

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UG-19_____

NATURAL GAS REVENUE NORMALIZATION

WORKPAPERS

JOSEPH D. MILLER

REPRESENTING AVISTA CORPORATION

Miller Workpapers
Natural Gas Revenue Normalization
Docket No. UG-19_____
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Reference No.

NATURAL GAS WEATHER NORMALIZATION

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The electronic version of the natural gas weather normalization work papers can be found within the Knox electric weather normalization files.

Eliminate Adder Schedules

Revenue adjustment work papers associated with the elimination of adder schedules and related amortization expenses are included in the Andrews natural gas Commission Basis work papers for Adjustment 2.11.

Pro Forma Revenue Normalization

Re-pricing of Commission Basis revenue at present rates is calculated in the rate design model. Support for large customer usage is included in the Miller Rate Spread and Rate Design work papers. The preliminary version of the rate design model used to determine this adjustment is included with the Andrews work papers for Adjustment 3.01.

Normalized Usage by Month
 Twelve Months Ended December 31, 2018
 WASHINGTON GAS SYSTEM

Revenue Run Billed Usage	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
Small Service Schedule 101	23,907,481	17,408,469	18,772,679	12,814,031	6,121,245	2,888,718	2,443,732	2,085,808	2,442,168	5,295,339	10,842,675	18,945,996	123,968,342
Large Service Schedule 111/112	8,018,208	6,561,361	6,797,195	5,166,624	3,145,531	1,896,316	1,581,289	1,451,036	1,619,677	2,564,277	4,331,828	9,510,570	52,637,913
Extra Large Service Schedule 121/122	547,571	455,180	474,318	397,963	332,257	303,323	280,882	293,436	292,153	342,721	412,245	(2,363,729)	1,768,320
Interrupt Service Schedule 131/132	139,102	117,328	113,117	93,219	72,901	47,470	41,737	44,834	44,834	68,684	88,519	114,831	985,267
Transport Service Schedule 146	3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936
Special Contract Transport	5,265,223	4,912,508	4,547,047	4,301,458	4,021,819	3,930,521	3,756,231	4,538,638	4,562,727	4,393,442	5,173,852	5,114,139	54,517,605
Total Revenue Run Billed Usage	41,845,271	33,084,467	34,271,544	26,122,430	16,725,496	11,566,402	10,520,741	10,612,638	11,231,494	15,005,016	23,917,026	34,582,858	269,485,383
Adjustments to Revenue Runs													
Schedule 121/122 Adjustments	(26,898)	(17,228)	(20,402)	(16,730)	(13,287)	(9,395)	(7,874)	(7,553)	(9,143)				(128,508)
Schedule 132 Adjustments													
Schedule 146 Adjustments	(26,898)	(17,228)	(20,402)	(16,730)	(13,287)	(9,395)	(7,874)	(7,553)	(9,143)				(128,508)
Net Unbilled Usage													
Small Service Schedule 101	(3,627,217)	792,412	(2,982,167)	(3,042,381)	(2,830,192)	(255,260)	(147,302)	130,266	638,100	3,105,368	4,733,169	1,645,863	(1,839,341)
Large Service Schedule 111/112	(1,398,759)	663,173	(1,183,036)	(889,852)	(931,502)	32,961	(100,104)	142,574	344,478	1,123,980	1,417,730	231,177	(547,180)
Extra Large Service Schedule 121/122	(119,441)	42,521	(77,373)	(45,834)	(48,353)	46,913	(2,048)	38,418	41,015	86,853	43,909	(159,399)	(152,819)
Interrupt Service Schedule 131/132													
Transport Service Schedule 146													
Special Contract Transport													
Net Unbilled Usage	(5,145,417)	1,498,106	(4,242,576)	(3,978,067)	(3,810,047)	(175,386)	(249,454)	311,258	1,023,593	4,316,201	6,194,808	1,717,641	(2,539,340)
Weather Adjustment													
Small Service Schedule 101	2,469,710	(917,801)	(187,839)	(13,799)	2,477,504	456,349	-	-	-	169,485	392,134	2,011,236	6,856,979
Large Service Schedule 111/112	792,369	(296,989)	(61,700)	(4,598)	817,214	151,843	-	-	-	56,255	128,342	656,337	2,239,073
Extra Large Service Schedule 121/122	28,932	(10,775)	(2,195)	(197)	35,346	6,516	-	-	-	2,607	5,529	2,315	68,078
Interrupt Service Schedule 131/132	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport Service Schedule 146	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Contract Transport	-	-	-	-	-	-	-	-	-	-	-	-	-
Special Weather Adjustment	3,291,011	(1,225,565)	(251,794)	(18,594)	3,330,064	614,708	-	-	-	228,347	526,005	2,669,888	9,164,130
Normalized Test Year Usage													
Small Service Schedule 101	22,749,974	17,283,080	15,602,673	9,757,851	5,768,557	3,089,807	2,296,430	2,216,074	3,080,268	8,570,192	15,967,978	22,603,095	128,985,980
Large Service Schedule 111/112	7,411,818	6,927,545	5,552,459	4,272,174	3,031,243	2,081,120	1,481,185	1,593,610	1,958,155	3,744,512	5,877,900	10,398,084	54,329,806
Extra Large Service Schedule 121/122	430,164	469,698	374,348	335,203	305,963	347,357	270,961	324,025	324,025	432,181	461,683	(2,520,813)	1,555,071
Interrupt Service Schedule 131/132	139,102	117,328	113,117	93,219	72,901	47,470	41,737	43,515	44,834	68,684	88,519	114,831	985,267
Transport Service Schedule 146	3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936
Special Contract Transport	5,265,223	4,912,508	4,547,047	4,301,458	4,021,819	3,930,521	3,756,231	4,538,638	4,562,727	4,393,442	5,173,852	5,114,139	54,517,605
Total Normalized Test Year Usage	39,963,967	33,339,780	29,756,832	22,109,040	16,232,226	11,996,330	10,263,413	10,916,343	12,245,944	19,549,564	30,637,839	38,970,387	275,981,664

Total for WA	201801	201802	201803	201804	201805	201806	201807	201808	201809	201810	201811	201812	12 Month Total
41,845,271	23,907,481	17,408,469	18,772,679	12,814,031	6,121,245	2,888,718	2,443,732	2,085,808	2,442,168	5,295,339	10,842,675	18,945,996	123,968,342
	8,018,208	6,561,361	6,797,195	5,166,624	3,145,531	1,896,316	1,581,289	1,451,036	1,613,677	2,564,277	4,331,828	9,510,570	52,637,913
	547,571	455,180	474,318	397,963	332,257	303,323	280,882	293,436	292,153	342,721	412,245	(2,363,729)	1,766,520
	132	117,328	113,117	93,219	72,901	47,470	41,737	43,515	44,834	88,694	88,519	114,831	985,267
	146	3,967,685	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936
	147	282,077	134,413	54,477	96,277	240,428	144,453	967,242	1,028,750	695,787	1,062,005	660,451	5,405,533
	148	4,983,146	4,412,634	4,246,981	3,925,542	3,690,093	3,611,778	3,571,396	3,533,977	3,697,655	4,111,847	4,453,688	49,112,072
Total	41,845,271	33,084,467	34,271,544	26,122,430	16,725,496	11,566,402	10,520,741	10,612,638	11,231,494	15,005,016	23,917,026	34,562,858	269,485,363

