

Exhibit No. __ (BR-4)
Docket No. UG-17____
Witness: Brian Robertson

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,
Complainant,

v.

CASCADE NATURAL GAS
CORPORATION,

Respondent.

DOCKET UG-17____

CASCADE NATURAL GAS CORPORATION

EXHIBIT OF BRIAN ROBERTSON

WEATHER NORMALIZATION ADJUSTMENT

31-Jul-17

**Cascade Natural Gas Corporation
Weather Normalization Adjustment
For Twelve Months Ended 12/1/2016
State of Washington**

<u>Line No.</u>	<u>Description</u>		<u>Therms</u>	<u>Revenues</u>
<u>Residential</u>				
	Rate Schedule No. 503			
1	Therm Adjustment		13,019,733	
2	Revenue at Restating Rate	\$ 0.81516		\$ 10,613,165
<u>Commercial</u>				
	Rate Schedule No. 504			
3	Therm Adjustment		6,279,286	
4	Revenue at Restating Rate	\$ 0.78157		\$ 4,907,702
5	<u>Totals</u>		<u>19,299,019</u>	<u>\$ 15,520,867</u>
<u>Gas Cost</u>				
6	Change in Gas Cost - Residential (WACOG x Adjustment)	\$ 0.55268	13,019,733	\$ 7,195,746
7	Change in Gas Cost - Commercial (WACOG x Adjustment)	\$ 0.54978	6,279,286	\$ 3,452,226
8	Totals		<u>19,299,019</u>	<u>10,647,972</u>

Cascade "Backcast" Methodology			
Month	R/S 503 Weather Adj Therms	R/S 504 Weather Adj Therms	Total Adj Therms
Jan-16	1,165,988	717,044	1,883,032
Feb-16	2,584,519	1,556,370	4,140,889
Mar-16	1,867,248	912,413	2,779,661
Apr-16	2,494,379	1,132,796	3,627,175
May-16	1,062,689	386,082	1,448,771
Jun-16	273,840	-	273,840
Jul-16	327,564	-	327,564
Aug-16	399,086	-	399,086
Sep-16	123,672	137,829	261,501
Oct-16	1,046,029	556,480	1,602,509
Nov-16	4,152,900	2,186,023	6,338,923
Dec-16	(2,478,181)	(1,305,751)	(3,783,932)
Total	13,019,733	6,279,286	19,299,019

**Cascade Natural Gas Corporation
Weather Normalization Adjustment
For Twelve Months Ended 12/31/2016
State of Washington**

<u>Line No.</u>	<u>Description</u>		<u>Therms</u>	<u>Revenues</u>
<u>Residential</u>				
	Rate Schedule No. 503			
1	Therm Adjustment		15,052,093	
2	Revenue at Restating Rate	\$ 0.79053		\$ 11,899,131
<u>Commercial</u>				
	Rate Schedule No. 504			
3	Therm Adjustment		8,330,039	
4	Revenue at Restating Rate	\$ 0.73912		\$ 6,156,898
5	<u>Totals</u>		<u>23,382,131</u>	<u>\$ 18,056,029</u>
<u>Gas Cost</u>				
6	Change in Gas Cost - Residential (WACOG x Adjustment)	\$ 0.49569	15,052,093	\$ 7,461,172
7	Change in Gas Cost - Commercial (WACOG x Adjustment)	\$ 0.49304	8,330,039	\$ 4,107,042
8	Totals		<u>23,382,131</u>	<u>11,568,214</u>

Cascade "Backcast" Methodology			
Month	R/S 503 Weather Adj Therms	R/S 504 Weather Adj Therms	Total Adj Therms
Jan-16	1,361,898	868,437	2,230,335
Feb-16	3,209,702	2,011,176	5,220,878
Mar-16	2,297,412	1,197,771	3,495,182
Apr-16	2,940,927	1,433,707	4,374,635
May-16	1,270,626	492,173	1,762,800
Jun-16	195,131	-	195,131
Jul-16	-	-	-
Aug-16	-	-	-
Sep-16	145,993	248,547	394,540
Oct-16	1,443,445	867,678	2,311,123
Nov-16	5,062,248	2,774,648	7,836,896
Dec-16	(2,875,289)	(1,564,098)	(4,439,387)
Total	15,052,093	8,330,039	23,382,131

