40.28	\$0.06	\$40.34
2032	\$6.31	\$41.33	\$0.06	\$41.39
2033	\$6.40	\$41.92	\$0.06	\$41.98
2034	\$6.62	\$43.36	\$0.05	\$43.41
2035	\$6.87	\$45.00	\$0.06	\$45.06
2036	\$7.04	\$46.11	\$0.06	\$46.17
2037	\$7.26	\$47.55	\$0.07	\$47.62
2038	\$7.48	\$48.99	\$0.07	\$49.06
2039	\$7.65	\$50.11	\$0.08	\$50.19
2040	\$7.91	\$51.81	\$0.07	\$51.88
2041	\$8.08	\$52.92	\$0.08	\$53.00

Columns

- (a) Table 10 Column
- (b) 6.550 MWh/MMBtu Heat Rate - Table 9
- (c) Table 3 Column (d)

Table 5
Total Avoided Cost

Year	Avoided Firm Capacity Costs	Total Avoided Energy Cost	Total Avoided Costs At Stated Capacity Factor		
			75%	85%	90%
	(\$/kW-yr)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)
	(a)	(b)	(c)	(d)	(e)
			(b)+(a)/(8.76 x 0.75)	(b)+(a)/(8.76 x 0.85)	(b)+(a)/(8.76 x 0.9)
2024	\$142.08	\$30.57	\$52.20	\$49.65	\$48.59
2025	\$145.21	\$31.83	\$53.93	\$51.33	\$50.25
2026	\$148.25	\$31.76	\$54.32	\$51.67	\$50.56
2027	\$151.38	\$33.06	\$56.10	\$53.39	\$52.26
2028	\$154.56	\$36.08	\$59.61	\$56.84	\$55.68
2029	\$157.65	\$37.12	\$61.12	\$58.29	\$57.12
2030	\$160.81	\$37.92	\$62.40	\$59.52	\$58.32
2031	\$164.18	\$40.34	\$65.33	\$62.39	\$61.16
2032	\$167.63	\$41.39	\$66.90	\$63.90	\$62.65
2033	\$171.14	\$41.98	\$68.03	\$64.96	\$63.69
2034	\$174.74	\$43.41	\$70.01	\$66.88	\$65.57
2035	\$178.42	\$45.06	\$72.22	\$69.02	\$67.69
2036	\$182.17	\$46.17	\$73.90	\$70.64	\$69.28
2037	\$185.98	\$47.62	\$75.93	\$72.60	\$71.21
2038	\$189.87	\$49.06	\$77.96	\$74.56	\$73.14
2039	\$194.04	\$50.19	\$79.72	\$76.25	\$74.80
2040	\$198.12	\$51.88	\$82.04	\$78.49	\$77.01
2041	\$202.27	\$53.00	\$83.79	\$80.16	\$78.66

Columns

- (a) Table 3 Column (b)
- (b) Table 4 Column (d)

Table 6
On- & Off- Peak Energy Prices

Year	Avoided Firm Capacity Costs	Capacity Cost Allocated to On-Peak Hours	Total Avoided Energy Cost	On-Peak 4,993 Hours	Off-Peak 3,767 Hours
	(\$/kW-yr)	(\$/MWh)	(\$/MWh)	(\$/MWh)	(\$/MWh)
	(a)	(b)	(c)	(d)	(e)
		(a)/(8.76 x 91.8% x 57%)		(b) + (c)	(c)
2024	\$142.08	\$31.00	\$30.57	\$61.57	\$30.57
2025	\$145.21	\$31.68	\$31.83	\$63.51	\$31.83
2026	\$148.25	\$32.34	\$31.76	\$64.10	\$31.76
2027	\$151.38	\$33.03	\$33.06	\$66.09	\$33.06
2028	\$154.56	\$33.72	\$36.08	\$69.80	\$36.08
2029	\$157.65	\$34.39	\$37.12	\$71.51	\$37.12
2030	\$160.81	\$35.08	\$37.92	\$73.00	\$37.92
2031	\$164.18	\$35.82	\$40.34	\$76.16	\$40.34
2032	\$167.63	\$36.57	\$41.39	\$77.96	\$41.39
2033	\$171.14	\$37.34	\$41.98	\$79.32	\$41.98
2034	\$174.74	\$38.12	\$43.41	\$81.53	\$43.41
2035	\$178.42	\$38.92	\$45.06	\$83.98	\$45.06
2036	\$182.17	\$39.74	\$46.17	\$85.91	\$46.17
2037	\$185.98	\$40.57	\$47.62	\$88.19	\$47.62
2038	\$189.87	\$41.42	\$49.06	\$90.48	\$49.06
2039	\$194.04	\$42.33	\$50.19	\$92.52	\$50.19
2040	\$198.12	\$43.22	\$51.88	\$95.10	\$51.88
2041	\$202.27	\$44.13	\$53.00	\$97.13	\$53.00

Columns

- (a) Table 3 Column (b)
- (b) Table 9 91.8% is the on-peak capacity factor of the Proxy Resource
57.0% is the percent of all hours that are on-peak
- (c) Table 4 Column (d)