Washington Gas Billing Determinants by Customer

ANNUAL USAGE, Sch 146

Washington

Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	12-mo ended	1st	20,000	50,000	300,000	500,000	500,000
thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo	thms/mo
415,785	355,464	355,300	281,721	204,574	43,689	30,182	15,503	18,744	47,441	187,342	322,285	2,278,135	234,247	233,969	271,317	1,523,637	248,934	500,000
20,735	20,923	19,103	20,016	20,036	19,746	18,315	18,397	20,766	18,408	22,562	20,603	239,610	230,000	230,000	5,641	5,546	5,546	500,000
81,743	38,234	38,819	43,480	42,408	38,631	35,552	39,785	39,786	42,220	39,343	50,945	503,804	240,000	240,000	288,258	377,627	377,627	500,000
187,858	80,049	295,451	72,830	70,934	58,560	57,728	12,876	1	57,429	46,472	52,903	666,976	212,877	212,877	296,472	240,000	240,000	500,000
25,890	315,909	74,565	295,108	254,949	209,473	195,550	173,782	174,513	178,584	227,343	248,944	2,536,578	240,000	240,000	360,000	1,920,669	15,909	500,000
74,026	64,095	30,418	27,395	34,025	33,213	33,213	20,214	26,937	29,499	35,889	29,919	356,760	116,760	116,760	178,769	53,385	53,385	500,000
59,623	52,612	48,793	38,697	47,195	10,478	7,975	3,054	4,538	9,777	26,679	40,299	349,720	175,822	175,822	12,235	12,235	12,235	500,000
155,551	46,018	67,808	56,634	31,853	7,077	2,848	2,564	5,446	14,802	27,901	38,402	352,904	172,737	172,737	154,174	25,993	25,993	500,000
195,098	122,683	130,738	115,527	100,866	86,970	81,265	79,250	79,250	83,941	99,424	121,890	1,259,198	240,000	240,000	380,000	656,196	656,196	500,000
54,040	45,826	47,017	43,274	35,110	18,145	15,826	11,521	12,756	32,408	32,408	45,467	159,102	217,968	217,968	159,102	4,040	4,040	500,000
367,242	309,912	304,591	251,712	198,683	123,392	111,823	98,040	106,498	115,130	178,837	254,657	2,420,517	240,000	240,000	360,000	1,738,772	81,745	500,000
42,207	42,601	38,142	41,796	38,846	34,020	34,378	36,391	37,504	32,085	37,404	39,238	448,858	206,858	206,858	206,858	206,858	206,858	500,000
111,973	97,947	99,930	78,657	55,276	14,701	8,600	5,252	7,147	23,904	61,739	89,537	654,663	195,700	213,904	245,059	3,000,000	2,400,000	1,899,391
807,830	673,163	661,036	636,142	652,753	655,801	617,686	668,344	676,555	557,678	705,742	584,651	7,899,391	240,000	240,000	360,000	3,000,000	2,400,000	1,899,391
46,234	41,988	42,213	37,378	37,182	36,955	35,584	33,437	33,335	31,314	36,615	42,481	454,731	240,000	240,000	216,751	93,642	93,642	500,000
81,649	70,225	65,964	61,934	49,857	43,563	42,033	39,518	39,386	42,238	50,682	65,023	650,237	240,000	240,000	316,595	110,902	110,902	500,000
65,695	72,429	69,009	66,905	58,765	46,676	45,148	39,851	44,290	45,166	61,506	66,593	682,033	240,000	240,000	331,131	33,227	33,227	500,000
10	9	9	8	13,654	31,739	24,516	35,436	51,233	59,820	72,174	33,953	322,525	153,654	135,022	145,813	79,299	79,299	500,000
28,868	28,455	25,144	25,018	23,445	21,107	17,889	18,960	19,584	21,198	25,600	27,547	282,815	236,433	46,382	46,382	46,382	46,382	500,000
31,278	31,635	26,464	30,730	26,552	26,212	20,305	21,439	23,178	23,432	25,946	26,251	313,422	240,000	240,000	73,422	15,512	15,512	500,000
59,709	53,492	52,311	49,051	41,604	30,067	27,983	26,574	25,781	29,674	41,931	48,898	487,075	240,000	240,000	231,563	132,056	132,056	500,000
85,078	61,661	52,373	30,857	21,199	2,580	18	13	9	9	9,304	59,982	323,074	131,924	131,924	132,056	684,887	684,887	500,000
118,668	99,286	96,607	108,132	119,798	116,471	96,310	100,563	117,072	100,107	111,292	100,581	1,284,887	240,000	240,000	360,000	684,887	684,887	500,000
90,430	83,826	85,585	76,450	56,893	35,953	34,176	33,321	33,576	43,798	58,798	84,791	717,777	240,000	240,000	290,824	186,953	186,953	500,000
15,383	13,817	13,817	14,529	12,534	11,480	10,030	11,037	11,109	11,131	13,088	14,070	154,758	154,758	154,758	154,758	186,953	186,953	500,000
67,790	65,132	60,050	66,297	60,171	59,349	54,925	54,459	59,638	57,257	62,663	51,122	718,913	240,000	240,000	360,000	118,913	118,913	500,000
287,849	244,777	244,177	222,571	183,293	144,374	142,559	136,064	132,251	147,275	182,065	232,024	2,299,279	360,000	360,000	1,899,279	1,899,279	1,899,279	500,000
42,343	43,417	38,087	3,360	17,474	26,379	43,698	23,860	23,696	41,230	18,934	9,297	207,928	149,065	58,863	58,863	58,863	58,863	500,000
122,651	134,343	131,414	145,440	141,771	144,651	137,666	137,490	136,687	120,335	135,021	64,922	1,552,391	240,000	215,307	240,000	952,391	952,391	500,000
74,688	57,156	59,600	45,227	32,266	15,687	15,282	10,608	11,408	17,361	34,171	55,012	428,466	210,346	210,346	46,456	46,456	46,456	500,000
40,172	34,573	34,920	31,919	26,483	18,572	18,672	16,744	17,202	21,385	29,893	35,260	325,745	231,190	94,555	94,555	94,555	94,555	500,000
68,000	59,107	55,442	54,416	46,482	40,362	39,883	38,970	42,582	44,942	56,784	59,064	606,034	240,000	240,000	313,221	52,813	52,813	500,000
37,843	41,129	37,385	43,995	46,157	50,833	50,980	49,152	51,464	44,118	50,191	48,052	551,299	240,000	240,000	307,831	3,468	3,468	500,000
35,912	38,156	17,670	91,185	78,420	78,423	72,714	72,848	76,572	66,694	12,102	65,796	706,482	240,000	240,000	274,088	202,652	202,652	500,000
1,002	795	32,865	810	14,791	22,318	22,065	22,410	18,466	15,988	85,407	26	236,943	151,878	49,658	35,407	35,407	35,407	500,000
56,114	54,725	51,863	44,918	36,482	21,351	18,150	17,937	13,551	20,144	38,614	53,171	422,020	224,638	181,509	15,873	15,873	15,873	500,000

Total WA Sch 146

3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936	8,493,795	8,514,233	13,953,929	2,746,588	2,746,588	1,899,391
3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936	500	1,000	10,000	25,000	25,000	Over
													200	1,000	10,000	25,000	25,000	Over

3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936	8,493,795	8,514,233	13,953,929	2,746,588	2,746,588	1,899,391
3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936	500	1,000	10,000	25,000	25,000	Over
													200	1,000	10,000	25,000	25,000	Over

Total Sch 146

3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936	8,493,795	8,514,233	13,953,929	2,746,588	2,746,588	1,899,391
3,967,685	3,629,622	3,567,188	3,349,134	3,031,743	2,500,055	2,416,869	2,200,204	2,275,935	2,340,543	3,067,907	3,261,051	35,607,936	500	1,000	10,000	25,000	25,000	Over
													200	1,000	10,000	25,000	25,000	Over

**ANNUAL USAGE, Sch 132
Washington**

Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	12-mo ended Total	10,000 thms/mo	25,000 thms/mo	50,000 thms/mo	Over thms/mo
72,359	48,424	56,958	43,898	37,416	15,435	14,115	11,257	11,438	17,735	27,417	51,773	408,225	120,000	124,980	132,155	31,090
66,743	68,904	56,159	49,321	35,485	32,035	27,622	32,258	33,396	50,959	61,102	63,058	577,042	120,000	180,000	210,117	66,925
139,102	117,328	113,117	93,219	72,901	47,470	41,737	43,515	44,834	68,694	88,519	114,831	985,267	240,000	304,960	342,272	98,015

Revenue Runs

139,102	117,328	113,117	93,219	72,901	47,470	41,737	43,515	44,834	68,694	88,519	114,831	985,267	240,000	304,960	342,272	98,015
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Total WA Sch 132

139,102	117,328	113,117	93,219	72,901	47,470	41,737	43,515	44,834	68,694	88,519	114,831	985,267	240,000	304,960	342,272	98,015
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**ANNUAL USAGE, Sch 148
Washington**

Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	12-mo ended Total
2,283,003	2,323,468	2,069,022	2,145,109	1,947,509	1,988,089	1,901,441	1,894,548	1,929,184	1,920,478	1,974,243	2,176,024	24,532,118
500,013	552,172	461,294	337,409	485,342	532,181	556,951	565,213	536,353	554,306	607,830	548,144	6,237,208
194,662	187,274	172,931	139,365	170,191	185,361	177,692	168,526	168,526	180,639	180,886	180,886	2,090,525
509,509	567,802	459,179	506,796	433,132	406,894	449,872	500,550	448,257	421,795	485,250	463,727	5,652,763
1,515,959	1,242,619	1,250,208	1,118,302	889,368	577,568	525,822	442,848	455,422	632,550	863,885	1,084,907	10,599,458
4,983,146	4,873,335	4,412,634	4,246,981	3,925,542	3,690,093	3,611,778	3,571,396	3,533,977	3,697,855	4,111,847	4,453,688	49,112,072

Total WA Sch 148

4,983,146	4,873,335	4,412,634	4,246,981	3,925,542	3,690,093	3,611,778	3,571,396	3,533,977	3,697,855	4,111,847	4,453,688	49,112,072
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Revenue Runs

4,983,146	4,873,335	4,412,634	4,246,981	3,925,542	3,690,093	3,611,778	3,571,396	3,533,977	3,697,855	4,111,847	4,453,688	49,112,072
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**ANNUAL USAGE, Sch 147
Washington**

Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	12-mo ended Total
253,287	37,658	115,812	46,787	72,960	231,323	115,510	739,213	774,467	562,471	1,000,573	483,719	4,443,780
28,790	1,515	18,601	7,690	23,317	9,105	28,943	228,029	254,283	133,316	61,432	166,732	961,753
282,077	39,173	134,413	54,477	96,277	240,428	144,453	967,242	1,028,750	695,787	1,062,005	660,451	5,405,533

Total WA Sch 147

282,077	39,173	134,413	54,477	96,277	240,428	144,453	967,242	1,028,750	695,787	1,062,005	660,451	5,405,533
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Revenue Runs

282,077	39,173	134,413	54,477	96,277	240,428	144,453	967,242	1,028,750	695,787	1,062,005	660,451	5,405,533
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Gas Revenue Usage Report by Location Twelve Months Ended for Report Date : '12/31/2018'

Revenue C Jurisdiction:WA

Source Id	Rate Schedule Num	Period	201801	201802	201803	201804	201805	201806	201807	201808	201809	201810	201811	201812	12 Month Total
REVUNBL	101	Unbilled Usage	9,629,638	10,422,050	7,439,883	4,397,502	1,567,310	1,312,050	1,164,748	1,295,014	1,933,114	5,038,482	9,771,651	11,417,514	65,386,956
	111		3,107,754	3,767,306	2,589,731	1,701,302	772,170	804,108	704,295	846,222	1,188,000	2,308,113	3,719,804	3,956,196	25,465,001
	112		7,144	10,765	5,304	3,881	2,243	2,534	2,243	2,890	5,590	9,457	15,496	10,281	77,096
	121		199,450	241,971	164,598	118,764	60,281	104,394	103,836	139,424	175,022	256,977	297,046	134,000	1,965,763
	122		3,629,622	3,567,188	3,349,134	3,031,741	10,130	12,930	11,440	14,270	19,667	24,565	28,425	32,072	153,539
	146					3,925,542	2,500,962	2,374,496	2,194,451	2,275,935	2,309,719	3,067,429	3,267,643	3,542,437	35,110,757
	147														3,925,542
	148		4,873,335	4,412,634	4,246,981	3,689,297	3,689,297	3,611,778	3,571,396	3,533,977	3,697,655	4,111,496	4,453,688	4,907,937	45,110,174
Total for REVUNBL-G			21,446,943	22,421,914	17,795,631	13,178,732	8,601,661	8,222,290	7,752,409	8,107,732	9,328,787	14,816,539	21,553,753	24,000,437	177,226,828
REVUNBL	101		(13,256,855)	(9,629,638)	(10,422,050)	(7,439,883)	(4,397,502)	(1,567,310)	(1,312,050)	(1,164,748)	(1,295,014)	(1,933,114)	(5,038,482)	(9,771,651)	(67,228,297)
	111		(4,499,374)	(3,107,754)	(3,767,306)	(2,589,731)	(1,701,302)	(772,170)	(804,108)	(704,295)	(846,222)	(1,188,000)	(2,308,113)	(3,719,804)	(26,008,179)
	112		(14,283)	(7,144)	(10,765)	(5,304)	(3,881)	(2,534)	(2,243)	(2,890)	(5,590)	(9,457)	(15,496)	(10,281)	(81,098)
	121		(318,891)	(199,450)	(241,971)	(164,598)	(118,764)	(60,281)	(104,394)	(103,836)	(139,424)	(175,022)	(256,977)	(297,046)	(2,180,654)
	122		(3,957,685)	(3,629,622)	(3,567,188)	(3,349,134)	(10,130)	(12,930)	(11,440)	(14,270)	(19,667)	(24,565)	(28,425)	(32,072)	(121,467)
	146					(3,349,134)	(3,031,741)	(2,500,962)	(2,374,496)	(2,194,451)	(2,275,935)	(2,309,719)	(3,067,429)	(3,267,643)	(35,536,005)
	147						(3,925,542)								(3,925,542)
	148		(4,983,146)	(4,412,634)	(4,246,981)	(3,689,297)	(3,689,297)	(3,611,778)	(3,571,396)	(3,533,977)	(4,111,496)	(4,453,688)	(4,907,937)	(5,386,383)	(45,110,174)
Total for REVUNBL-GR			(27,040,234)	(21,446,943)	(22,421,914)	(17,795,631)	(8,601,661)	(8,222,290)	(7,752,409)	(7,752,409)	(9,328,787)	(14,816,539)	(21,553,753)	(24,000,437)	(180,266,625)
Total for WA			(5,593,291)	974,971	(4,626,283)	(4,616,899)	(4,577,071)	(379,371)	(469,881)	355,323	1,221,055	5,487,752	6,737,214	2,446,684	(3,039,797)

101			(3,627,217)	792,412	(2,982,167)	(3,042,381)	(2,830,192)	(255,260)	(147,302)	130,266	638,100	3,105,368	4,733,169	1,645,863	(1,839,341)
111			(1,398,759)	663,173	(1,183,036)	(889,852)	(931,502)	32,961	(100,104)	142,574	344,478	1,123,980	1,417,730	231,177	(547,180)
121			(119,441)	42,521	(77,373)	(45,834)	(48,353)	46,913	(2,048)	38,418	41,015	86,853	43,909	(159,399)	(152,819)
146			(338,063)	(62,434)	(218,054)	(317,393)	(530,779)	(126,466)	(180,045)	81,484	33,784	757,710	200,214	274,794	(425,248)
147						3,925,542									
148			(109,811)	(460,701)	(165,653)	(4,246,981)	3,689,297	(77,519)	(40,382)	(37,419)	163,678	413,841	342,192	454,249	(75,209)
Total			(5,593,291)	974,971	(4,626,283)	(4,616,899)	(4,577,071)	(379,371)	(469,881)	355,323	1,221,055	5,487,752	6,737,214	2,446,684	(3,039,797)