1/1/2016

Residential Therms/Customer/Day

Month	Bell	Brem	Walla	Yakima	Bend	Baker	Pend
1/1/2016	8916769	3934990	3668730	3275066	4701657	660884	896769
2/1/2016	5386630	2544176	2460420	2076694	3620048	577336	803109
3/1/2016	5391579	2638714	2090246	1863043	3236892	462038	578444
4/1/2016	2757556	1352483	933084	754269	1893790	231172	309423
5/1/2016	1947850	877198	516951	377235	1168285	118655	139877
6/1/2016	1637965	751152	473131	303205	1122619	91931	122180
7/1/2016	1519618	659852	437753	299134	777254	58954	92793
8/1/2016	1227114	532800	402491	262596	699481	50147	95542
9/1/2016	1790513	771020	559888	393217	1044554	83815	144550
10/1/2016	4049361	1811623	973843	744948	2532130	226242	330886
11/1/2016	5801439	2722011	1710922	1567144	3539336	394548	569348
12/1/2016	11588883	5285342	4396032	3659829	7306789	970067	1377566
1/1/2017	10901360	5001477	5177734	4073811	5949468	1004554	1322021
2/1/2017	7585221	3388232	3717994	3148862	4778958	732930	1146335
3/1/2017	6493878	3001765	2726826	2191074	3539378	485023	703726

Commercial Therms/Customer/Day

Month	Bell	Brem	Walla	Yakima	Bend	Baker	Pend
1/1/2016	4177832	2584713	2906158	4020172	2702756	587656	797612
2/1/2016	2599804	1726609	1941084	2512882	2197631	537054	720786
3/1/2016	2358309	1642534	1562690	2174800	1780978	395526	462765
4/1/2016	1346356	925885	812858	970684	1130352	208111	290688
5/1/2016	1100395	713423	563331	660616	788867	120764	170408
6/1/2016	909466	630488	531315	603993	757414	103258	179486
7/1/2016	932191	628398	557250	660174	666000	89797	182586
8/1/2016	811268	560170	492215	590167	605034	95722	178065
9/1/2016	1108267	741368	714394	860850	796942	111878	227603
10/1/2016	1934762	1302167	1021793	1627836	1476627	194561	345549
11/1/2016	2450223	1602862	1405400	2049459	1902133	303731	496559
12/1/2016	5090402	3160296	3237820	4419315	3787513	798174	1236493
1/1/2017	5285669	3252608	4248375	5245348	3939610	1019445	1307417
2/1/2017	3890464	2349064	3087732	3948768	2894895	713164	1008726
3/1/2017	2971893	1830450	2034928	2522201	1979003	427206	591852

Residential Customers

Month	Bell	Brem	Walla	Yakima	Bend	Baker	Pend
1/1/2016	80414	37682	36979	26368	42127	7070	10875
2/1/2016	80480	37741	37021	26333	42214	7074	10883
3/1/2016	80452	37752	37038	26303	42326	7047	10844
4/1/2016	80446	37738	36988	26130	42391	6997	10791
5/1/2016	80452	37686	37010	25984	42463	6973	10722
6/1/2016	80354	37675	37016	25884	42514	6912	10688
7/1/2016	80387	37679	37090	25808	42611	6895	10617
8/1/2016	80334	37630	37134	25661	42691	6888	10584
9/1/2016	80510	37688	37205	25685	42925	6927	10658
10/1/2016	80833	37854	37481	26092	43209	7025	10804
11/1/2016	81023	38007	37709	26325	43400	7086	10885
12/1/2016	81270	38143	37893	26509	43556	7142	10976
1/1/2017	81390	38215	37977	26557	43631	7156	11011
2/1/2017	81454	38261	38036	26562	43705	7149	11019
3/1/2017	81515	38301	38121	26485	43798	7129	11007