Table 7
Comparison between Proposed and Current Standard Avoided Costs

Proposed Standard and Renewable Avoided Cost Prices
\$/MWh

Year	Proposed	Current	Difference	Proposed	Current	Difference	Proposed	Current	Difference
	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost	Standard Avoided Cost
	Base Load QF	Base Load QF	Base Load QF	Wind QF (2)	Wind QF (2)	Wind QF (2)	Solar QF	Solar QF	Solar QF
	(a)	(b)	(a) - (b)	(d)	(e)	(d) - (e)	(f)	(g)	(f) - (g)
2015	\$25.22	\$34.71	(\$9.50)	\$22.58	\$32.04	(\$9.47)	\$26.82	\$37.74	(\$10.92)
2016	\$25.80	\$34.18	(\$8.38)	\$23.11	\$31.46	(\$8.35)	\$27.63	\$37.02	(\$9.38)
2017	\$28.30	\$36.10	(\$7.79)	\$25.56	\$33.33	(\$7.76)	\$30.25	\$39.04	(\$8.80)
2018	\$30.16	\$38.43	(\$8.27)	\$27.36	\$35.61	(\$8.25)	\$32.46	\$41.57	(\$9.10)
2019	\$31.97	\$40.56	(\$8.59)	\$29.11	\$37.69	(\$8.58)	\$34.22	\$43.75	(\$9.53)
2020	\$34.37	\$43.71	(\$9.35)	\$31.45	\$40.79	(\$9.35)	\$36.81	\$46.34	(\$9.53)
2021	\$37.08	\$46.34	(\$9.26)	\$34.10	\$43.36	(\$9.26)	\$39.63	\$48.22	(\$8.59)
2022	\$39.93	\$52.56	(\$12.63)	\$36.89	\$49.53	(\$12.64)	\$42.59	\$54.66	(\$12.06)
2023	\$42.77	\$54.58	(\$11.81)	\$39.66	\$51.50	(\$11.84)	\$45.63	\$56.72	(\$11.10)
2024	\$48.24	\$56.51	(\$8.27)	\$28.13	\$36.66	(\$8.52)	\$34.14	\$42.60	(\$8.46)
2025	\$49.89	\$57.74	(\$7.85)	\$29.34	\$37.53	(\$8.19)	\$35.48	\$43.58	(\$8.11)
2026	\$50.19	\$59.40	(\$9.20)	\$29.22	\$38.80	(\$9.58)	\$35.48	\$44.97	(\$9.49)
2027	\$51.89	\$61.32	(\$9.43)	\$30.46	\$40.33	(\$9.86)	\$36.86	\$46.61	(\$9.75)
2028	\$55.30	\$63.23	(\$7.93)	\$33.43	\$41.85	(\$8.42)	\$39.96	\$48.25	(\$8.29)
2029	\$56.72	\$65.55	(\$8.83)	\$34.41	\$43.76	(\$9.35)	\$41.08	\$50.28	(\$9.21)
2030	\$57.92	\$67.82	(\$9.90)	\$35.16	\$45.61	(\$10.45)	\$41.96	\$52.26	(\$10.30)
2031	\$60.76	\$69.20	(\$8.44)	\$37.52	\$46.55	(\$9.03)	\$44.46	\$53.33	(\$8.87)
2032	\$62.23	\$70.59	(\$8.35)	\$38.51	\$47.49	(\$8.98)	\$45.60	\$54.40	(\$8.80)
2033	\$63.26	\$71.97	(\$8.71)	\$39.03	\$48.41	(\$9.38)	\$46.28	\$55.46	(\$9.18)
2034	\$65.14	\$73.43	(\$8.30)	\$40.40	\$49.41	(\$9.01)	\$47.80	\$56.59	(\$8.80)
2035	\$67.24	\$74.84	(\$7.60)	\$41.99	\$50.33	(\$8.34)	\$49.54	\$57.66	(\$8.12)

20 Year (2016 - 2035) Nominal levelized Price at 6.882% Discount Rate (1)

\$/MWh	\$43.08	\$52.07	(\$8.99)	\$31.71	\$40.91	(\$9.20)	\$37.53	\$46.88	(\$9.34)
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- Note: (1) Discount Rate - 2013 IRP Discount Rate
(2) Avoided Costs reduced by integration cost of \$2.55 per MWh (\$2012) for Wind QF electing Standard rates.
(3) Avoided Costs for Wind QF reduced by integration cost of \$2.55 per MWh (\$2012) during sufficiency period.
(4) Avoided Costs for Base Load and Solar QF resources are increased by avoided wind integration cost of \$2.55 per MWh (\$2012) during deficiency period

