

Exhibit No. \_\_\_ (JBT-6)  
Docket UE-140762, et al.  
Witness: Jeremy B. Twitchell

BEFORE THE WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,

Complainant,

v.

PACIFIC POWER & LIGHT  
COMPANY,

Respondent.

UE-140762 and UE-140617  
(consolidated)

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In the Matter of the Petition of

PACIFIC POWER & LIGHT  
COMPANY,

For an Order Approving Deferral of  
Costs Related to Colstrip Outage.

DOCKET UE-131384 (consolidated)

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In the Matter of the Petition of

PACIFIC POWER & LIGHT  
COMPANY,

For an Order Approving Deferral of  
Costs Related to Declining Hydro  
Generation.

DOCKET UE-140094 (consolidated)

EXHIBIT TESTIMONY OF

Jeremy B. Twitchell

STAFF OF  
WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION

*Top Load Hours and Solar Availability*

October 10, 2014

Top Load Hours and Solar Availability

Rank	Date	Hour	System	WCA	Oregon	California	Washington	Daylight?	
1	9-Dec-13	8	9,323,664	4,047,920	2,980,014	182,282	885,624	1	1 = Yes
2	9-Dec-13	9	9,306,789	4,000,641	2,978,918	175,533	846,190	1	0 = No
3	9-Dec-13	10	9,296,272	3,904,417	2,918,931	167,803	817,682	1	
4	5-Dec-13	8	9,071,615	3,856,323	2,836,651	165,203	854,469	1	
5	9-Dec-13	7	9,140,493	3,823,948	2,794,082	165,272	864,593	0	
6	11-Dec-13	8	9,133,856	3,818,808	2,801,894	169,420	847,494	1	
7	8-Dec-13	10	8,637,204	3,802,468	2,811,205	161,869	829,394	1	
8	10-Dec-13	8	9,113,026	3,794,083	2,794,237	177,235	822,611	1	
9	11-Dec-13	9	9,016,304	3,755,437	2,788,816	162,840	803,781	1	
10	9-Dec-13	11	9,221,546	3,754,872	2,815,148	154,396	785,328	1	
11	5-Dec-13	9	8,970,710	3,745,279	2,772,987	159,940	812,351	1	
12	8-Dec-13	9	8,544,737	3,744,079	2,771,489	153,433	819,156	1	
13	10-Dec-13	9	9,030,319	3,739,171	2,783,423	170,002	785,746	1	
14	9-Dec-13	19	9,404,921	3,731,610	2,757,869	163,996	809,744	0	
15	9-Dec-13	18	9,451,309	3,722,786	2,751,957	158,618	812,210	0	
16	8-Dec-13	18	9,178,859	3,704,043	2,749,608	154,303	800,132	0	
17	8-Dec-13	11	8,486,966	3,702,146	2,743,416	149,307	809,423	1	
18	8-Dec-13	19	9,138,784	3,700,792	2,733,066	159,460	808,266	0	
19	12-Dec-13	8	8,967,712	3,688,251	2,735,718	166,776	785,756	1	
20	8-Dec-13	20	9,004,708	3,685,206	2,706,635	159,900	818,671	0	
21	10-Dec-13	10	8,941,167	3,681,913	2,748,301	162,816	770,796	1	
22	9-Dec-13	20	9,296,694	3,662,585	2,693,073	161,934	807,578	0	
23	5-Dec-13	7	8,814,833	3,638,615	2,658,504	152,298	827,814	0	