Commercial Customers

Month	Bell	Brem	Walla	Yakima	Bend	Baker	Pend
1/1/2016	9763	4879	5315	5674	6527	1418	1867
2/1/2016	9764	4875	5309	5665	6529	1417	1871
3/1/2016	9767	4875	5296	5641	6532	1414	1867
4/1/2016	9757	4872	5281	5607	6534	1406	1864
5/1/2016	9731	4861	5274	5578	6525	1403	1860
6/1/2016	9745	4849	5260	5553	6518	1404	1853
7/1/2016	9728	4839	5263	5546	6517	1400	1849
8/1/2016	9723	4833	5255	5536	6504	1401	1850
9/1/2016	9732	4831	5251	5539	6511	1406	1852
10/1/2016	9794	4858	5300	5595	6541	1412	1855
11/1/2016	9821	4881	5344	5641	6572	1420	1862
12/1/2016	9899	4924	5382	5690	6611	1430	1877
1/1/2017	9924	4948	5396	5704	6619	1432	1887
2/1/2017	9928	4941	5410	5702	6628	1427	1884
3/1/2017	9912	4954	5406	5681	6619	1428	1880

Weather (65 Ref)

Month	Bell	Brem	Walla	Yakima
1/1/2016	738	649.5	890	970.5
2/1/2016	552	495.5	588.5	645.5
3/1/2016	503	534.5	518.5	566
4/1/2016	331.5	338.5	228.5	202.5
5/1/2016	235.5	294.5	132	89
6/1/2016	153	220	51.5	72
7/1/2016	46	126	3	0
8/1/2016	43	111	0	3
9/1/2016	210.5	210	80.5	88.5
10/1/2016	372.5	351.5	327.5	382.5
11/1/2016	439.5	432	489.5	568.5
12/1/2016	955.5	814.5	1098	1217
1/1/2017	914	805	1321.5	1295.5
2/1/2017	751.5	655.5	801.5	927
3/1/2017	613	611	516.5	595.5

Temp)			Weather (60 Ref Temp)								
Bend	Baker	Pend	Month	Bell	Brem	Walla	Yakima	Bend	Baker	Pend	
955	1157	913.5	1/1/2016	583	494.5	735	815.5	800	1002	758.5	
691.5	904.5	636	2/1/2016	407	350.5	443.5	500.5	546.5	759.5	491	
736.5	793	570.5	3/1/2016	348	379.5	363.5	411	581.5	638	415.5	
447	487.5	263.5	4/1/2016	187	203	105.5	95.5	297	337.5	131	
323.5	381	164.5	5/1/2016	94	146.5	42.5	12	181	228.5	56	
180	196.5	71	6/1/2016	46	87.5	10	22.5	97.5	103	20	
55	89.5	0.5	7/1/2016	4	8	0	0	6.5	19	0	
42.5	66	3.5	8/1/2016	0	9.5	0	0	4	14.5	0	
276.5	316	122.5	9/1/2016	71	72.5	19	17.5	145	174	39	
500	582.5	380.5	10/1/2016	217.5	196.5	176	231.5	349	427.5	227.5	
621	753	542.5	11/1/2016	290	282	339.5	418.5	471	603	392.5	
1264	1562	1144.5	12/1/2016	800.5	659.5	943	1062	1109	1407	989.5	
1329.5	1611.5	1317	1/1/2017	759	650	1166.5	1140.5	1174.5	1456.5	1162	
841	910.5	835	2/1/2017	611.5	515.5	661.5	787	701	770.5	695	
686.5	740.5	594.5	3/1/2017	458	456	361.5	440.5	531.5	585.5	439.5	

Monthly Normals (1981-2010)

65 Base	Yakima	Walla	Brem	Bell	Pend	Bend	Baker
1	1057	914	694	799	921	999	1240
2	809	725	599	680	742	834	995
3	676	580	589	644	617	777	849
4	477	384	488	498	432	620	646
5	261	208	374	345	246	427	435
6	98	62	247	200	83	217	225
7	19	2	165	101	7	68	67
8	28	4	153	95	8	81	80
9	160	86	196	235	112	250	290
10	496	367	395	471	407	547	637
11	830	694	578	654	710	829	958
12	1128	975	730	827	986	1068	1246

