

Exhibit No.      (JBT-2)  
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

*Staff Analysis of Wind Value Variation*

October 10, 2014

Staff Analysis of Wind Value Variation

Changes in Wind Value 2007 - 2012							
	2007	2008	2009	2010	2011	2012	Cumulative Total
<b>GRC Forecast</b>							
Wind Generation (MWh)	255,152	364,357	824,814	1,289,989	1,273,395	1,267,568	5,275,275
Market Price (\$/MWh)	57.03	55.25	49.69	56.60	44.90	33.59	47.09
Market Value (\$m)	14.6	20.1	41.0	73.0	57.2	42.6	248.4
Less: PPA Cost (\$m)	3.5	3.7	4.6	4.1	4.5	5.0	25.2
Net Market Value (\$m)	11.1	16.5	36.4	68.9	52.7	37.6	223.2
<b>Actual</b>							
Wind Generation (MWh)	252,374	391,548	838,119	1,036,912	1,190,573	1,057,002	4,766,529
Market Price (\$/MWh)	43.96	50.58	25.89	26.69	17.56	12.74	24.05
Market Value (\$m)	11.1	19.8	21.7	27.7	20.9	13.5	114.6
Less: PPA Cost (\$m)	4.1	4.9	3.6	3.7	4.8	4.9	26.0
Net Market Value (\$m)	7.0	14.9	18.1	24.0	16.1	8.5	88.6
<b>Forecast Variance</b>							
Wind Generation (MWh)	(2,778)	27,191	13,305	(253,076)	(82,822)	(210,566)	(508,746)
Market Price (\$/MWh)	(13.07)	(4.66)	(23.80)	(29.91)	(27.34)	(20.86)	(23.04)
Market Value (\$m)	(3.5)	(0.3)	(19.3)	(45.3)	(36.3)	(29.1)	(133.8)
Less: PPA Cost (\$m)	0.6	1.2	(1.0)	(0.4)	0.3	(0.1)	0.8
Net Market Value (\$m)	(4.1)	(1.5)	(18.3)	(44.9)	(36.6)	(29.1)	(134.6)
PTC Increase/(Reduction) (\$m)	(0.4)	0.7	0.9	(8.2)	(2.9)	(7.0)	(16.9)
Total (\$m)	(4.4)	(0.8)	(17.5)	(53.1)	(39.5)	(36.1)	(151.5)
WA Allocated Total (\$m)	(1.0)	(0.2)	(4.0)	(12.2)	(9.1)	(8.3)	(34.8)

Sources of Change in Market Value of Wind							
Source	2007	2008	2009	2010	2011	2012	Total
Wind variance (\$m)	\$ (0.16)	\$ 1.50	\$ 0.66	\$ (14.32)	\$ (3.72)	\$ (7.07)	\$ (23.11)
Market variance (\$m)	\$ (3.30)	\$ (1.83)	\$ (19.95)	\$ (31.01)	\$ (32.55)	\$ (22.05)	\$ (110.68)
Total Change in Market Value	\$ (3.5)	\$ (0.3)	\$ (19.3)	\$ (45.3)	\$ (36.3)	\$ (29.1)	\$ (133.8)

Share of change	
Market variation	73.07%
Wind variation	15.26%
PPA variation	0.51%
PTC variation	11.16%
Total	100.00%