Table 8
Comparison between Proposed and Current Renewable Avoided Costs

Proposed Standard and Renewable Avoided Cost Prices
\$/MWh

Year	Proposed	Current	Difference	Proposed	Current	Difference	Proposed	Current	Difference
	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost	Renewable Avoided Cost
	Base Load QF (4)	Base Load QF (4)	Base Load QF (4)	Wind QF (3)	Wind QF (3)	Wind QF (3)	Solar QF (4)	Solar QF (4)	Solar QF (4)
	(h)	(i)	(h) - (i)	(j)	(k)	(j) - (k)	(l)	(m)	(l) - (m)
2015	\$25.22	\$34.71	(\$9.50)	\$22.58	\$32.04	(\$9.47)	\$26.82	\$37.74	(\$10.92)
2016	\$25.80	\$34.18	(\$8.38)	\$23.11	\$31.46	(\$8.35)	\$27.63	\$37.02	(\$9.38)
2017	\$28.30	\$36.10	(\$7.79)	\$25.56	\$33.33	(\$7.76)	\$30.25	\$39.04	(\$8.80)
2018	\$30.16	\$38.43	(\$8.27)	\$27.36	\$35.61	(\$8.25)	\$32.46	\$41.57	(\$9.10)
2019	\$31.97	\$40.56	(\$8.59)	\$29.11	\$37.69	(\$8.58)	\$34.22	\$43.75	(\$9.53)
2020	\$34.37	\$43.71	(\$9.35)	\$31.45	\$40.79	(\$9.35)	\$36.81	\$46.34	(\$9.53)
2021	\$37.08	\$46.34	(\$9.26)	\$34.10	\$43.36	(\$9.26)	\$39.63	\$48.22	(\$8.59)
2022	\$39.93	\$52.56	(\$12.63)	\$36.89	\$49.53	(\$12.64)	\$42.59	\$54.66	(\$12.06)
2023	\$42.77	\$54.58	(\$11.81)	\$39.66	\$51.50	(\$11.84)	\$45.63	\$56.72	(\$11.10)
2024	\$98.47	\$97.11	\$1.36	\$78.36	\$77.26	\$1.10	\$89.35	\$86.17	\$3.18
2025	\$100.64	\$98.86	\$1.78	\$80.09	\$78.64	\$1.44	\$91.15	\$87.77	\$3.38
2026	\$102.73	\$100.73	\$2.00	\$81.75	\$80.13	\$1.62	\$92.46	\$89.38	\$3.08
2027	\$104.89	\$102.65	\$2.24	\$83.46	\$81.66	\$1.80	\$94.22	\$91.07	\$3.14
2028	\$107.09	\$104.63	\$2.46	\$85.22	\$83.25	\$1.97	\$95.99	\$92.79	\$3.20
2029	\$109.22	\$106.59	\$2.63	\$86.91	\$84.80	\$2.11	\$97.70	\$94.44	\$3.26
2030	\$111.40	\$108.62	\$2.78	\$88.64	\$86.42	\$2.23	\$99.44	\$96.14	\$3.29
2031	\$113.68	\$110.74	\$2.94	\$90.44	\$88.09	\$2.35	\$100.98	\$97.92	\$3.06
2032	\$116.13	\$112.99	\$3.14	\$92.41	\$89.89	\$2.52	\$103.28	\$99.79	\$3.49
2033	\$118.54	\$115.25	\$3.29	\$94.32	\$91.69	\$2.62	\$104.81	\$101.62	\$3.19
2034	\$121.01	\$117.58	\$3.43	\$96.27	\$93.56	\$2.71	\$106.42	\$103.57	\$2.85
2035	\$123.53	\$119.92	\$3.61	\$98.28	\$95.41	\$2.87	\$108.66	\$105.51	\$3.16
20 Year (2016 - 2035) Nominal levelized Price at 6.882% Discount Rate (1)									
\$/MWh	\$66.27	\$70.40	(\$4.13)	\$54.90	\$59.24	(\$4.34)	\$62.52	\$66.54	(\$4.01)

Table 9
Total Cost of Displaceable Resources

Year	Estimated Capital Cost \$/kW	Capital Cost at Real Levelized Rate \$/kW-yr	Fixed O&M \$/kW-yr	Variable O&M \$/MWh	Total O&M at Expected CF \$/kW-yr	Total Resource Fixed Costs \$/kW-yr
	(a)	(b)	(c)	(d)	(e)	(f)

SCCT Frame ("F"x1) - West Side Options (1500')

2012	\$699	\$55.60	\$ 41.29	\$9.39	\$58.56	\$114.16
2013		\$56.43	\$41.91	\$9.53	\$59.44	\$115.87
2014		\$57.28	\$42.54	\$9.67	\$60.33	\$117.61
2015		\$57.45	\$42.67	\$9.70	\$60.51	\$117.96
2016		\$58.54	\$43.48	\$9.88	\$61.66	\$120.20
2017		\$59.71	\$44.35	\$10.08	\$62.89	\$122.60
2018		\$61.02	\$45.33	\$10.30	\$64.28	\$125.30
2019		\$62.30	\$46.28	\$10.52	\$65.63	\$127.93
2020		\$63.61	\$47.25	\$10.74	\$67.01	\$130.62
2021		\$64.95	\$48.24	\$10.97	\$68.42	\$133.37
2022		\$66.31	\$49.25	\$11.20	\$69.85	\$136.16
2023		\$67.77	\$50.33	\$11.45	\$71.39	\$139.16
2024		\$69.19	\$51.39	\$11.69	\$72.89	\$142.08
2025		\$70.71	\$52.52	\$11.95	\$74.50	\$145.21
2026		\$72.19	\$53.62	\$12.20	\$76.06	\$148.25
2027		\$73.71	\$54.75	\$12.46	\$77.67	\$151.38
2028		\$75.26	\$55.90	\$12.72	\$79.30	\$154.56
2029		\$76.77	\$57.02	\$12.97	\$80.88	\$157.65
2030		\$78.31	\$58.16	\$13.23	\$82.50	\$160.81
2031		\$79.95	\$59.38	\$13.51	\$84.23	\$164.18
2032		\$81.63	\$60.63	\$13.79	\$86.00	\$167.63
2033		\$83.34	\$61.90	\$14.08	\$87.80	\$171.14
2034		\$85.09	\$63.20	\$14.38	\$89.65	\$174.74
2035		\$86.88	\$64.53	\$14.68	\$91.54	\$178.42
2036		\$88.70	\$65.89	\$14.99	\$93.47	\$182.17
2037		\$90.56	\$67.27	\$15.30	\$95.42	\$185.98
2038		\$92.46	\$68.68	\$15.62	\$97.41	\$189.87
2039		\$94.49	\$70.19	\$15.96	\$99.55	\$194.04
2040		\$96.47	\$71.66	\$16.30	\$101.65	\$198.12
2041		\$98.50	\$73.16	\$16.64	\$103.77	\$202.27