60 Base	Yakima	Walla	Brem	Bell	Pend	Bend	Baker
1	902	759	539	644	766	845	1085
2	669	586	459	540	602	694	855
3	522	425	434	489	462	622	694
4	331	243	341	349	285	471	496
5	144	101	223	197	129	288	289
6	34	12	105	75	23	112	116
7	0	0	37	11	0	20	18
8	0	0	31	8	0	22	22
9	74	29	71	104	44	141	169
10	346	230	244	317	268	394	484
11	680	545	428	504	560	679	808
12	973	820	575	672	831	913	1091

Bell		Brem		Walla	
Variable	Estimate	Variable	Estimate	Variable	Estimate
Intercept	0.45	Intercept	0.4163	Intercept	0.5764
TREND	0	TREND	-0.00172	TREND	-0.00243
1	0.1209	1	0.1425	1	0.1034
2	0.1094	2	0.1246	2	0.1001
3	0.1015	3	0.114	3	0.0919
4	0.0821	4	0.0918	4	0.0639
5	0.0586	5	0.0647	5	0.0394
6	0.0508	6	0.0544	6	0
7	0.0585	7	0.0469	7	0
8	0.0703	8	0.0667	8	0
9	0.0473	9	0.0657	9	0.0468
10	0.0856	10	0.1058	10	0.0463
11	0.1272	11	0.1499	11	0.0741
12	0.1263	12	0.1462	12	0.0977

Days in Month

1/1/2016	1	31
2/1/2016	2	29
3/1/2016	3	31
4/1/2016	4	30
5/1/2016	5	31
6/1/2016	6	30
7/1/2016	7	31
8/1/2016	8	31
9/1/2016	9	30
10/1/2016	10	31
11/1/2016	11	30
12/1/2016	12	31
1/1/2017		

Yakima

Variable	Estimate	Normal HDDs/Day						
			Bell	Brem	Walla	Yakima		
Intercept	0.299	1/1/2016	1	25.77	22.39	29.48	34.10	
TREND	0.001209	2/1/2016	2	23.45	20.66	25.00	27.90	
1	0.1062	3/1/2016	3	20.77	19.00	18.71	21.81	
2	0.108	4/1/2016	4	16.60	16.27	12.80	15.90	
3	0.094	5/1/2016	5	11.13	12.06	6.71	8.42	
4	0.071	6/1/2016	6	6.67	8.23	2.07	3.27	
5	0.0541	7/1/2016	7	3.26	5.32	0.06	0.61	
6	0.0396	8/1/2016	8	3.06	4.94	0.13	0.90	
7	0	9/1/2016	9	7.83	6.53	2.87	5.33	
8	0	10/1/2016	10	15.19	12.74	11.84	16.00	
9	0.0302	11/1/2016	11	21.80	19.27	23.13	27.67	
10	0.0411	12/1/2016	12	26.68	23.55	31.45	36.39	
11	0.0783							
12	0.0986							

Table 3

		(Normal HDDs/Day - Actual HDDs/Day) * β coefficient				
		Bell	Brem	Walla	Yakima	
	1/1/2016	1	0.238	0.205	0.080	0.296
	2/1/2016	2	0.483	0.445	0.471	0.609
	3/1/2016	3	0.462	0.200	0.182	0.334
	4/1/2016	4	0.456	0.457	0.331	0.650
	5/1/2016	5	0.207	0.166	0.097	0.300
	6/1/2016	6	0.080	0.049	0.000	0.034
	7/1/2016	7	0.104	0.059	0.000	0.000
	8/1/2016	8	0.118	0.090	0.000	0.000
	9/1/2016	9	0.039	-0.031	0.009	0.072
	10/1/2016	10	0.272	0.148	0.059	0.150
	11/1/2016	11	0.909	0.730	0.505	0.683
	12/1/2016	12	-0.524	-0.399	-0.388	-0.283