24	12-Dec-13	9	8,884,265	3,633,885	2,713,670	160,776	759,440	1	
25	11-Dec-13	10	8,807,794	3,628,762	2,711,380	153,559	763,823	1	
26	8-Dec-13	8	8,360,911	3,621,028	2,673,918	144,701	802,410	1	
27	8-Dec-13	21	8,781,044	3,605,940	2,642,528	152,924	810,488	0	
28	4-Dec-13	8	8,497,942	3,601,918	2,653,982	154,468	793,469	1	
29	10-Dec-13	7	8,899,563	3,598,820	2,627,651	167,015	804,154	0	
30	11-Dec-13	7	8,919,696	3,596,838	2,618,793	154,550	823,495	0	
31	14-Jan-13	8	8,791,907	3,596,801	2,663,805	177,459	755,537	1	
32	15-Jan-13	8	8,819,438	3,593,817	2,630,453	171,663	791,701	1	
33	5-Dec-13	10	8,819,430	3,593,304	2,670,165	149,699	773,439	1	
34	9-Dec-13	12	8,899,478	3,589,643	2,695,904	147,593	746,145	1	
35	9-Dec-13	21	9,017,160	3,575,969	2,621,676	157,306	796,987	0	
36	6-Dec-13	18	9,054,256	3,571,176	2,614,842	140,764	815,570	0	
37	10-Dec-13	11	8,807,115	3,559,680	2,657,818	151,335	750,527	1	
38	6-Dec-13	8	8,848,710	3,553,324	2,597,834	149,984	805,505	1	
39	8-Dec-13	12	8,375,399	3,553,015	2,645,159	146,721	761,134	1	
40	12-Dec-13	10	8,745,913	3,546,158	2,661,296	150,331	734,532	1	
41	10-Dec-13	19	9,138,646	3,544,397	2,628,670	155,718	760,009	0	
42	6-Dec-13	9	8,818,621	3,540,270	2,618,686	143,734	777,850	1	
43	14-Jan-13	9	8,777,144	3,540,122	2,629,554	172,664	737,904	1	
44	10-Dec-13	18	9,166,747	3,538,407	2,614,906	154,021	769,479	0	
45	10-Dec-13	20	9,025,444	3,527,256	2,614,661	155,457	757,138	0	
46	16-Jan-13	8	8,546,552	3,515,725	2,547,354	169,889	798,482	1	
47	15-Jan-13	9	8,758,104	3,511,157	2,586,572	165,294	759,290	1	
48	6-Dec-13	10	8,735,109	3,504,686	2,598,511	142,422	763,753	1	
49	6-Dec-13	19	8,870,411	3,503,137	2,561,549	138,543	803,045	0	
50	9-Dec-13	17	9,212,931	3,501,961	2,575,269	143,413	783,279	0	
51	22-Jan-13	8	8,731,824	3,500,135	2,574,669	159,474	765,992	1	
52	7-Dec-13	19	8,876,351	3,497,898	2,568,972	141,113	787,813	0	
53	9-Dec-13	6	8,514,456	3,493,757	2,554,454	147,109	792,194	0	
54	11-Dec-13	19	9,034,576	3,491,947	2,591,561	148,905	751,481	0	
55	7-Dec-13	18	8,919,728	3,486,872	2,568,552	138,552	779,768	0	
56	12-Dec-13	7	8,730,979	3,485,349	2,564,070	152,397	768,883	0	
57	11-Dec-13	11	8,600,040	3,485,258	2,603,367	140,975	740,917	1	
58	7-Dec-13	20	8,777,070	3,471,162	2,538,445	138,477	794,240	0	
59	4-Dec-13	9	8,421,152	3,470,635	2,578,534	146,423	745,678	1	
60	17-Jan-13	8	8,618,658	3,468,019	2,550,911	168,956	748,151	1	
61	16-Jan-13	9	8,483,558	3,465,706	2,531,641	165,012	769,054	1	
62	5-Dec-13	19	8,906,271	3,464,928	2,534,042	144,264	786,622	0	