Source: (a)(c)(d) Plant Costs - 2013 IRP - Table 6.1 & 6.2 - Pages 112-116

- (b) = (a) x Payment Factor
- (e) = (d) x (8.76 x 21%) + (c)
- (f) = (b) + (e)

SCCT Frame ("F"x1) - West Side Options (1500')

197	MW Plant capacity	MW
\$ 699	Plant capacity cost	\$/kW-yr
\$ 8.08	Fixed O&M & Capitalized O&M	\$/kW-yr
\$ 33.21	Fixed Pipeline	\$/kW-yr
\$ 41.29	Fixed O&M Including Fixed Pipeline & Capitalized	\$/kW-yr
\$ 9.39	Variable O&M and Other Costs	\$/MWH
7.954%	Payment Factor	
21%	Capacity Factor	

Table 9
Total Cost of Displaceable Resources

Year	Estimated Capital Cost \$/kW	Capital Cost at Real Levelized Rate \$/kW-yr	Fixed O&M \$/kW-yr	Variable O&M \$/MWh	Total O&M at Expected CF \$/kW-yr	Total Resource Fixed Costs \$/kW-yr	Fuel Cost \$/MMBtu	IRP Resource Energy Cost \$/MWh	Total Avoided Costs \$/MWh
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)

CCCT (Dry "J" Adv 1x1) - West Side Options (1500')

2012	\$918	\$72.39	\$31.06	\$2.36	\$41.87	\$114.26			
2013		\$73.48	\$31.53	\$2.40	\$42.53	\$116.01			
2014		\$74.58	\$32.00	\$2.44	\$43.18	\$117.76			
2015		\$74.80	\$32.10	\$2.45	\$43.32	\$118.12			
2016		\$76.22	\$32.71	\$2.50	\$44.16	\$120.38			
2017		\$77.74	\$33.36	\$2.55	\$45.04	\$122.78			
2018		\$79.45	\$34.09	\$2.61	\$46.05	\$125.50			
2019		\$81.12	\$34.81	\$2.66	\$47.00	\$128.12			
2020		\$82.82	\$35.54	\$2.72	\$48.00	\$130.82			
2021		\$84.56	\$36.29	\$2.78	\$49.03	\$133.59			
2022		\$86.34	\$37.05	\$2.84	\$50.06	\$136.40			
2023		\$88.24	\$37.87	\$2.90	\$51.16	\$139.40			
2024		\$90.09	\$38.67	\$2.96	\$52.23	\$142.32	\$4.66	\$30.52	\$61.58
2025		\$92.07	\$39.52	\$3.03	\$53.40	\$145.47	\$4.85	\$31.77	\$63.52
2026		\$94.00	\$40.35	\$3.09	\$54.51	\$148.51	\$4.84	\$31.70	\$64.12
2027		\$95.97	\$41.20	\$3.15	\$55.63	\$151.60	\$5.04	\$33.01	\$66.10
2028		\$97.99	\$42.07	\$3.22	\$56.82	\$154.81	\$5.50	\$36.03	\$69.82
2029		\$99.95	\$42.91	\$3.28	\$57.94	\$157.89	\$5.66	\$37.07	\$71.53
2030		\$101.95	\$43.77	\$3.35	\$59.12	\$161.07	\$5.78	\$37.86	\$73.02
2031		\$104.09	\$44.69	\$3.42	\$60.36	\$164.45	\$6.15	\$40.28	\$76.17
2032		\$106.28	\$45.63	\$3.49	\$61.62	\$167.90	\$6.31	\$41.33	\$77.98
2033		\$108.51	\$46.59	\$3.56	\$62.90	\$171.41	\$6.40	\$41.92	\$79.33
2034		\$110.79	\$47.57	\$3.63	\$64.20	\$174.99	\$6.62	\$43.36	\$81.56
2035		\$113.12	\$48.57	\$3.71	\$65.57	\$178.69	\$6.87	\$45.00	\$84.00
2036		\$115.50	\$49.59	\$3.79	\$66.95	\$182.45	\$7.04	\$46.11	\$85.93
2037		\$117.93	\$50.63	\$3.87	\$68.36	\$186.29	\$7.26	\$47.55	\$88.21
2038		\$120.41	\$51.69	\$3.95	\$69.79	\$190.20	\$7.48	\$48.99	\$90.50
2039		\$123.06	\$52.83	\$4.04	\$71.34	\$194.40	\$7.65	\$50.11	\$92.54
2040		\$125.64	\$53.94	\$4.12	\$72.82	\$198.46	\$7.91	\$51.81	\$95.13
2041		\$128.28	\$55.07	\$4.21	\$74.36	\$202.64	\$8.08	\$52.92	\$97.15