Table 2

		Actual HDDs/Day			
		Bell	Brem	Walla	Yakima
1/1/2016	1	23.81	20.95	28.71	31.31
2/1/2016	2	19.03	17.09	20.29	22.26
3/1/2016	3	16.23	17.24	16.73	18.26
4/1/2016	4	11.05	11.28	7.62	6.75
5/1/2016	5	7.60	9.50	4.26	2.87
6/1/2016	6	5.10	7.33	1.72	2.40
7/1/2016	7	1.48	4.06	0.10	0.00
8/1/2016	8	1.39	3.58	0.00	0.10
9/1/2016	9	7.02	7.00	2.68	2.95
10/1/2016	10	12.02	11.34	10.56	12.34
11/1/2016	11	14.65	14.40	16.32	18.95
12/1/2016	12	30.82	26.27	35.42	39.26

Table 4

		Adjustment			
		Bell	Brem	Walla	Yakima
1/1/2016	1	593,045	238,951	91,767	242,224
2/1/2016	2	1,126,978	486,712	505,842	464,988
3/1/2016	3	1,151,389	234,553	209,333	271,973
4/1/2016	4	1,099,669	517,920	367,529	509,261
5/1/2016	5	516,236	193,844	110,823	241,786
6/1/2016	6	191,853	55,337	-	26,650
7/1/2016	7	258,645	68,919	-	-
8/1/2016	8	293,669	105,417	-	-
9/1/2016	9	93,299	(34,665)	9,577	55,462
10/1/2016	10	681,552	174,215	68,547	121,715
11/1/2016	11	2,210,664	831,798	571,421	539,016
12/1/2016	12	(1,318,976)	(471,215)	(455,364)	(232,627)

Bell		Brem		Walla	
Variable	Estimate	Variable	Estimate	Variable	Estimate
Intercept	0.62344	Intercept	0.7099	Intercept	0.59418
TREND	0	TREND	-0.0016	TREND	-0.00203
1	0.14167	1	0.166	1	0.12303
2	0.12995	2	0.1454	2	0.12319
3	0.12311	3	0.1337	3	0.12332
4	0.10237	4	0.1054	4	0.09292
5	0.07614	5	0.0689	5	0.06717
6	0.06894	6	0.0523	6	0
7	0	7	0	7	0
8	0	8	0	8	0
9	0.05495	9	0	9	0
10	0.11227	10	0.1309	10	0.07055
11	0.15575	11	0.181	11	0.09232
12	0.14689	12	0.1683	12	0.11464

Days in Month

1/1/2016	1	31
2/1/2016	2	29
3/1/2016	3	31
4/1/2016	4	30
5/1/2016	5	31
6/1/2016	6	30
7/1/2016	7	31
8/1/2016	8	31
9/1/2016	9	30
10/1/2016	10	31
11/1/2016	11	30
12/1/2016	12	31
1/1/2017		

Yakima

Table 1

Variable	Estimate	Normal HDDs/Day					
			Bell	Brem	Walla	Yakima	
Intercept	0.34169	1/1/2016	1	20.77	17.39	24.48	29.10
TREND	0.00165	2/1/2016	2	18.62	15.83	20.21	23.07
1	0.12251	3/1/2016	3	15.77	14.00	13.71	16.84
2	0.12924	4/1/2016	4	11.63	11.37	8.10	11.03
3	0.11813	5/1/2016	5	6.35	7.19	3.26	4.65
4	0.09512	6/1/2016	6	2.50	3.50	0.40	1.13
5	0.08619	7/1/2016	7	0.35	1.19	0.00	0.00
6	0	8/1/2016	8	0.26	1.00	0.00	0.00
7	0	9/1/2016	9	3.47	2.37	0.97	2.47
8	0	10/1/2016	10	10.23	7.87	7.42	11.16
9	0	11/1/2016	11	16.80	14.27	18.17	22.67
10	0.05433	12/1/2016	12	21.68	18.55	26.45	31.39
11	0.09325						
12	0.11212						