	January	February	March	April	May	June	July	August	September	October	November	December
Total	1,105	914	772	542	304	136	27	30	160	529	864	1,137
Normal/DDH	1,105	914	772	542	304	136	27	30	160	529	864	1,137
Actual/DDH	960	968	783	543	125	103	15	24	169	517	836	1,021
DDH Adjustment to Normal	145	-54	-11	-1	179	33	12	6	-9	12	28	116
WA Res Sched 101	2,065,756	-768,632	-157,480	-11,868	2,129,131	392,269	0	0	0	145,531	337,438	1,689,053
No of Cust	148,402	148,270	149,129	148,905	149,242	149,146	149,489	149,789	148,593	152,165	151,209	151,675
Usage/DDH	0.0960	0.0960	0.0960	0.0797	0.0797	0.0797	0.0000	0.0000	0.0000	0.0797	0.0797	0.0960
WA Com Sched 101	399,314	-147,531	-30,030	-1,912	345,056	63,460	0	0	0	23,719	54,177	318,712
No of Cust	12,105	12,009	12,000	11,933	12,033	12,004	12,003	12,011	11,705	12,338	12,078	12,077
Usage/DDH	0.2275	0.2275	0.2275	0.1602	0.1602	0.1602	0.0000	0.0000	0.0000	0.1602	0.1602	0.2275
WA Ind Sched 101	4,640	-1,638	-329	-19	3,317	620	0	0	0	235	519	3,471
No of Cust	77	73	72	71	71	72	71	72	69	75	71	72
Usage/DDH	0.4156	0.4156	0.4156	0.2610	0.2610	0.2610	0.0000	0.0000	0.0000	0.2610	0.2610	0.4156
WA Res Sched 111	35,499	-12,855	-2,665	-233	41,528	7,629	0	0	0	2,892	6,679	29,476
No of Cust	290	282	287	285	284	283	285	284	283	295	292	301
Usage/DDH	0.8442	0.8442	0.8442	0.8169	0.8169	0.8169	0.0000	0.0000	0.0000	0.8169	0.8169	0.8442
WA Com Sched 111	737,988	-277,232	-57,576	-4,231	751,786	139,888	0	0	0	51,732	117,992	611,196
No of Cust	2,639	2,662	2,714	2,704	2,684	2,709	2,696	2,691	2,627	2,755	2,693	2,732
Usage/DDH	1.9286	1.9286	1.9286	1.5648	1.5648	1.5648	0.0000	0.0000	0.0000	1.5648	1.5648	1.9286
WA Ind Sched 111	18,882	-6,902	-1,459	-134	23,900	4,326	0	0	0	1,631	3,671	15,665
No of Cust	54	53	55	55	55	54	56	55	50	56	54	56
Usage/DDH	2.4115	2.4115	2.4115	2.4276	2.4276	2.4276	0.0000	0.0000	0.0000	2.4276	2.4276	2.4115
WA Com Sched 121	28,932	-10,775	-2,195	-197	35,346	6,516	0	0	0	2,607	5,529	2,315
No of Cust	20	20	20	20	20	20	20	21	17	22	20	2
Usage/DDH	9.9764	9.9764	9.9764	9.8732	9.8732	9.8732	0.0000	0.0000	0.0000	9.8732	9.8732	9.9764
ID Res Sched 101	938,596	-349,924	-71,353	-5,461	978,028	180,479	0	0	0	66,501	155,601	768,162
No of Cust	73,978	74,058	74,133	74,203	74,237	74,308	74,483	74,741	74,775	75,296	75,505	75,681
Usage/DDH	0.0875	0.0875	0.0875	0.0736	0.0736	0.0736	0.0000	0.0000	0.0000	0.0736	0.0736	0.0875
ID Com Sched 101	192,710	-71,796	-14,579	-964	172,203	31,860	0	0	0	11,698	27,121	154,350
No of Cust	7,625	7,628	7,604	7,629	7,611	7,638	7,624	7,606	7,528	7,712	7,663	7,634
Usage/DDH	0.1743	0.1743	0.1743	0.1264	0.1264	0.1264	0.0000	0.0000	0.0000	0.1264	0.1264	0.1743
ID Ind Sched 101	2,501	-931	-183	-11	1,931	356	0	0	0	132	302	1,964
No of Cust	55	55	53	54	54	54	52	56	53	55	54	54
Usage/DDH	0.3136	0.3136	0.3136	0.1998	0.1998	0.1998	0.0000	0.0000	0.0000	0.1998	0.1998	0.3136
ID Res Sched 111	9,505	-3,607	-735	-53	9,693	1,787	0	0	0	656	1,544	7,963
No of Cust	106	108	108	107	109	109	110	109	108	110	111	111
Usage/DDH	0.6184	0.6184	0.6184	0.4968	0.4968	0.4968	0.0000	0.0000	0.0000	0.4968	0.4968	0.6184

Adjustment No. 2.10

Worksheet Ref. G-WN-

12.2018

	Total	January	February	March	April	May	June	July	August	September	October	November	December
ID Com Sched 111	600,058	228,399	-86,296	-17,672	-1,135	204,491	37,727	0	0	0	13,800	31,869	188,875
No of Cust	1,341	1,306	1,325	1,332	1,342	1,351	1,352	1,348	1,338	1,347	1,360	1,346	1,350
Usage/DDH		1,2061	1,2061	1,2061	0,8456	0,8456	0,8456	0,0000	0,0000	0,0000	0,8456	0,8456	1,2061
ID Ind Sched 111	19,491	9,264	-3,450	-703	-27	5,001	898	0	0	0	335	762	7,411
No of Cust	38	38	38	38	38	39	38	38	38	37	39	38	38
Usage/DDH	1,6813	1,6813	1,6813	1,6813	0,7164	0,7164	0,7164	0,0000	0,0000	0,0000	0,7164	0,7164	1,6813
WA subtotal	9,164,130	3,291,011	-1,223,565	-251,734	-18,594	3,330,064	614,708	0	0	0	228,347	526,005	2,669,888
ID subtotal	3,815,595	1,380,975	-516,004	-105,225	-7,651	1,371,347	253,107	0	0	0	93,122	217,199	1,128,725

Summarize by Schedule

WA 101	6,856,979	2,469,710	-917,801	-187,839	-13,799	2,477,504	456,349	0	0	0	169,485	392,134	2,011,236
WA 111	2,239,073	792,369	-296,989	-61,700	-4,598	817,214	151,843	0	0	0	56,255	128,342	656,337
WA 121	68,078	28,932	-10,775	-2,195	-197	35,346	6,516	0	0	0	2,607	5,529	2,315
ID 101	3,169,293	1,133,807	-422,651	-86,115	-6,436	1,132,162	212,695	0	0	0	78,331	183,024	924,476
ID 111	646,302	247,168	-93,353	-19,110	-1,215	219,185	40,412	0	0	0	14,791	34,175	204,249