Table 9
Total Cost of Displaceable Resources

Sources, Inputs and Assumptions

- Source: (a)(c)(d) Plant Costs - 2013 IRP - Table 6.1 & 6.2 - Pages 112-116
 (b) = (a) x 0.07886
 (e) = (d) x (8.76 x 52.3%) + (c)
 (f) = (b) + (e)
 (g) Gas Price Forecast
 (h) = 6550 x (g) / 1000
 (i) = (f) / (8.76 x 'Capacity Factor') + (h)

CCCT (Dry "J" Adv 1x1) - West Side Options (1500')

CCCT Statistics	MW	Percent	Cap Cost	Fixed
CCCT (Dry "J" Adv 1x1)	425	90.8%	\$962	\$31.29
CCCT Duct Firing (Dry "J" Adv 1x1)	<u>43</u>	<u>9.2%</u>	<u>\$486</u>	<u>\$28.74</u>
Capacity Weighted	468	100.0%	\$918	\$31.06

CCCT Statistics	MW	CF	aMW	Percent	Variable	Heat Rate
CCCT (Dry "J" Adv 1x1)	425	56.0%	238	97.2%	\$2.43	6,495
CCCT Duct Firing (Dry "J" Adv 1x1)	<u>43</u>	<u>16.0%</u>	<u>7</u>	<u>2.8%</u>	<u>0.08</u>	<u>8,611</u>
Energy Weighted	468	52.3%	245	100.0%	\$2.36	6,550

Rounded

CCCT	Duct Firing	Plant Costs - 2013 IRP - Table 6.1 & 6.2 - Pages 112-116
425	43	MW Plant capacity
\$962	\$486	Plant capacity cost
\$9.61	\$0.00	Fixed O&M & Capitalized O&M
<u>\$21.68</u>	<u>\$28.74</u>	Fixed Pipeline
\$31.29	\$28.74	Fixed O&M Including Fixed Pipeline & Capitalized O&M (\$/kW-Yr)
\$2.43	\$0.08	Variable O&M and Other Costs
6,495	8,611	Heat Rate in btu/kWh
7.886%	7.886%	Payment Factor
56%	16%	Capacity Factor
	52.3%	Energy Weighted Capacity Factor
	91.8%	Capacity Factor - On-peak 52.3% / 57% (percent of hours on-peak)

Company Official Inflation Forecast - Dated March 2015

2011	2.6%	2017	2.0%	2023	2.2%	2029	2.0%	2035	2.1%
2012	1.9%	2018	2.2%	2024	2.1%	2030	2.0%	2036	2.1%
2013	1.5%	2019	2.1%	2025	2.2%	2031	2.1%	2037	2.1%
2014	1.5%	2020	2.1%	2026	2.1%	2032	2.1%	2038	2.1%
2015	0.3%	2021	2.1%	2027	2.1%	2033	2.1%	2039	2.2%
2016	1.9%	2022	2.1%	2028	2.1%	2034	2.1%	2040	2.1%

Table 10
Gas Price Forecast
\$/MMBtu

Year	Burner tip West Side Gas Fuel Cost
2024	\$4.66
2025	\$4.85
2026	\$4.84
2027	\$5.04
2028	\$5.50
2029	\$5.66
2030	\$5.78
2031	\$6.15
2032	\$6.31
2033	\$6.40
2034	\$6.62
2035	\$6.87
2036	\$7.04
2037	\$7.26
2038	\$7.48
2039	\$7.65
2040	\$7.91
2041	\$8.08

Source

Offical Market Price Forecast dated March 2015

Table 11
2013 IRP Wyoming Wind Resource
40% Capacity Factor

Year	Estimated Capital Cost	Capital Cost at Real Levelized Rate	Fixed O&M	Fixed Costs	Variable O&M	Tax Credit	Avoided Cost	Wind Integration
	\$/kW	\$/kW-yr	\$/kW-yr	\$/MWh	\$/MWh	\$/MWh	\$/MWh	\$/MWh
	(a)	(b)	(c)	(d)		(e)	(f)	(g)