Table 3

		(Normal HDDs/Day - Actual HDDs/Day) * β coefficient				
		Bell	Brem	Walla	Yakima	
	1/1/2016	1	0.279	0.238	0.095	0.342
	2/1/2016	2	0.596	0.544	0.605	0.751
	3/1/2016	3	0.560	0.235	0.245	0.423
	4/1/2016	4	0.553	0.485	0.426	0.747
	5/1/2016	5	0.253	0.170	0.127	0.367
	6/1/2016	6	0.067	0.031	0.000	0.000
	7/1/2016	7	0.000	0.000	0.000	0.000
	8/1/2016	8	0.000	0.000	0.000	0.000
	9/1/2016	9	0.060	0.000	0.000	0.000
	10/1/2016	10	0.360	0.201	0.123	0.201
	11/1/2016	11	1.111	0.881	0.632	0.813
	12/1/2016	12	-0.609	-0.459	-0.455	-0.322

Table 2

		Actual HDDs/Day			
	Bell	Brem	Walla	Yakima	
1/1/2016	1	18.81	15.95	23.71	26.31
2/1/2016	2	14.03	12.09	15.29	17.26
3/1/2016	3	11.23	12.24	11.73	13.26
4/1/2016	4	6.23	6.77	3.52	3.18
5/1/2016	5	3.03	4.73	1.37	0.39
6/1/2016	6	1.53	2.92	0.33	0.75
7/1/2016	7	0.13	0.26	0.00	0.00
8/1/2016	8	0.00	0.31	0.00	0.00
9/1/2016	9	2.37	2.42	0.63	0.58
10/1/2016	10	7.02	6.34	5.68	7.47
11/1/2016	11	9.67	9.40	11.32	13.95
12/1/2016	12	25.82	21.27	30.42	34.26

Table 4

		Adjustment			
	Bell	Brem	Walla	Yakima	
1/1/2016	1	694,927	278,357	109,189	279,425
2/1/2016	2	1,390,964	595,398	649,888	573,452
3/1/2016	3	1,396,527	275,086	280,903	344,896
4/1/2016	4	1,334,112	548,907	472,577	585,332
5/1/2016	5	630,938	198,637	145,429	295,622
6/1/2016	6	160,649	34,482	-	-
7/1/2016	7	-	-	-	-
8/1/2016	8	-	-	-	-
9/1/2016	9	145,993	-	-	-
10/1/2016	10	902,975	235,367	142,791	162,313
11/1/2016	11	2,700,537	1,004,373	715,406	641,932
12/1/2016	12	(1,534,001)	(542,445)	(534,319)	(264,525)

Bell		Brem		Walla		
Variable	Estimate	Variable	Estimate	Variable	Estimate	Variable
Intercept	3.87104	Intercept	5.56711	Intercept	5.17884	Intercept
TREND	-0.00567	TREND	-0.01142	TREND	-0.02075	TREND
1	0.50649	1	0.72916	1	0.6489	1
2	0.45542	2	0.61313	2	0.62454	2
3	0.38992	3	0.51166	3	0.5657	3
4	0.28254	4	0.33128	4	0.34791	4
5	0.18903	5	0.17821	5	0	5
6	0	6	0	6	0	6
7	0	7	0	7	0	7
8	0	8	0	8	0	8
9	0.19296	9	0	9	0	9
10	0.34585	10	0.5236	10	0.39248	10
11	0.49361	11	0.7009	11	0.46902	11
12	0.49461	12	0.67484	12	0.56265	12

Days in Month

1/1/2016	1	31
2/1/2016	2	29
3/1/2016	3	31
4/1/2016	4	30
5/1/2016	5	31
6/1/2016	6	30
7/1/2016	7	31
8/1/2016	8	31
9/1/2016	9	30
10/1/2016	10	31
11/1/2016	11	30
12/1/2016	12	31
1/1/2017		

