

**Exh. JL-3
Docket UG-170929
Witness: Jing Liu**

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

**CASCADE NATURAL GAS
CORPORATION,**

Respondent.

DOCKET UG-170929

**EXHIBIT TO
TESTIMONY OF**

Jing Liu

**STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

Staff's Weather Normalization Sales Adjustment

February 15, 2018

Staff's Weather Normalization Sales Adjustment

Number of Customers by Rate Schedule													
Rate Schedule	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Average
Schedule 503 Residential													
Bellingham	80,414	80,480	80,452	80,446	80,452	80,354	80,387	80,334	80,510	80,833	81,023	81,270	
Bremerton	37,682	37,741	37,752	37,738	37,686	37,675	37,679	37,630	37,688	37,854	38,007	38,143	
Walla Walla	36,979	37,021	37,038	36,988	37,010	37,016	37,090	37,134	37,205	37,481	37,709	37,893	
Yakima	26,368	26,333	26,303	26,130	25,984	25,884	25,808	25,661	25,685	26,092	26,325	26,509	
Total	181,443	181,575	181,545	181,302	181,132	180,929	180,964	180,759	181,088	182,260	183,064	183,815	181,656
Schedule 504 Commercial													
Bellingham	9,763	9,764	9,767	9,757	9,731	9,745	9,728	9,723	9,732	9,794	9,821	9,899	
Bremerton	4,879	4,875	4,875	4,872	4,861	4,849	4,839	4,833	4,831	4,858	4,881	4,924	
Walla Walla	5,315	5,309	5,296	5,281	5,274	5,260	5,263	5,255	5,251	5,300	5,344	5,382	
Yakima	5,674	5,665	5,641	5,607	5,578	5,553	5,546	5,536	5,539	5,595	5,641	5,690	
Total	25,631	25,613	25,579	25,517	25,444	25,407	25,376	25,347	25,353	25,547	25,687	25,895	25,533

Temperature Deviation (HDD60)													
	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total
Bellingham													
Normal	645.0	539.0	488.0	348.0	197.0	75.0	16.0	14.0	104.0	319.0	504.0	679.0	3,928
Actual	583.0	407.0	348.0	187.0	94.0	46.0	4.0	0.0	71.0	217.5	290.0	801.5	3,049
Difference	62.0	132.0	140.0	161.0	103.0	29.0	12.0	14.0	33.0	101.5	214.0	(122.5)	879
Bremerton													
Normal	589.0	501.0	439.0	306.0	160.0	52.0	8.0	4.0	51.0	245.0	464.0	628.0	3,447
Actual	556.8	402.5	399.5	169.0	102.0	29.5	3.0	0.0	30.0	205.0	321.5	724.5	2,943
Difference	32.3	98.5	39.5	137.0	58.0	22.5	5.0	4.0	21.0	40.0	142.5	(96.5)	504
Walla Walla													
Normal	760.0	585.0	426.0	243.0	101.0	15.0	1.0	1.0	30.0	230.0	546.0	823.0	3,761
Actual	735.0	443.5	363.5	105.5	42.5	10.0	0.0	0.0	19.0	176.0	339.5	942.5	3,177
Difference	25.0	141.5	62.5	137.5	58.5	5.0	1.0	1.0	11.0	54.0	206.5	(119.5)	584
Yakima													
Normal	900.0	669.0	523.0	331.0	144.0	33.0	3.0	4.0	73.0	347.0	680.0	975.0	4,682
Actual	815.5	500.5	411.0	95.5	12.0	22.5	0.0	0.0	17.5	231.5	418.5	1,054.5	3,579
Difference	84.5	168.5	112.0	235.5	132.0	10.5	3.0	4.0	55.5	115.5	261.5	(79.5)	1,103

Temperature Coefficients												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Schedule 503 Residential												
Bellingham	0.139063	0.123543	0.119598	0.095952	0.067663					0.106557	0.151022	0.144452
Bremerton	0.148781	0.130124	0.130397	0.114924	0.096819	0.101531			0.087902	0.133908	0.166506	0.153476
Walla Walla	0.123367	0.121247	0.123925	0.092058	0.06958				0.07167	0.091897	0.114927	0.114927
Yakima	0.122764	0.127818	0.118564	0.09455	0.087765					0.05504	0.092928	0.112366
Schedule 504 Commercial												
Bellingham	0.502853	0.432634	0.385044	0.266021	0.176693					0.338301	0.482201	0.463548
Bremerton	0.667843	0.556329	0.521577	0.387488	0.317479	0.318851		0.468625	0.569666	0.656553	0.631355	
Walla Walla	0.651244	0.607948	0.569954	0.339359					0.400254	0.464838	0.564624	
Yakima	0.665151	0.639389	0.54655	0.380915	0.330316			0.55213	0.468609	0.486245	0.557742	