2013 IRP Wyoming Wind Resource - 40% Capacity Factor

2012	\$2,257	\$184.28	\$33.49	\$62.15	\$0.65		\$62.80	\$2.55
2013		\$187.05	\$33.99	\$63.08	\$0.66		\$63.74	\$2.59
2014		\$189.86	\$34.50	\$64.03	\$0.67		\$64.70	\$2.63
2015		\$190.43	\$34.60	\$64.22	\$0.67		\$64.89	\$2.64
2016		\$194.05	\$35.26	\$65.44	\$0.68		\$66.12	\$2.69
2017		\$197.93	\$35.97	\$66.75	\$0.69		\$67.44	\$2.74
2018		\$202.28	\$36.76	\$68.22	\$0.71		\$68.93	\$2.80
2019		\$206.53	\$37.53	\$69.65	\$0.72		\$70.37	\$2.86
2020		\$210.87	\$38.32	\$71.12	\$0.74		\$71.86	\$2.92
2021		\$215.30	\$39.12	\$72.61	\$0.76		\$73.37	\$2.98
2022		\$219.82	\$39.94	\$74.13	\$0.78		\$74.91	\$3.04
2023		\$224.66	\$40.82	\$75.76	\$0.80		\$76.56	\$3.11
2024		\$229.38	\$41.68	\$77.36	\$0.82		\$78.18	\$3.18
2025		\$234.43	\$42.60	\$79.06	\$0.84		\$79.90	\$3.25
2026		\$239.35	\$43.49	\$80.72	\$0.86		\$81.58	\$3.32
2027		\$244.38	\$44.40	\$82.41	\$0.88		\$83.29	\$3.39
2028		\$249.51	\$45.33	\$84.14	\$0.90		\$85.04	\$3.46
2029		\$254.50	\$46.24	\$85.83	\$0.92		\$86.75	\$3.53
2030		\$259.59	\$47.16	\$87.54	\$0.94		\$88.48	\$3.60
2031		\$265.04	\$48.15	\$89.38	\$0.96		\$90.34	\$3.68
2032		\$270.61	\$49.16	\$91.26	\$0.98		\$92.24	\$3.76
2033		\$276.29	\$50.19	\$93.17	\$1.00		\$94.17	\$3.84
2034		\$282.09	\$51.24	\$95.13	\$1.02		\$96.15	\$3.92
2035		\$288.01	\$52.32	\$97.13	\$1.04		\$98.17	\$4.00
2036		\$294.06	\$53.42	\$99.17	\$1.06		\$100.23	\$4.08
2037		\$300.24	\$54.54	\$101.25	\$1.08		\$102.33	\$4.17
2038		\$306.55	\$55.69	\$103.38	\$1.10		\$104.48	\$4.26
2039		\$313.29	\$56.92	\$105.65	\$1.12		\$106.77	\$4.35
2040		\$319.87	\$58.12	\$107.87	\$1.14		\$109.01	\$4.44
2041		\$326.59	\$59.34	\$110.14	\$1.16		\$111.30	\$4.53
2042		\$333.45	\$60.59	\$112.45	\$1.18		\$113.63	\$4.63

Sources, Inputs and Assumptions

Source:	(c)(f)	Plant Costs 2013 IRP (Table 6.2) in \$2012
	(a)	Plant capacity cost
	(b)	= (a) x 0.08165
	(d)	= ((b) + (c)) / (8.76 x 40.0%)
	(f)	= (d) + (e)
	(g)	2013 IRP Volume II-Appendix H, Table H.2, page 86

2013 IRP Wyoming Wind Resource - 40% Capacity Factor	
Wind	Cost and Input Assumptions

\$2,257	Plant capacity cost	\$/kW-yr
\$33.49	Fixed O&M, plus on-going capital cost	\$/kW-yr
	2013 IRP (Table 6.2) in \$2012	
\$0.65	Variable O&M	\$/MWh
-	Tax Credit \$/MWh	\$/MWh
	2013 IRP (Table 6.2) in \$2012	
8.165%	Payment Factor	
40%	Capacity Factor	

Official Inflation Forecast Dated Mar 2015 Forecast							
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2011	2.6%	2019	2.1%	2027	2.1%	2035	2.1%
2012	1.9%	2020	2.1%	2028	2.1%	2036	2.1%
2013	1.5%	2021	2.1%	2029	2.0%	2037	2.1%
2014	1.5%	2022	2.1%	2030	2.0%	2038	2.1%
2015	0.3%	2023	2.2%	2031	2.1%	2039	2.2%
2016	1.9%	2024	2.1%	2032	2.1%	2040	2.1%
2017	2.0%	2025	2.2%	2033	2.1%	2041	2.1%
2018	2.2%	2026	2.1%	2034	2.1%	2042	2.1%

Table 12
2013 IRP Wind Resource Costs
Adjusted to On-Peak / Off-Peak Prices

Year	Renewable Price	On-Peak / Off-Peak Factors		On-Peak / Off-Peak Prices	
	\$/MWH	On-Peak	Off-Peak	On-Peak	Off-Peak
	(a)	(b)	(c)	(d)	(e)
				(a) x (b)	(a) x (c)
2024	\$78.18	1.1089	0.8610	\$86.69	\$67.31
2025	\$79.90	1.1055	0.8656	\$88.33	\$69.16
2026	\$81.58	1.0942	0.8801	\$89.26	\$71.80
2027	\$83.29	1.0907	0.8845	\$90.85	\$73.67
2028	\$85.04	1.0869	0.8897	\$92.43	\$75.66
2029	\$86.75	1.0832	0.8940	\$93.97	\$77.55
2030	\$88.48	1.0793	0.8991	\$95.50	\$79.55
2031	\$90.34	1.0702	0.9096	\$96.68	\$82.17
2032	\$92.24	1.0728	0.9077	\$98.96	\$83.72
2033	\$94.17	1.0625	0.9207	\$100.06	\$86.70
2034	\$96.15	1.0531	0.9326	\$101.25	\$89.67
2035	\$98.17	1.0533	0.9320	\$103.40	\$91.49
2036	\$100.23	1.0610	0.9224	\$106.34	\$92.45
2037	\$102.33	1.0514	0.9349	\$107.58	\$95.66
2038	\$104.48	1.0706	0.9104	\$111.85	\$95.12
2039	\$106.77	1.0814	0.8968	\$115.46	\$95.75
2040	\$109.01	1.0820	0.8963	\$117.96	\$97.71
2041	\$111.30	1.0763	0.9032	\$119.79	\$100.53

Columns

- (a) Table 11 Column (f)
- (b) Ratio blended market On-Peak to annual prices
- (c) Ratio blended market Off-Peak to annual prices