akima

Estimate	Normal HDDs/Day							Table 2
	Table 1	Bell	Brem	Walla	Yakima	Table 2	Table 2	
2.97755	1/1/2016	1	20.77	17.39	24.48	29.10	1/1/2016	
0.01293	2/1/2016	2	18.62	15.83	20.21	23.07	2/1/2016	
0.66364	3/1/2016	3	15.77	14.00	13.71	16.84	3/1/2016	
0.65263	4/1/2016	4	11.63	11.37	8.10	11.03	4/1/2016	
0.54396	5/1/2016	5	6.35	7.19	3.26	4.65	5/1/2016	
0.38756	6/1/2016	6	2.50	3.50	0.40	1.13	6/1/2016	
0.32112	7/1/2016	7	0.35	1.19	0.00	0.00	7/1/2016	
0	8/1/2016	8	0.26	1.00	0.00	0.00	8/1/2016	
0	9/1/2016	9	3.47	2.37	0.97	2.47	9/1/2016	
0	10/1/2016	10	10.23	7.87	7.42	11.16	10/1/2016	
0.59618	11/1/2016	11	16.80	14.27	18.17	22.67	11/1/2016	
0.46438	12/1/2016	12	21.68	18.55	26.45	31.39	12/1/2016	
0.48991								
0.55625								

Estimate	(Normal HDDs/Day - Actual HDDs/Day) * β coefficient							Table 4
	Table 3	Bell	Brem	Walla	Yakima	Table 4	Table 4	
	1/1/2016	1	0.997	1.047	0.502	1.852	1/1/2016	
	2/1/2016	2	2.089	2.294	3.069	3.792	2/1/2016	
	3/1/2016	3	1.774	0.900	1.122	1.948	3/1/2016	
	4/1/2016	4	1.526	1.524	1.595	3.042	4/1/2016	
	5/1/2016	5	0.628	0.440	0.000	1.367	5/1/2016	
	6/1/2016	6	0.000	0.000	0.000	0.000	6/1/2016	
	7/1/2016	7	0.000	0.000	0.000	0.000	7/1/2016	
	8/1/2016	8	0.000	0.000	0.000	0.000	8/1/2016	
	9/1/2016	9	0.212	0.000	0.000	1.123	9/1/2016	
	10/1/2016	10	1.110	0.802	0.684	1.715	10/1/2016	
	11/1/2016	11	3.521	3.411	3.213	4.270	11/1/2016	
	12/1/2016	12	-2.050	-1.839	-2.232	-1.597	12/1/2016	

	Actual HDDs/Day			
Bell	Brem	Walla	Yakima	
1	18.81	15.95	23.71	26.31
2	14.03	12.09	15.29	17.26
3	11.23	12.24	11.73	13.26
4	6.23	6.77	3.52	3.18
5	3.03	4.73	1.37	0.39
6	1.53	2.92	0.33	0.75
7	0.13	0.26	0.00	0.00
8	0.00	0.31	0.00	0.00
9	2.37	2.42	0.63	0.58
10	7.02	6.34	5.68	7.47
11	9.67	9.40	11.32	13.95
12	25.82	21.27	30.42	34.26

	Adjustment			
Bell	Brem	Walla	Yakima	
1	301,637	158,312	82,774	325,715
2	591,414	324,307	472,485	622,970
3	536,977	135,942	184,251	340,601
4	446,592	222,731	252,630	511,753
5	189,463	66,270	-	236,439
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	61,970	-	-	186,577
10	337,032	120,823	112,328	297,495
11	1,037,417	499,480	515,074	722,677
12	(629,155)	(280,786)	(372,466)	(281,691)

Bell		Brem		Walla	
Variable	Estimate	Variable	Estimate	Variable	Estimate
Intercept	3.9567	Intercept	5.6012	Intercept	4.8757
TREND	-0.00832	TREND	-0.0134	TREND	-0.0221
1	0.4102	1	0.5701	1	0.5511
2	0.3595	2	0.4698	2	0.5146
3	0.2966	3	0.3813	3	0.4315
4	0.2004	4	0.2373	4	0.2558
5	0.1113	5	0.1121	5	0.1332
6	0	6	0	6	0
7	0	7	0	7	0
8	0	8	0	8	0
9	0.089	9	0	9	0.4736
10	0.2319	10	0.3243	10	0.2751
11	0.3809	11	0.5204	11	0.3837
12	0.4056	12	0.5391	12	0.4847