Temperature Adjustment to Sales (Therms)														
	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Total	Total (Jan - Aug)
Schedule 503 Residential														
Bellingham	693,322	1,312,442	1,347,066	1,242,752	560,693	0	0	0	0	874,252	2,618,559	(1,438,103)	7,210,983	5,156,274
Bremerton	180,805	483,734	194,449	594,169	211,626	86,067	0	0	69,570	202,758	901,796	(564,914)	2,360,060	1,750,850
Walla Walla	114,050	635,149	286,871	468,193	150,647	0	0	0	0	145,058	715,594	(520,414)	1,995,147	1,654,909
Yakima	273,530	567,143	349,282	581,824	301,024	0	0	0	0	165,870	639,715	(236,807)	2,641,581	2,072,803
Total													14,207,770	10,634,837
Schedule 504 Commercial														
Bellingham	304,380	557,599	526,501	417,886	177,098	0	0	0	0	336,302	1,013,439	(562,111)	2,771,095	1,983,465
Bremerton	105,084	267,142	100,436	258,634	89,509	34,787	0	0	47,542	108,230	456,661	(299,998)	1,168,027	855,593
Walla Walla	86,534	456,705	188,655	246,421	0	0	0	0	0	114,553	512,965	(363,137)	1,242,696	978,315
Yakima	318,909	610,330	345,306	502,979	243,210	0	0	0	169,733	302,826	717,270	(252,297)	2,958,265	2,020,734
Total													8,140,084	5,838,107
Total	2,076,613	4,890,245	3,338,565	4,312,859	1,733,808	120,854	0	0	286,845	2,249,848	7,575,999	(4,237,783)	22,347,854	16,472,944

Applicable Rates

	<u>Jan-16</u>	<u>Feb-16</u>	<u>Mar-16</u>	<u>Apr-16</u>	<u>May-16</u>	<u>Jun-16</u>	<u>Jul-16</u>	<u>Aug-16</u>	<u>Sep-16</u>	<u>Oct-16</u>	<u>Nov-16</u>	<u>Dec-16</u>
Schedule 503 Residential	0.272770	0.272770	0.272770	0.272770	0.272770	0.272770	0.272770	0.272770	0.294840	0.294840	0.302760	0.302760
Schedule 504 Commercial	0.241960	0.241960	0.241960	0.241960	0.241960	0.241960	0.241960	0.241960	0.246080	0.246080	0.252010	0.252010
Schedule 505 Industrial												
Schedule 511 >50K therms												

Revenue Adjustment (not including revenue sensitive items.)

	<u>Jan-16</u>	<u>Feb-16</u>	<u>Mar-16</u>	<u>Apr-16</u>	<u>May-16</u>	<u>Jun-16</u>	<u>Jul-16</u>	<u>Aug-16</u>	<u>Sep-16</u>	<u>Oct-16</u>	<u>Nov-16</u>	<u>Dec-16</u>	Total	Total (Jan - Aug)
Schedule 503 Residential														
Bellingham	189,117	357,995	367,439	338,985	152,940	0	0	0	0	257,765	792,795	(435,400)	2,021,636	1,406,477
Bremerton	49,318	131,948	53,040	162,072	57,725	23,476	0	0	20,512	59,781	273,028	(171,033)	659,867	477,579
Walla Walla	31,109	173,250	78,250	127,709	41,092	0	0	0	0	42,769	216,653	(157,561)	553,271	451,410
Yakima	74,611	154,699	95,274	158,704	82,110	0	0	0	0	48,905	193,680	(71,696)	736,288	565,398
Total													3,971,062	2,900,864
Schedule 504 Commercial														
Bellingham	73,648	134,917	127,392	101,112	42,851	0	0	0	0	82,757	255,397	(141,658)	676,416	479,919
Bremerton	25,426	64,638	24,302	62,579	21,658	8,417	0	0	11,699	26,633	115,083	(75,603)	284,832	207,019
Walla Walla	20,938	110,504	45,647	59,624	0	0	0	0	0	28,189	129,272	(91,514)	302,660	236,713
Yakima	77,163	147,676	83,550	121,701	58,847	0	0	0	41,768	74,519	180,759	(63,581)	722,402	488,937
Total													1,986,310	1,412,588
Grand Total	541,331	1,275,626	874,893	1,132,486	457,223	31,894	0	0	73,979	621,319	2,156,667	(1,208,046)	5,957,372	4,313,453