PACIFIC POWER
AVOIDED COST CALCULATION

STANDARD RATES FOR AVOIDED COST PURCHASES FROM
QUALIFYING FACILITIES OF 10,000 kW OR LESS THAT
QUALIFY FOR SCHEDULE NO. 37

OREGON – May 2015

**PACIFIC POWER
AVOIDED COST CALCULATION**

**STANDARD RATES FOR AVOIDED COST PURCHASES FROM QUALIFYING
FACILITIES OF 10,000 kW OR LESS THAT QUALIFY FOR SCHEDULE NO. 37**

OREGON – May 2015

Oregon Schedule 37 contains avoided cost prices to be paid to small qualifying facilities (QF) and applies to QFs with a design capacity of 10 MW or less. Oregon avoided cost filing requirements as listed in OAR 860-029-0040 and 860-029-0080 require the Company to file updated avoided costs at least every two years. The Commission Order No. 14-058, requires the Oregon investor owned utilities to update avoided cost prices annually on May 1 of each year and within 30-days of Integrated Resource Plan (IRP) acknowledgment. Annual updates, filed on May 1 of each year, are required to update the following data inputs: (1) natural gas prices; (2) on-peak and off-peak forward looking electricity market prices; (3) production tax credit status; and (4) any other action or change in an acknowledged IRP relevant to the calculation of avoided costs.

The last Oregon avoided costs were approved on August 19, 2014.

Sufficiency and Deficiency Periods

In Docket UM-1396 Order 10-488, the Commission directed that the start date of the first “major resource acquisition” in the action plan of the IRP determines the resource “sufficiency” and “deficiency” periods. The sufficiency and deficiency periods used in this filing are unchanged and are based on the 2013 IRP which was acknowledged by the Commission on July 8, 2014.

Differentiation of Avoided Cost rates by QF Resource Type:

In docket UM 1396, the Commission Order 11-505 required PacifiCorp to file separate renewable avoided cost rates. In docket UM 1610, Order No. 14-058, the Commission adopted following additional changes:

- Standard and renewable avoided cost prices reflect the capacity contributions of different QF resources. For the standard avoided cost prices the capacity component in the on-peak price is multiplied by “Capacity Contribution Factor”, equal to the expected contribution to peak load of specific QF resource, as identified in the 2013 IRP (wind: 4.2%, solar: 13.6%). For renewable avoided cost prices, the capacity component in the renewable on-peak price is adjusted by the incremental capacity contribution of the specific QF resource type relative to the avoided renewable wind resource.

- Standard and renewable avoided cost prices reflect integration costs (both incurred and avoided) for wind QFs. Solar QFs are not subject to integration charges.
- The Gas-Market Index and Banded Gas Market Indexed pricing options were eliminated.

Table 1 presents an excerpt from the 2013 IRP Table 8.7 and shows that the next major resource acquisition occurs in 2024. The 645 MW combined cycle combustion turbine schedule in 2014 is the Lake Side 2 resource which came online in 2014.

Avoided Cost Calculation

Based on resources shown in **Table 1**, the avoided cost calculation is separated into two distinct periods: (1) a period of resource sufficiency (2015 through 2023); and (2) a period of resource deficiency (2024 and beyond). During the resource sufficiency period (2015 through 2023), avoided energy costs are based on market purchases. Market prices from the Company's Official Forward Price Curve are weighted by market transactions required to support the addition of an assumed 50 MW Oregon Qualified Facility. To calculate the weighting, two production cost studies are prepared. The only difference between the two studies is an assumed 50 aMW, zero running cost resource. System balancing sale and purchase volumes are extracted from both studies and the change between the two studies is calculated for each market hub. This volume impact is used to weight the Company's Official Market Price Forecast on-peak and off-peak market prices for COB, Mid-Columbia, and Palo Verde for each month. **Table 2** shows the result of this calculation.

During the resource deficiency period (2024 and beyond), avoided costs are the fixed and variable costs of a proxy resource that could be avoided or deferred. The current thermal proxy resource used to set standard avoided cost rates is a combined cycle combustion turbine (CCCT) from the 2013 IRP¹. Renewable avoided cost rates are set based on a Wyoming wind resource selected in the 2013 IRP².

Since CCCTs are built as base load units that provide both capacity and energy, it is appropriate to split the fixed costs of this unit into capacity and energy components. The fixed cost of a simple cycle combustion turbine (SCCT), which is usually acquired as a capacity resource, defines the portion of the fixed cost of the CCCT that is assigned to capacity³. Fixed costs associated with the construction of a CCCT which are in excess of SCCT costs are assigned to energy and are added to the variable production (fuel) cost of

¹ 423 MW West Side Dry "J" Adv 1x1 CCCT – Available in 2024 as listed in Tables 6.1 and 6.2 of the 2013 IRP. Fuel costs are from the Company's March 2015 Official Forward Price Curve (1503 OFPC).

² Renewable proxy resource is a 423 MW Wyoming Wind resource with 40% CF available in 2024 as shown in Tables 6.1 and 6.2 of the 2013 IRP.

³ SCCT Frame ("F"x1) - West Side Options (1500'), as listed in Tables 6.1 and 6.2 of the 2013 IRP.

the CCCT to determine the total avoided energy costs. **Table 3** shows the capitalized energy costs.