63	8-Dec-13	22	8,385,666	3,463,026	2,532,048	145,942	785,035	0
64	11-Dec-13	18	9,048,516	3,462,287	2,557,668	143,831	760,788	0
65	6-Dec-13	11	8,640,939	3,446,052	2,559,507	135,792	750,753	1
66	9-Dec-13	13	8,712,336	3,443,819	2,580,379	140,111	723,330	1
67	8-Dec-13	7	8,042,885	3,443,009	2,518,487	138,269	786,253	0
68	6-Dec-13	17	8,894,732	3,442,840	2,505,224	135,031	802,585	0
69	12-Dec-13	18	8,963,636	3,441,441	2,544,035	141,622	755,784	0
70	5-Dec-13	18	8,964,140	3,440,663	2,512,829	142,898	784,936	0
71	7-Dec-13	21	8,643,429	3,439,408	2,510,618	134,261	794,529	0
72	10-Dec-13	21	8,772,303	3,436,992	2,540,405	151,795	744,792	0
73	18-Jan-13	8	8,663,544	3,435,086	2,521,568	166,657	746,861	1
74	12-Dec-13	11	8,562,241	3,434,447	2,573,310	138,055	723,082	1
75	19-Dec-13	8	8,379,851	3,432,676	2,521,339	144,314	767,022	1
76	11-Dec-13	20	8,927,088	3,430,446	2,542,712	145,363	742,372	0
77	2-Jul-13	17	10,414,732	3,429,064	2,453,525	146,470	829,069	1
78	14-Jan-13	10	8,700,803	3,426,564	2,558,049	164,867	703,649	1
79	5-Dec-13	11	8,611,185	3,426,560	2,551,151	135,929	739,480	1
80	2-Jul-13	16	10,410,480	3,426,534	2,445,190	151,758	829,586	1
81	5-Dec-13	20	8,789,559	3,424,752	2,496,160	146,933	781,659	0
82	7-Dec-13	10	8,401,080	3,422,123	2,505,207	135,744	781,172	1
83	6-Dec-13	20	8,656,431	3,418,961	2,488,303	134,721	795,938	0
84	8-Dec-13	17	8,819,770	3,409,680	2,523,462	137,262	748,957	0
85	9-Dec-13	22	8,537,263	3,409,279	2,489,381	151,310	768,587	0
86	10-Dec-13	12	8,577,844	3,405,787	2,538,503	142,552	724,731	1
87	2-Jul-13	18	10,340,768	3,405,528	2,438,822	145,776	820,929	1
88	7-Dec-13	9	8,296,992	3,403,161	2,471,447	137,668	794,046	1
89	3-Jan-13	8	8,499,305	3,400,393	2,510,311	146,672	743,410	1
90	4-Dec-13	19	8,885,250	3,397,565	2,500,101	140,207	757,257	0
91	18-Jan-13	9	8,646,766	3,396,876	2,509,178	161,652	726,045	1
92	22-Jan-13	9	8,611,090	3,395,507	2,509,425	150,288	735,794	1
93	4-Dec-13	20	8,803,500	3,394,161	2,483,787	140,040	770,334	0
94	3-Jan-13	9	8,515,354	3,391,295	2,522,259	148,990	720,046	1
95	15-Jan-13	10	8,585,584	3,387,266	2,511,063	155,561	720,641	1
96	17-Jan-13	9	8,554,542	3,386,628	2,499,961	161,923	724,744	1
97	8-Dec-13	13	8,197,629	3,384,729	2,515,606	135,949	733,174	1
98	22-Nov-13	8	8,212,522	3,381,279	2,473,897	132,740	774,642	1
99	1-Jul-13	17	10,409,861	3,380,925	2,426,115	152,767	802,043	1
100	2-Jul-13	15	10,396,559	3,380,899	2,413,091	147,090	820,717	1
101	12-Dec-13	19	8,868,051	3,380,345	2,500,333	141,858	738,154	0
102	6-Dec-13	12	8,515,439	3,376,705	2,503,863	130,704	742,139	1
103	1-Jul-13	18	10,363,199	3,371,188	2,422,728	153,493	794,967	1
104	16-Jan-13	10	8,415,733	3,369,539	2,470,922	145,726	752,891	1
105	25-Jul-13	17	9,828,813	3,366,853	2,429,994	143,528	793,330	1
106	6-Dec-13	13	8,435,630	3,363,140	2,495,593	131,830	735,716	1
107	11-Dec-13	21	8,701,039	3,362,672	2,486,742	140,671	735,259	0
108	5-Dec-13	21	8,614,029	3,361,651	2,448,770	140,617	772,264	0
109	15-Jan-13	7	8,583,160	3,361,575	2,443,876	157,521	760,178	0
110	1-Jul-13	16	10,507,079	3,361,262	2,408,278	155,589	797,395	1
111	21-Jan-13	9	8,431,945	3,360,568	2,493,356	151,854	715,357	1
112	4-Dec-13	7	8,273,519	3,359,896	2,461,460	139,524	758,911	0
113	6-Dec-13	7	8,581,159	3,352,044	2,429,704	139,365	782,975	0
114	4-Dec-13	21	8,627,332	3,350,375	2,454,770	137,053	758,552	0
115	19-Dec-13	9	8,289,574	3,350,049	2,488,373	137,658	724,019	1
116	9-Dec-13	14	8,565,777	3,349,137	2,502,895	133,129	713,113	1
117	3-Jan-13	10	8,468,746	3,347,141	2,490,582	145,591	710,968	1
118	4-Dec-13	18	8,875,277	3,345,160	2,460,218	137,956	746,986	0
119	25-Jul-13	18	9,707,651	3,339,488	2,407,454	142,431	789,602	1
120	2-Jan-13	9	8,383,172	3,339,333	2,477,376	157,046	704,910	1
121	21-Jan-13	10	8,476,492	3,339,012	2,469,043	144,916	725,053	1
122	2-Jul-13	19	10,140,713	3,334,797	2,386,484	142,847	805,466	1
123	22-Jan-13	10	8,497,217	3,334,552	2,454,319	144,866	735,367	1
124	25-Jul-13	16	9,717,536	3,334,272	2,409,486	143,533	781,253	1
125	11-Dec-13	12	8,356,189	3,332,613	2,481,894	131,332	719,387	1
126	14-Jan-13	7	8,483,367	3,331,653	2,436,561	163,232	731,860	1
127	7-Dec-13	22	8,345,766	3,330,600	2,420,182	130,829	779,590	0