Prep by: _____ 1st Review: _____

Date: 4/25/2019 Mgr. Review: _____

	December	November	October	September	August	July	June	May	April	March	February	January	Total
Weather Adjustment Revenue													
WA 101	\$1,410,983	\$275,102	\$118,650	\$0	\$0	\$0	\$319,472	\$1,734,401	(\$9,966)	(\$135,667)	(\$662,882)	\$1,923,064	\$4,973,157
WA 111	\$33,733	\$69,170	\$30,307	\$0	\$0	\$0	\$81,805	\$440,274	(\$2,502)	(\$33,572)	(\$161,598)	\$475,841	\$1,253,458
WA 121	\$1,023	\$2,444	\$1,168	\$0	\$0	\$0	\$2,919	\$15,835	(\$89)	(\$992)	(\$4,869)	\$14,707	\$32,146
Total Revenue Adjustment	\$1,765,739	\$346,716	\$150,125	\$0	\$0	\$0	\$404,196	\$2,190,510	(\$12,557)	(\$170,231)	(\$829,349)	\$2,413,612	\$6,258,761
Decoupling Revenue Offset													
WA 101	\$835,025	\$162,806	\$70,367	\$0	\$0	\$0	\$189,467	\$1,028,610	(\$6,035)	(\$82,155)	(\$401,419)	\$1,080,177	\$2,876,843
WA 111	\$172,663	\$33,763	\$14,799	\$0	\$0	\$0	\$39,945	\$214,984	(\$1,234)	(\$16,563)	(\$79,724)	\$212,704	\$591,337
WA 121	\$385	\$920	\$434	\$0	\$0	\$0	\$1,084	\$5,881	(\$34)	(\$374)	(\$4,927)	\$4,927	\$11,388
Total WA	\$1,008,073	\$197,489	\$85,600	\$0	\$0	\$0	\$230,496	\$1,249,475	(\$7,303)	(\$99,092)	(\$485,978)	\$1,297,808	\$3,479,568
Revenue Related Expenses													
Decoupling Adjustment													
Revenue not captured in Decoupling													
WA 101	\$575,958	\$112,296	\$48,283	\$0	\$0	\$0	\$130,005	\$705,791	(\$3,931)	(\$53,512)	(\$261,463)	\$842,887	\$2,096,314
WA 111	\$181,070	\$35,407	\$15,508	\$0	\$0	\$0	\$41,860	\$225,290	(\$1,268)	(\$17,009)	(\$81,874)	\$263,137	\$662,121
WA 121	\$638	\$734	\$74	\$0	\$0	\$0	\$1,524	\$954	(\$5)	(\$618)	(\$3,034)	\$9,780	\$20,758
Total WA	\$757,666	\$149,227	\$64,225	\$0	\$0	\$0	\$173,700	\$931,035	(\$5,254)	(\$71,139)	(\$346,371)	\$1,115,804	\$2,779,193
ID 101	\$628,015	\$124,332	\$56,198	\$0	\$0	\$0	\$152,596	\$867,486	(\$4,846)	(\$64,838)	(\$318,222)	\$916,232	\$2,356,973
ID 111	\$93,148	\$15,586	\$7,059	\$0	\$0	\$0	\$19,286	\$108,665	(\$602)	(\$9,474)	(\$46,282)	\$136,182	\$323,568
Total Revenue Adjustment	\$721,163	\$139,918	\$63,257	\$0	\$0	\$0	\$171,882	\$976,151	(\$5,448)	(\$74,312)	(\$364,504)	\$1,052,434	\$2,680,541
FCA Revenue Offset													
ID 101	\$414,304	\$82,022	\$35,104	\$0	\$0	\$0	\$95,319	\$557,220	(\$3,113)	(\$41,648)	(\$204,407)	\$548,343	\$1,483,144
ID 111	\$42,472	\$7,106	\$3,076	\$0	\$0	\$0	\$8,403	\$49,641	(\$275)	(\$4,328)	(\$21,143)	\$55,979	\$140,931
Total ID	\$456,776	\$89,128	\$38,180	\$0	\$0	\$0	\$103,722	\$606,861	(\$3,388)	(\$45,976)	(\$225,550)	\$604,322	\$1,624,075
Revenue Related Expenses													
FCA Adjustment													
Revenue not captured in Decoupling													
ID 101	\$213,711	\$42,310	\$21,094	\$0	\$0	\$0	\$57,277	\$310,266	(\$1,733)	(\$23,190)	(\$113,815)	\$367,909	\$873,829
ID 111	\$30,676	\$8,480	\$3,983	\$0	\$0	\$0	\$10,883	\$59,024	(\$327)	(\$5,146)	(\$25,139)	\$80,203	\$182,637
Total ID	\$264,387	\$50,790	\$25,077	\$0	\$0	\$0	\$68,160	\$369,290	(\$2,060)	(\$28,336)	(\$138,954)	\$448,112	\$1,056,466
Weather Adjustment Gas Cost Expense													
WA 101	\$549,188	\$107,076	\$46,066	\$0	\$0	\$0	\$124,036	\$673,386	(\$3,751)	(\$51,055)	(\$249,458)	\$804,162	\$1,999,650
WA 111	\$172,656	\$33,758	\$14,796	\$0	\$0	\$0	\$39,936	\$214,935	(\$1,209)	(\$16,228)	(\$78,111)	\$251,038	\$631,551
WA 121	\$609	\$1,454	\$700	\$0	\$0	\$0	\$1,751	\$949	(\$53)	(\$590)	(\$2,895)	\$933	\$1,984
Total Gas Cost Adjustment	\$722,433	\$142,288	\$61,562	\$0	\$0	\$0	\$165,723	\$897,818	(\$5,013)	(\$67,873)	(\$330,464)	\$1,064,331	\$2,651,005
GTI Gas Expense Adjustment													
ID 101	\$1,195	\$235	\$102	\$0	\$0	\$0	\$274	\$1,486	(\$8)	(\$112)	(\$548)	\$1,471	\$4,095
ID 111	\$245,079	\$48,520	\$20,972	\$0	\$0	\$0	\$56,945	\$308,468	(\$1,723)	(\$23,056)	(\$113,156)	\$365,789	\$907,838
Total Gas Cost Adjustment	\$246,274	\$48,755	\$21,074	\$0	\$0	\$0	\$57,219	\$310,000	(\$1,731)	(\$23,168)	(\$113,704)	\$367,260	\$911,933
GTI Gas Expense Adjustment													
Margin													
	\$1,526	\$87	\$37	\$0	\$0	\$0	\$101	\$549	(\$3)	(\$42)	(\$206)	\$552	\$1,526
	\$85,220	\$1,598	\$2,969	\$0	\$0	\$0	\$7,997	\$43,322	(\$242)	(\$2,276)	(\$15,958)	\$51,832	\$85,220

Weighted Block Rate Calculation

WS weighted block Effective Rate by Month (Excluding prior deferral amortization Sch 155, decoupling surcharge Sch 159, and public purpose tariff rider Sch 191)

WA 101	0.77866	0.72225	0.70006	0.70006	0.70006	0.70006	0.70006	0.70006	0.70006	0.70006	0.70155
WA 111	0.54527	0.54412	0.53875	0.53875	0.53875	0.53875	0.53875	0.53875	0.53875	0.53875	0.53895
WA 121	0.45302	0.45191	0.44800	0.44800	0.44800	0.44800	0.44800	0.44800	0.44800	0.44211	0.44211
ID 101	0.73047	0.75292	0.75292	0.75292	0.75292	0.75292	0.75292	0.75292	0.75292	0.75292	0.67932
ID 111	0.48603	0.49577	0.49577	0.49577	0.49577	0.49577	0.49577	0.49577	0.49577	0.49577	0.45605
Effective WACOG by Month											
WA 101	0.27649	0.27180	0.27180	0.27180	0.27180	0.27180	0.27180	0.27180	0.27180	0.27180	0.27306
WA 111	0.26750	0.26301	0.26301	0.26301	0.26301	0.26301	0.26301	0.26301	0.26301	0.26301	0.26303
WA 121	0.27221	0.26869	0.26869	0.26869	0.26869	0.26869	0.26869	0.26869	0.26869	0.26869	0.26292
ID 101	0.27187	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26510
ID 111	0.27187	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26773	0.26510

17 GRC Block Usage, Bills, & Baseload

Block 1	70,235,875	BaseLoad Usage	Percentage	WS Usage	Percentage	1/26/2018	5/1/2018	11/1/2018	11/1/2017
Block 2	35,679,397	24,017,006	100.00%	46,218,869	56.43%	0.36723	0.36723	0.36723	0.38685
Block 3	105,915,272	24,017,006	0.00%	35,679,397	43.57%	0.47729	0.47729	0.47729	0.50279
	1,847,462	13	100.00%	81,898,266	100.00%	0.41518	0.41518	0.41518	0.43737
						0.28488	0.28488	0.28488	0.34129
						0.27180	0.27180	0.27180	0.32561
						0.00047	0.00047	0.00047	0.00047

WA Schedule 111

Block 1	5,785,416	5,785,416	33.67%	0	0.00%	0.50720	0.48625	0.48625	0.50720
Block 2	14,299,409	11,396,727	66.33%	2,900,682	11.13%	0.34034	0.33354	0.33354	0.34034
Block 3	23,171,235	0	0.00%	23,171,235	88.87%	0.25943	0.25943	0.25943	0.25943
	43,256,060	17,184,143	100.00%	26,071,917	100.00%	0.26307	0.26307	0.26307	0.26844
	32,983	521	100.01%	586,572	69.20%	0.14387	0.14387	0.14387	0.14725
						0.17028	0.16637	0.16637	0.17028
						0.28163	0.28163	0.28163	0.3804
						0.26869	0.26869	0.26869	0.32250
						0.00031	0.00031	0.00031	0.00031

WA Schedule 121

Block 1	135,553	135,553	4.39%	0	0.00%	0.50456	0.48088	0.48088	0.50456
Block 2	135,553	135,553	4.39%	0	0.00%	0.34850	0.34850	0.34850	0.34850
Block 3	2,127,460	2,127,460	68.84%	0	0.00%	0.27397	0.26767	0.26767	0.27397
Block 4	953,143	692,067	22.39%	261,076	30.80%	0.22202	0.21692	0.21692	0.22202
Block 5	586,572	0	0.00%	586,572	69.20%	0.14725	0.14387	0.14387	0.14725
	3,938,281	3,090,633	100.01%	847,648	100.00%	0.16637	0.16637	0.16637	0.17028
	273	11,321				0.28163	0.28163	0.28163	0.3804
						0.26869	0.26869	0.26869	0.32250
						0.00031	0.00031	0.00031	0.00031