The fuel cost of the CCCT defines the avoided variable energy costs. The gas price forecast used as the basis for the CCCT fuel cost is discussed later in this document. **Table 4** shows the CCCT fuel cost, the addition of capitalized energy costs at an assumed 52.3% capacity factor and the total avoided energy costs.

Because energy generated by a qualifying facility may vary, we have prepared total avoided costs at 75%, 85% and 90% capacity factor to illustrate the impact of differing generation levels. This calculation is shown in **Table 5**.

Avoided costs are differentiated between on-peak and off-peak periods, with capacity costs allocated to on-peak periods. On an annual basis, approximately 57% of all hours are on-peak and 43% are off-peak. **Table 6** shows the calculation of on-peak and off-peak avoided energy prices.

For informational purposes, **Tables 7 and 8** show a comparison between the Standard and Renewable avoided costs currently in effect in Oregon and the proposed avoided costs in this filing.

Table 9 shows the calculation of the total fixed costs and fuel costs of the CCCT and SCCT that are used in **Table 3** and **Table 4**. In this filing, the Company's thermal proxy resource is a CCCT located on the west side of the Company's system. Current Commission approved avoided costs are based upon a CCCT located on the west side of the Company's system.

Gas Price Forecast

Gas prices used in this filing utilize the Company's March 2015 Official Forward Price Curve (1503 OFPC). **Table 10** shows the natural gas price used in this avoided cost calculation. Gas prices are the average of the Opal, Sumas and Stanfield gas indices. The use of an average of three indices is used to recognize that the CCCT is located on the west side of the Company's system rather than the east side.

Table 11 shows the calculation of Renewable avoided costs that are used in calculation of renewable avoided cost rates as shown in "**Exhibits 4 through 6**". **Table 12** shows the calculation of on-peak and off-Peak Renewable avoided cost prices by applying on-peak and off-peak factors. On-peak and off-peak factors are calculated annually as a ratio of average annual on-peak Mid-C market price to flat Mid-C market price.

Exhibit 1- Std Base Load QF tab shows the calculation of proposed standard avoided cost rates for a base load QF. On and off-peak avoided cost rates are based on blended market rates for 2015-2023. For 2024 and beyond, the off-peak price is based on the fuel

and capitalized energy cost of the proxy CCCT. The on-peak price includes a capacity adder based on the fixed costs a thermal proxy CCCT.

Exhibit 2- Std Wind QF tab shows the calculation of proposed standard avoided cost rates for a Wind QF. On and off-peak avoided cost rates are based on blended market rates for 2015-2023. For 2024 and beyond, the off-peak price is based on the fuel and capitalized energy cost of the proxy CCCT. The on-peak price includes a capacity adder calculated based on fixed costs of the thermal proxy CCCT adjusted by the expected capacity contribution of a wind QF as identified in the 2013 IRP (wind: 4.2%). Standard avoided cost rates for a wind QF are reduced by a wind integration charge of \$2.55/MWh (\$2012).

Exhibit 3- Std Solar QF tab shows the calculation of proposed standard avoided cost rates for a Solar QF. On and off-peak avoided cost rates are based on blended market rates for 2015-2023. For 2024 and beyond, the off-peak price is based on the fuel and capitalized energy cost of the proxy CCCT. The on-peak price includes a capacity adder calculated based on the fixed costs a thermal proxy CCCT adjusted by expected capacity contribution of a solar QF as identified in the 2013 IRP (solar: 13.6%).

Exhibit 4- Renewable Wind tab shows the calculation of proposed standard avoided cost rates for a Wind QF. On and off-peak avoided cost rates are based on blended market rates for 2015-2023. For 2024 and beyond, on and off-peak prices are based on on-peak and off-peak prices of a renewable wind proxy resource as calculated in Table 11 and Table 12.

Exhibit 5- Renewable Base Load tab shows the calculation of proposed standard avoided cost rates for a Renewable Base Load QF. On and off-peak avoided cost rates are based on blended market rates for 2015-2023. For 2024 and beyond, on and off-peak prices are based on on-peak and off-peak prices of a renewable wind proxy resource as calculated in Table 11 and Table 12. On-peak price includes a capacity adder calculated based on the fixed costs of a thermal proxy CCCT, adjusted by the incremental capacity contribution of a renewable base load QF relative to the avoided renewable wind resource. The renewable avoided cost rates for a base load QF are increased by the avoided wind integration charge of \$2.55/MWh (\$2012) during the deficiency period.

Exhibit 6- Renewable Solar tab shows the calculation of proposed standard avoided cost rates for a Renewable Solar QF. On and off-peak avoided cost rates are based on blended market rates for 2015-2023. For 2024 and beyond, on and off-peak prices are based on on-peak and off-peak prices of a renewable wind proxy resource as calculated in Table 11 and Table 12. The on-peak price includes a capacity adder calculated based on the fixed costs of a thermal proxy CCCT, adjusted by adjusted by the incremental capacity contribution of the renewable solar QF relative to the avoided renewable wind resource. Renewable avoided cost rates for solar QF are increased by the avoided wind integration charge of \$2.55/MWh (\$2012) during the deficiency period.

Exhibit 7 – Blending tab shows the market blending used to weight the Company’s Official Forward Price Curve on-peak and off-peak market prices at COB, Palo Verde and Mid-Columbia by month, which are used in the calculation of rates shown in **Table 2**.