Days in Month

1/1/2016	1	31
2/1/2016	2	29
3/1/2016	3	31
4/1/2016	4	30
5/1/2016	5	31
6/1/2016	6	30
7/1/2016	7	31
8/1/2016	8	31
9/1/2016	9	30
10/1/2016	10	31
11/1/2016	11	30
12/1/2016	12	31
1/1/2017		

Yakima

Table 1

Variable	Estimate	Normal HDDs/Day					
			Bell	Brem	Walla	Yakima	
Intercept	3.083	1/1/2016	1	25.77	22.39	29.48	34.10
TREND	0.00919	2/1/2016	2	23.45	20.66	25.00	27.90
1	0.5678	3/1/2016	3	20.77	19.00	18.71	21.81
2	0.5367	4/1/2016	4	16.60	16.27	12.80	15.90
3	0.4224	5/1/2016	5	11.13	12.06	6.71	8.42
4	0.2757	6/1/2016	6	6.67	8.23	2.07	3.27
5	0.178	7/1/2016	7	3.26	5.32	0.06	0.61
6	0	8/1/2016	8	3.06	4.94	0.13	0.90
7	0	9/1/2016	9	7.83	6.53	2.87	5.33
8	0	10/1/2016	10	15.19	12.74	11.84	16.00
9	0.2599	11/1/2016	11	21.80	19.27	23.13	27.67
10	0.3254	12/1/2016	12	26.68	23.55	31.45	36.39
11	0.4023						
12	0.4831						

Table 3

		(Normal HDDs/Day - Actual HDDs/Day) * β coefficient				
		Bell	Brem	Walla	Yakima	
	1/1/2016	1	0.807	0.818	0.427	1.584
	2/1/2016	2	1.587	1.677	2.422	3.026
	3/1/2016	3	1.349	0.670	0.856	1.499
	4/1/2016	4	1.112	1.183	1.326	2.523
	5/1/2016	5	0.393	0.287	0.327	0.988
	6/1/2016	6	0.000	0.000	0.000	0.000
	7/1/2016	7	0.000	0.000	0.000	0.000
	8/1/2016	8	0.000	0.000	0.000	0.000
	9/1/2016	9	0.073	0.000	0.087	0.619
	10/1/2016	10	0.737	0.455	0.351	1.191
	11/1/2016	11	2.723	2.533	2.616	3.507
	12/1/2016	12	-1.681	-1.469	-1.923	-1.387

Table 2

		Actual HDDs/Day			
	Bell	Brem	Walla	Yakima	
1/1/2016	1	23.81	20.95	28.71	31.31
2/1/2016	2	19.03	17.09	20.29	22.26
3/1/2016	3	16.23	17.24	16.73	18.26
4/1/2016	4	11.05	11.28	7.62	6.75
5/1/2016	5	7.60	9.50	4.26	2.87
6/1/2016	6	5.10	7.33	1.72	2.40
7/1/2016	7	1.48	4.06	0.10	0.00
8/1/2016	8	1.39	3.58	0.00	0.10
9/1/2016	9	7.02	7.00	2.68	2.95
10/1/2016	10	12.02	11.34	10.56	12.34
11/1/2016	11	14.65	14.40	16.32	18.95
12/1/2016	12	30.82	26.27	35.42	39.26

Table 4

		Adjustment			
	Bell	Brem	Walla	Yakima	
1/1/2016	1	244,292	123,778	70,298	278,677
2/1/2016	2	449,300	237,043	372,920	497,106
3/1/2016	3	408,462	101,307	140,541	262,103
4/1/2016	4	325,558	172,841	210,062	424,336
5/1/2016	5	118,595	43,321	53,390	170,776
6/1/2016	6	-	-	-	-
7/1/2016	7	-	-	-	-
8/1/2016	8	-	-	-	-
9/1/2016	9	21,221	-	13,678	102,930
10/1/2016	10	223,716	68,532	57,592	206,640
11/1/2016	11	802,406	370,851	419,326	593,441
12/1/2016	12	(515,932)	(224,308)	(320,865)	(244,647)