ID Schedule 101

Block 1	all therms					1/1/2018	6/1/2018	11/1/2018	11/1/2017
						0.48363	0.48363	0.48363	0.47746
						0.32449	0.32449	0.32449	0.32449
						0.32262	0.32262	0.32262	0.32262
						0.00040	0.00040	0.00040	0.00040

ID Schedule 111

Block 1	2,975,097	2,975,097	24.57%	0	0.00%	0.51365	0.49511	0.49511	0.50375
Block 2	6,965,891	6,965,891	57.52%	0	0.00%	0.32220	0.32220	0.32220	0.31954
Block 3	8,708,834	2,169,482	17.91%	6,539,352	75.53%	0.23981	0.23127	0.23127	0.23783
Block 4	2,118,897	12,110,470	0.00%	2,118,897	24.47%	0.18534	0.16680	0.16680	0.18381
	20,768,719	12,110,470	100.00%	8,658,249	100.00%	0.22648	0.20794	0.20794	0.22461
	17,057	710				0.32449	0.32449	0.32449	0.32449
						0.32262	0.32262	0.32262	0.32262
						0.00040	0.00040	0.00040	0.00040

WA	0101	01	WR101	148,217	148,086	148,943	148,724	149,066	148,972	149,318	149,619	148,423	151,997	151,042	151,508	1,793,915
		21	WC101	12,105	12,009	12,000	11,933	12,033	12,004	12,003	12,011	11,705	12,338	12,078	12,077	144,296
		31	WI101	77	73	72	71	71	72	71	72	69	75	71	72	866
		80		27	26	27	26	25	25	25	28	28	28	28	26	319
			Total for 0101	160,426	160,194	161,042	160,754	161,195	161,073	161,417	161,730	160,225	164,438	163,219	163,683	1,939,396
	0102	01	WR101	185	184	186	181	176	174	171	170	170	168	167	167	2,099
			Total for 0102	185	184	186	181	176	174	171	170	170	168	167	167	2,099
	0111	01	WR111	290	282	287	285	284	283	285	284	283	295	292	301	3,451
		21	WC111	2,638	2,661	2,713	2,703	2,683	2,708	2,695	2,690	2,626	2,754	2,692	2,731	32,828
		31	WI111	54	53	55	55	55	54	56	55	50	56	54	56	729
		80		17	17	18	19	20	20	18	16	16	16	16	18	211
			Total for 0111	2,999	3,013	3,073	3,062	3,042	3,065	3,054	3,045	2,975	3,121	3,054	3,106	37,219
	0112	21	WC111	1	1	1	1	1	1	1	1	1	1	1	1	12
			Total for 0112	1	1	1	1	1	1	1	1	1	1	1	1	12
	0121	21	WC121	19	19	19	19	19	19	19	20	16	21	19	1	-324
		31	WI121	3	3	3	3	3	3	3	3	3	3	3	1	-42
			Total for 0121	22	22	22	22	22	22	22	23	19	24	22	2	-366
	0122	21	WC121	1	1	1	1	1	1	1	1	1	1	1	1	12
			Total for 0122	1	1	1	1	1	1	1	1	1	1	1	1	12
	0132	22		2	2	2	2	2	2	2	2	2	2	2	2	24
			Total for 0132	2	2	2	2	2	2	2	2	2	2	2	2	24
	0146	91		20	20	20	20	20	20	20	20	20	17	19	19	235
		92		21	21	21	21	21	21	21	21	21	21	21	20	251
			Total for 0146	41	41	41	41	41	41	41	41	41	38	40	39	486
	0147	93		3	2	3	3	3	2	3	3	3	3	3	3	34
			Total for 0147	3	2	3	3	3	2	3	3	3	3	3	3	34
	0148	91		1	1	1	1	1	1	1	1	1	1	1	1	12
		92		4	4	4	4	4	4	4	4	4	4	4	4	48
			Total for 0148	5	5	5	5	5	5	5	5	5	5	5	5	60

Summarize No of Customers by Code

	201801	201802	201803	201804	201805	201806	201807	201808	201809	201810	201811	201812
WR101	148,402	148,270	149,129	148,905	149,242	149,146	149,489	149,789	148,593	152,165	151,209	151,675
WC101	12,105	12,009	12,000	11,933	12,033	12,004	12,003	12,011	11,705	12,338	12,078	12,077
WI101	77	73	72	71	71	72	71	72	69	75	71	72
WT101	160,611	160,378	161,228	160,935	161,371	161,247	161,588	161,900	160,395	164,606	163,386	163,850
WR111	290	282	287	285	284	283	285	284	283	295	292	301
WC111	2,639	2,662	2,714	2,704	2,684	2,709	2,696	2,691	2,627	2,755	2,693	2,732
WI111	54	53	55	55	55	54	56	55	50	56	54	56
WT111	3,000	3,014	3,074	3,063	3,043	3,066	3,055	3,046	2,976	3,122	3,055	3,107
WR121	-	-	-	-	-	-	-	-	-	-	-	-
WC121	20	20	20	20	20	20	20	21	17	22	20	2
WI121	3	3	3	3	3	3	3	3	3	3	3	1
WT121	23	23	23	23	23	23	23	24	20	25	23	3
WT131	2	2	2	2	2	2	2	2	2	2	2	2

Weather Sensitivity Regression Summary for January 2007 through 2016

Adj R ²	Dependent Variable	Shoulder Mo Heating		Winter Mo Heating		Usage/Cust Base Load	Usage/Cust 2016 Low	Durbin Watson Test Result
		Apr, May, Jun, Oct, Nov	Heating	Dec, Jan, Feb, Mar	Heating			
Washington Gas								
0.986	WR101	0.0797	0.0960	13	14	14	No Autocorrelation	
0.978	WC101	0.1602	0.2275	9	17	17	No Autocorrelation	
0.959	WI101	0.2610	0.4156	0	6	6	Corrected with AR(1)	
0.985	WT101	0.0860	0.1066	13	14	14	No Autocorrelation	
0.954	WR111	0.8169	0.8442	445	367	367	Corrected with AR(1)	
0.987	WC111	1.5648	1.9286	500	500	500	No Autocorrelation	
0.865	WI111	2.4276	2.4115	2,112	1,870	1,870	Corrected with AR(1)	
0.987	WT111	1.4752	1.8123	522	514	514	No Autocorrelation	
0.933	WC121	9.8732	9.9764	11,281	9,519	9,519	Corrected with AR(1),(2)	
0.908	WT121	8.7347	10.0304	10,807	9,776	9,776	Corrected with AR(1)	
Idaho Gas								
0.991	IR101	0.0736	0.0875	12	13	13	No Autocorrelation	
0.972	IC101	0.1264	0.1743	0	10	10	Corrected with AR(1)	
0.966	II101	0.1998	0.3136	0	5	5	Corrected with AR(1)	
0.989	IT101	0.0797	0.0979	10	13	13	No Autocorrelation	
0.953	IR111	0.4968	0.6184	344	274	274	Corrected with AR(1),(2)	
0.974	IC111	0.8456	1.2061	661	663	663	No Autocorrelation	
0.775	II111	0.7164	1.6813	4,208	3208	3208	No Autocorrelation	
0.974	IT111	0.8121	1.1765	714	730	730	Corrected with AR(1)	