128	7-Dec-13	11	8,354,167	3,328,629	2,450,132	129,141	749,356	1
129	2-Jul-13	14	10,370,311	3,328,151	2,374,483	144,129	809,540	1
130	6-Dec-13	14	8,366,452	3,327,589	2,464,225	129,890	733,474	1
131	14-Jan-13	19	8,779,391	3,326,317	2,449,200	156,650	720,467	0
132	18-Jan-13	10	8,510,100	3,323,271	2,455,642	152,287	715,342	1
133	14-Jan-13	11	8,522,760	3,321,871	2,472,317	156,302	693,252	1
134	1-Jul-13	19	10,247,075	3,321,778	2,388,336	153,338	780,104	1
135	17-Jan-13	10	8,409,514	3,321,625	2,448,827	152,433	720,365	1
136	12-Dec-13	12	8,436,664	3,321,215	2,488,781	129,632	702,802	1
137	10-Dec-13	17	8,894,457	3,320,200	2,444,158	139,959	736,083	0
138	12-Dec-13	17	8,773,024	3,318,643	2,453,623	127,437	737,584	0
139	21-Nov-13	8	8,080,465	3,315,336	2,418,934	130,983	765,418	1
140	16-Jan-13	19	8,647,071	3,314,406	2,410,757	147,382	756,266	0
141	6-Dec-13	15	8,296,111	3,312,337	2,442,364	127,802	742,171	1
142	1-Jul-13	15	10,299,107	3,310,650	2,384,527	154,001	772,122	1
143	6-Dec-13	16	8,493,181	3,307,974	2,421,060	128,355	758,560	0
144	9-Dec-13	16	8,619,588	3,307,680	2,447,144	131,167	729,368	0
145	10-Dec-13	13	8,475,796	3,307,153	2,470,986	137,410	698,757	1
146	2-Jan-13	8	8,295,255	3,306,214	2,440,232	153,761	712,221	1
147	6-Dec-13	21	8,488,690	3,305,730	2,393,425	129,292	783,013	0
148	2-Jan-13	10	8,303,489	3,300,841	2,454,032	149,597	697,213	1
149	8-Dec-13	6	7,785,643	3,299,543	2,395,495	129,698	774,349	0
150	5-Dec-13	12	8,416,559	3,297,421	2,443,389	129,760	724,273	1
151	4-Dec-13	10	8,275,216	3,297,131	2,454,714	136,299	706,119	1
152	17-Dec-13	8	8,536,969	3,296,265	2,417,574	147,469	731,222	1
153	21-Jan-13	11	8,332,347	3,295,873	2,419,446	139,396	737,031	1
154	12-Dec-13	20	8,729,541	3,294,479	2,428,309	137,642	728,528	0
155	21-Jan-13	8	8,339,256	3,291,632	2,441,295	147,613	702,724	1
156	14-Jan-13	20	8,691,833	3,291,175	2,418,096	157,324	715,754	0
157	16-Jan-13	18	8,669,382	3,288,826	2,375,892	141,061	771,874	0
158	25-Jul-13	19	9,566,335	3,288,482	2,374,581	142,488	771,413	1
159	25-Jul-13	15	9,666,499	3,288,157	2,371,617	140,679	775,861	1
160	9-Dec-13	15	8,519,456	3,287,122	2,449,144	132,598	705,380	1
161	16-Jan-13	11	8,286,104	3,285,989	2,406,994	130,856	748,139	1
162	10-Dec-13	22	8,339,808	3,282,511	2,423,887	143,094	715,529	0
163	16-Jan-13	7	8,298,038	3,277,403	2,349,502	155,133	772,769	0
164	24-Jul-13	16	9,524,976	3,276,205	2,348,808	137,981	789,416	1