Dependent Variable Name Code

1st letter

2nd letter

Numerical reference

W = Washington Jurisdiction

R = Residential Class

Rate Schedule

I = Idaho Jurisdiction

C = Commercial Class

I = Industrial Class

T = Total Schedule

Prep by: _____ 1st Review: _____

	A	B	C	D	E	F	G	H	I	J	K	L
1	Dependent Variable: WVR101							Dependent Variable: WC101				
2	Method: Stepwise Regression							Method: Stepwise Regression				
3	Date: 04/12/18 Time: 16:14							Date: 04/12/18 Time: 16:17				
4	Sample: 2007M01 2016M12							Sample: 2007M01 2016M12				
5	Included observations: 120							Included observations: 120				
6	No always included regressors							No always included regressors				
7	Number of search regressors: 6							Number of search regressors: 6				
8	Selection method: Stepwise backwards							Selection method: Stepwise backwards				
9	Stopping criterion: t-stat forwards/backwards = 2/2							Stopping criterion: t-stat forwards/backwards = 2/2				
10												
11	Variable	Coefficient	Std. Error	t-Statistic	Prob.*			Variable	Coefficient	Std. Error	t-Statistic	Prob.*
12												
13	WADDH*WINTER	0.103804353	0.001822741	56.94958798	1.24E-86			WADDH*WINTER	0.25613663	0.0055858	45.854894	3.51E-76
14	WADDH*SHOULDER	0.079684417	0.002157778	36.92891492	5.67E-66			WADDH*SHOULDER	0.16017176	0.0066125	24.222452	3.41E-47
15		12.79735832	0.81353296	15.730596	1.52E-30				8.76874086	2.4930797	3.5172325	0.00062355
16	WADDH*WINTER*YEAR	-0.000777914	0.000275164	-2.82709325	0.00553408			WADDH*WINTER*YEAR	-0.00286318	0.0008432	-3.395445	0.0009388
17												
18	R-squared	0.986018077	Mean dependent var	61				R-squared	0.97826981	Mean dependent var	119.325	
19	Adjusted R-squared	9.86E-01	S.D. dependent var	42.3811359				Adjusted R-squared	0.97770782	S.D. dependent var	104.20481	
20	S.E. of regression	5.076951283	Akaike info criterion	6.12006406				S.E. of regression	15.5533667	Akaike info criterion	8.3598393	
21	Sum squared resid	2989.950382	Schwarz criterion	6.21298045				Sum squared resid	28079.2819	Schwarz criterion	8.4527557	
22	Log likelihood	-363.2038437	Hannan-Quinn criter.	6.15779784				Log likelihood	-4.98E+02	Hannan-Quinn criter.	8.3975731	
23	F-statistic	2726.80888	Durbin-Watson stat	2.22267876				F-statistic	1740.73171	Durbin-Watson stat	2.1393744	
24	Prob(F-statistic)	2.38E-107						Prob(F-statistic)	3.03E-96			
25												
26		Selection Summary						Selection Summary				
27												
28	Removed WADDH*SHOULDER*YEAR							Removed WADDH*SHOULDER*YEAR				
29	Removed @TREND							Removed @TREND				
30												
31	*Note: p-values and subsequent tests do not account for stepwise selection.							*Note: p-values and subsequent tests do not account for stepwise selection.				
32												
33												
34												
35	Dependent Variable: WI101							Dependent Variable: WT101				
36	Method: ARMA Maximum Likelihood (OPG - BHHH)							Method: Stepwise Regression				
37	Date: 04/12/18 Time: 16:19							Date: 04/12/18 Time: 16:20				
38	Sample: 2007M01 2016M12							Sample: 2007M01 2016M12				
39	Included observations: 120							Included observations: 120				
40	Convergence achieved after 22 iterations							No always included regressors				
41	Coefficient covariance computed using outer product of gradients							Number of search regressors: 6				
42								Selection method: Stepwise backwards				
43	Variable	Coefficient	Std. Error	t-Statistic	Prob.			Stopping criterion: t-stat forwards/backwards = 2/2				
44												
45	WADDH*WINTER	0.415636098	0.006545219	63.50224579	5.96E-92			Variable	Coefficient	Std. Error	t-Statistic	Prob.*
46	WADDH*SHOULDER	0.260969315	0.012957488	20.14042499	1.13E-39							
47	AR(1)	0.2470933	0.085503774	2.898852559	4.60E-03			WADDH*WINTER	0.11657455	0.0021192	55.008732	5.99E-85
48	SIGMASQ	1346.030795	106.3876837	12.6521299	1.39E-23			WADDH*SHOULDER	0.08603562	0.0025087	34.294487	1.49E-62
49									12.5654612	0.9458501	13.284834	4.79E-25
50	R-squared	0.960360159	Mean dependent var	186.3583333				WADDH*WINTER*YEAR	-0.00099715	0.0003199	-3.116885	0.0023045
51	Adjusted R-squared	0.95933499	S.D. dependent var	185.0455688								
52	S.E. of regression	37.31548807	Akaike info criterion	10.1098841				R-squared	0.98491687	Mean dependent var	65.841667	
53	Sum squared resid	161523.6954	Schwarz criterion	10.2029005				Adjusted R-squared	0.98452679	S.D. dependent var	47.452585	
54	Log likelihood	-602.5990466	Hannan-Quinn criter.	10.1477179				S.E. of regression	5.90269223	Akaike info criterion	6.4214593	
55	Durbin-Watson stat	1.994434451						Sum squared resid	404.164596	Schwarz criterion	6.5143757	
56								Log likelihood	-3.81E+02	Hannan-Quinn criter.	6.4591931	
57	Inverted AR Roots	0.25						F-statistic	2524.90333	Durbin-Watson stat	2.2143565	
58								Prob(F-statistic)	1.93E-105			

	A	B	C	D	E	F	G	H	I	J	K	L
67	Dependent Variable: WR111							Dependent Variable: WC111				
68	Method: ARMA Maximum Likelihood (OPG - BHHH)							Method: Stepwise Regression				
69	Date: 04/12/18 Time: 16:25							Date: 04/12/18 Time: 16:26				
70	Sample: 2007M01 2016M12							Sample: 2007M01 2016M12				
71	Included observations: 120							Included observations: 120				
72	Convergence achieved after 26 iterations							No always included regressors				
73	Coefficient covariance computed using outer product of gradients							Number of search regressors: 6				
74								Selection method: Stepwise backwards				
75	Variable	Coefficient	Std. Error	t-Statistic	Prob.			Stopping criterion: t-stat forwards/backwards = 2/2				
76												
77	C	444.9559027	90.30395935	4.927313331	2.88E-06			Variable	Coefficient	Std. Error	t-Statistic	Prob.*
78	WADDH*WINTER	2.291892253	0.102140611	22.43859945	1.93E-43			WADDH*WINTER	2.648096654	0.0398165	66.507499	1.25E-93
79	WADDH*SHOULDER	2.081590128	0.165231826	12.59799748	2.89E-23			WADDH*SHOULDER	2.14965993	0.075499	28.472695	6.56E-54
80	WADDH*WINTER*YEAR	-0.144769355	0.018616127	-7.77655592	3.79E-12			C	499.876232	17.819527	28.05216	2.93E-53
81	WADDH*SHOULDER*YEAR	-0.126468024	0.096991518	-3.41883849	8.75E-04			WADDH*WINTER*YEAR	-0.07194665	0.0060075	-11.97615	5.97E-22
82	AR(1)	0.678062465	0.077011515	8.804689372	1.76E-14			WADDH*SHOULDER*YEAR	-0.05848732	0.0123409	-4.739294	6.19E-06
83	SIGMASQ	26129.56638	2344.738464	11.1439151	6.57E-20							
84												
85	R-squared	0.956459871	Mean dependent var	1208.04167				R-squared	0.98748512	Mean dependent var	1599.925	
86	Adjusted R-squared	0.954148006	S.D. dependent var	777.926185				Adjusted R-squared	0.98704982	S.D. dependent var	974.01413	
87	S.E. of regression	166.577946	Akaike info criterion	13.1304978				S.E. of regression	110.841695	Akaike info criterion	12.294857	
88	Sum squared resid	3135547.966	Schwarz criterion	13.2931015				Sum squared resid	1412876.35	Schwarz criterion	12.411002	
89	Log likelihood	-7.81E+02	Hannan-Quinn criter.	13.1965319				Log likelihood	-732.691408	Hannan-Quinn criter.	12.342024	
90	F-statistic	413.7178317	Durbin-Watson stat	2.09541697				F-statistic	2268.51541	Durbin-Watson stat	2.1489792	
91	Prob(F-statistic)	1.93E-74						Prob(F-statistic)	2.31E-108			
92												
93	Inverted AR Roots	0.68						Selection Summary				
94												
95								Removed @TREND				
96												
97								*Note: p-values and subsequent tests do not account for stepwise selection.				
98												
99												
100	Dependent Variable: WI111							Dependent Variable: WT111				
101	Method: ARMA Maximum Likelihood (OPG - BHHH)							Method: Stepwise Regression				
102	Date: 04/12/18 Time: 16:28							Date: 04/12/18 Time: 16:29				
103	Sample: 2007M01 2016M12							Sample: 2007M01 2016M12				
104	Included observations: 120							Included observations: 120				
105	Convergence achieved after 7 iterations							No always included regressors				
106	Coefficient covariance computed using outer product of gradients							Number of search regressors: 6				
107								Selection method: Stepwise backwards				
108	Variable	Coefficient	Std. Error	t-Statistic	Prob.			Stopping criterion: t-stat forwards/backwards = 2/2				
109												
110	C	2111.837876	136.4116216	15.48136332	8.48E-30			Variable	Coefficient	Std. Error	t-Statistic	Prob.*
111	WADDH*WINTER	3.494267223	0.234452229	14.90396246	1.56E-28			WADDH*WINTER	2.67802567	0.0398271	67.2413	3.64E-94
112	WADDH*SHOULDER	2.427551098	0.257985996	9.409623527	6.60E-16			WADDH*SHOULDER	2.18911517	0.0755191	28.987581	1.07E-54
113	WADDH*WINTER*YEAR	-0.10827341	0.043935684	-2.46436158	1.52E-02			C	521.851328	17.824265	29.27758	3.91E-55
114	AR(1)	0.423058848	0.093789277	4.510737921	1.58E-05			WADDH*WINTER*YEAR	-0.08657712	0.0060091	-14.40771	1.61E-27
115	SIGMASQ	248015.8836	26500.5234	9.358905101	8.66E-16			WADDH*SHOULDER*YEAR	-0.07139087	0.0123442	-5.783345	6.41E-08
116												
117	R-squared	0.870770511	Mean dependent var	3529.64167				R-squared	0.98707788	Mean dependent var	1600.175	
118	Adjusted R-squared	0.865102551	S.D. dependent var	1391.15678				Adjusted R-squared	0.98662841	S.D. dependent var	958.79796	
119	S.E. of regression	510.9494605	Akaike info criterion	15.3607685				S.E. of regression	110.871161	Akaike info criterion	12.295388	
120	Sum squared resid	29761906.03	Schwarz criterion	15.5001431				Sum squared resid	1413627.65	Schwarz criterion	12.411534	
121	Log likelihood	-915.6461113	Hannan-Quinn criter.	15.4173692				Log likelihood	-7.33E+02	Hannan-Quinn criter.	12.342556	
122	F-statistic	1.54E+02	Durbin-Watson stat	2.1024863				F-statistic	2196.11661	Durbin-Watson stat	2.1625533	
123	Prob(F-statistic)	6.07E-49						Prob(F-statistic)	1.46E-107			
124												
125	Inverted AR Roots	0.42										

	A	B	C	D	E	F	G	H	I	J	K	L
133	Dependent Variable: WC121							Dependent Variable: WT121				
134	Method: ARMA Maximum Likelihood (OPG - BHHH)							Method: ARMA Maximum Likelihood (OPG - BHHH)				
135	Date: 04/12/18 Time: 16:31							Date: 04/12/18 Time: 16:34				
136	Sample: 2007M01 2016M12							Sample: 2007M01 2016M12				
137	Included observations: 120							Included observations: 120				
138	Convergence achieved after 13 iterations							Convergence achieved after 3 iterations				
139	Coefficient covariance computed using outer product of gradients							Coefficient covariance computed using outer product of gradients				
140												
141	Variable	Coefficient	Std. Error	t-Statistic	Prob.			Variable	Coefficient	Std. Error	t-Statistic	Prob.
142												
143	C	11280.58329	759.2538136	14.85746016	2.45E-28			C	13559.1247	564.97812	23.99938	2.19E-46
144	WADDH*WINTER	13.50725465	0.739086824	18.2755993	1.56E-35			WADDH*WINTER	10.0304278	0.4846442	20.696477	2.05E-40
145	WADDH*SHOULDER	9.873196375	0.828539893	11.91637876	1.07E-21			WADDH*SHOULDER	8.73466738	0.8529488	10.240553	7.61E-18
146	WADDH*WINTER*YEAR	-0.353084411	0.087529585	-4.03388651	1.00E-04			@TREND	-24.1432067	7.3872537	-3.268225	0.0014307
147	AR(1)	0.460502647	0.07666195	6.006925786	2.35E-08			AR(1)	0.47219173	0.0920463	5.1299373	1.20E-06
148	AR(2)	0.317682935	0.090806385	3.498464721	6.70E-04			SIGMASQ	1962002.34	159752.5	12.281513	1.34E-22
149	SIGMASQ	1831159.853	173847.4148	10.53314399	1.73E-18							
150								R-squared	0.91144611	Mean dependent var		17139.633
151	R-squared	0.936028296	Mean dependent var	17056.4167				Adjusted R-squared	0.90756217	S.D. dependent var		4726.7548
152	Adjusted R-squared	0.932631568	S.D. dependent var	5372.62232				S.E. of regression	1437.10321	Akaike info criterion		17.429455
153	S.E. of regression	1394.487194	Akaike info criterion	17.3818427				Sum squared resid	235440281	Schwarz criterion		17.56883
154	Sum squared resid	219739182.4	Schwarz criterion	17.5444464				Log likelihood	-1039.76733	Hannan-Quinn criter.		17.486056
155	Log likelihood	-1.04E+03	Hannan-Quinn criter.	17.4478768				F-statistic	234.670332	Durbin-Watson stat		2.1581417
156	F-statistic	275.5676626	Durbin-Watson stat	1.97198058				Prob(F-statistic)	2.86E-58			
157	Prob(F-statistic)	5.10E-65						Inverted AR Roots	0.47			
158												
159	Inverted AR Roots	8.40E-01	-0.38									
160												
161												
162												
163	Dependent Variable: W1121							Dependent Variable: WT131				
164	Method: Stepwise Regression							Method: ARMA Maximum Likelihood (OPG - BHHH)				
165	Date: 04/12/18 Time: 16:37							Date: 04/12/18 Time: 16:40				
166	Sample: 2007M01 2016M12							Sample: 2007M01 2016M12				
167	Included observations: 120							Included observations: 120				
168	No always included regressors							Convergence achieved after 9 iterations				
169	Number of search regressors: 6							Coefficient covariance computed using outer product of gradients				
170	Selection method: Stepwise backwards											
171	Stopping criterion: t-stat forwards/backwards = 2/2											
172												
173	Variable	Coefficient	Std. Error	t-Statistic	Prob.*			Variable	Coefficient	Std. Error	t-Statistic	Prob.
174												
175	C	20346.30344	981.4338019	20.73120307	3.80E-41			C	30630.9299	2594.8306	11.804597	1.93E-21
176	@TREND	-57.24935759	14.254901	-4.01611751	1.04E-04			WADDH*WINTER	50.949006	3.3334736	15.284059	2.86E-29
177								WADDH*SHOULDER	45.9757386	3.1758082	14.476663	1.69E-27
178	R-squared	0.12025122	Mean dependent var	16939.9667				@TREND	-85.7813538	31.127296	-2.755824	0.0068268
179	Adjusted R-squared	0.112795722	S.D. dependent var	5742.73211				WADDH*WINTER*YEAR	-0.96533488	0.5302384	-1.858287	0.0657309
180	S.E. of regression	5409.166771	Akaike info criterion	20.046104				AR(1)	0.23558141	0.0888997	2.6499692	0.0092038
181	Sum squared resid	3452572049	Schwarz criterion	20.0925622				SIGMASQ	46216503.5	6268819.9	7.372676	2.98E-11
182	Log likelihood	-1200.766238	Hannan-Quinn criter.	20.0649709								
183	F-statistic	16.12919989	Durbin-Watson stat	0.93923069				R-squared	0.89743972	Mean dependent var		49386.317
184	Prob(F-statistic)	1.04E-04						Adjusted R-squared	8.92E-01	S.D. dependent var		21317
185								S.E. of regression	7005.67432	Akaike info criterion		20.603867
186	Selection Summary							Sum squared resid	5.55E+09	Schwarz criterion		20.766471
187								Log likelihood	-1229.23202	Hannan-Quinn criter.		20.669901
188	Removed WADDH*SHOULDER							F-statistic	164.798515	Durbin-Watson stat		2.0996056
189	Removed WADDH*WINTER							Prob(F-statistic)	1.79E-53			
190	Removed WADDH*WINTER*YEAR							Inverted AR Roots	0.24			
191	Removed WADDH*SHOULDER*YEAR											
192												
193	*Note: p-values and subsequent tests do not account for stepwise selection.											
194												