165	8-Dec-13	14	8,097,901	3,271,447	2,437,110	128,559	705,777	1
166	22-Nov-13	9	8,162,567	3,268,750	2,412,641	129,793	726,316	1
167	14-Jan-13	18	8,825,199	3,267,059	2,405,726	145,151	716,182	0
168	20-Dec-13	8	8,398,010	3,266,424	2,411,017	145,378	710,029	1
169	2-Jan-13	19	8,606,541	3,262,252	2,375,710	148,246	738,297	0
170	24-Jul-13	17	9,498,297	3,261,791	2,330,716	139,113	791,961	1
171	24-Jul-13	18	9,404,194	3,260,795	2,329,623	137,621	793,551	1
172	22-Jul-13	18	9,950,299	3,260,654	2,323,359	152,480	784,816	1
173	22-Jan-13	7	8,471,278	3,258,999	2,377,900	139,101	741,998	0
174	7-Dec-13	8	8,009,605	3,257,145	2,350,935	127,448	778,762	1
175	12-Dec-13	13	8,311,753	3,256,645	2,432,441	123,508	700,696	1
176	15-Jan-13	11	8,438,242	3,254,336	2,414,010	145,631	694,694	1
177	26-Jul-13	17	9,696,686	3,253,901	2,357,001	135,698	761,202	1
178	7-Dec-13	17	8,644,959	3,253,487	2,377,316	126,243	749,928	0
179	1-Jul-13	20	9,959,935	3,253,324	2,339,085	149,906	764,334	0
180	3-Jan-13	11	8,309,375	3,253,267	2,413,436	140,398	699,434	1
181	2-Jan-13	18	8,636,362	3,252,131	2,362,113	144,102	745,915	0
182	9-Dec-13	5	7,977,091	3,249,306	2,374,419	131,222	743,665	0
183	16-Jan-13	20	8,516,899	3,248,169	2,359,969	145,647	742,553	0
184	25-Nov-13	8	8,097,928	3,247,921	2,381,679	134,059	732,183	1
185	10-Dec-13	6	8,274,495	3,246,389	2,364,543	141,629	740,218	0
186	7-Dec-13	12	8,244,652	3,243,629	2,391,182	125,516	726,931	1
187	5-Dec-13	17	8,708,005	3,243,585	2,359,727	125,966	757,892	0
188	11-Jan-13	8	8,177,441	3,243,172	2,353,189	149,950	740,033	1
189	22-Jan-13	11	8,280,225	3,242,579	2,380,413	135,652	726,513	1
190	19-Dec-13	10	8,221,029	3,241,886	2,413,311	130,372	698,203	1
191	18-Jan-13	11	8,345,504	3,241,297	2,382,871	143,756	714,670	1
192	26-Jul-13	16	9,739,635	3,241,114	2,342,166	143,645	755,303	1

193	17-Jan-13	7	8,369,887	3,239,773	2,363,042	154,342	722,390	0
194	15-Jan-13	19	8,679,690	3,237,292	2,361,569	151,418	724,304	0
195	11-Dec-13	6	8,293,136	3,236,496	2,350,929	134,893	750,675	0
196	22-Jul-13	17	9,901,943	3,236,378	2,302,098	153,161	781,119	1
197	17-Jan-13	19	8,577,688	3,234,930	2,342,851	145,271	746,808	0
198	20-Dec-13	9	8,374,335	3,232,987	2,400,891	140,132	691,963	1
199	10-Dec-13	14	8,351,541	3,226,958	2,413,207	131,689	682,061	1
200	10-Jan-13	8	7,996,827	3,226,945	2,364,520	152,563	709,862	1

124 Yes	62%
76 No	38%