

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-20 _____

ELECTRIC REVENUE NORMALIZATION

WORKPAPERS

TARA L. KNOX

REPRESENTING AVISTA CORPORATION

Knox Workpapers
Electric Revenue Normalization
Docket No. UE-20_____
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Revenue adjustment work papers associated with the elimination of adder schedules and related amortization expenses are included in the Andrews 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 sponsored by Mr. Miller. Support for any schedule shifting and adjustments to large customer usage are included with the Miller electric work papers. The preliminary version of the rate design model used to determine this adjustment is included in the Andrews work papers for Adjustment 3.01.

WUTC Docket No. UE-20____
 Normalized Usage by Month
 Twelve Months Ended December 31, 2019
 WASHINGTON ELECTRIC SYSTEM

Revenue Run Billed Usage	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
Residential Schedule 001/002	268,421,353	248,463,642	272,094,704	189,257,389	159,137,014	150,640,891	167,011,451	182,841,598	175,504,030	166,990,371	197,141,569	258,761,012	2,436,265,025
General Svc Schedule 011/012	59,920,327	57,839,488	61,576,960	49,969,769	45,483,878	45,253,592	48,403,035	51,264,596	51,101,182	46,524,849	49,608,710	60,149,115	627,095,503
Large Gen Svc Schedule 021/022	120,581,417	113,255,795	119,857,364	108,672,043	107,356,122	110,519,104	116,480,752	118,121,979	117,306,042	113,212,431	107,981,227	122,684,702	1,376,028,976
Extra Large Gen Schedule 25	92,475,541	91,334,912	85,256,588	90,115,026	81,790,112	92,286,223	90,638,942	96,199,702	98,369,017	91,866,248	93,890,911	82,979,731	1,087,202,954
Pumping Schedule 31/32	4,367,813	4,176,908	4,399,347	4,615,684	11,922,026	18,540,612	23,327,967	25,106,393	24,282,323	10,323,876	4,196,695	4,300,335	139,559,979
Street and Area Lights	1,588,090	1,465,579	1,457,301	1,504,468	1,481,577	1,502,971	1,517,746	1,485,523	1,534,874	1,490,310	1,428,253	1,505,232	17,961,924
Total Revenue Run Billed Usage	547,354,540	516,536,325	544,642,265	444,134,378	407,170,729	418,743,394	447,379,893	475,019,789	468,097,469	430,408,085	454,247,365	530,380,127	5,684,114,360
Net Unbilled Usage													
Residential Schedule 001/002	(744,659)	(2,683,367)	(20,846,183)	(23,671,293)	(2,222,282)	1,855,413	12,095,334	7,754,773	(21,671,300)	21,863,253	22,946,150	402,730	(4,921,431)
General Svc Schedule 011/012	(1,292,707)	581,461	(5,503,135)	(2,343,069)	1,099,299	1,707,800	2,646,801	1,310,656	(5,243,733)	5,116,676	3,081,066	(2,249,056)	(1,087,941)
Large Gen Svc Schedule 021/022	(4,855,163)	(391,203)	(10,975,898)	164,290	6,455,952	5,885,973	5,568,586	341,680	(12,220,860)	15,456,139	(344,627)	(8,756,371)	(3,671,502)
Extra Large Gen Schedule 25	(1,031,038)	(6,550,179)	4,553,432	(10,032,940)	12,560,606	(820,004)	4,580,814	(1,007,572)	(2,841,277)	1,800,578	(10,126,123)	7,291,439	(1,622,264)
Pumping Schedule 31/32	(27,568)	68,064	(376,525)	201,549	1,215,463	2,150,665	1,965,064	1,604,802	(2,204,896)	(2,381,165)	(1,828,420)	(323,959)	63,074
Street and Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Unbilled Usage	(7,951,135)	(8,975,224)	(33,148,309)	(35,681,463)	19,109,038	10,779,847	26,856,599	10,004,339	(44,182,066)	41,855,481	13,728,046	(3,635,217)	(11,240,064)
Other Usage Adjustments													
Extra Large Gen Schedule 25	(190,141)	471,856	305,006	1,708,026	(2,064,495)	(803,850)	1,096,032	3,037,374	(3,661,492)	224,084	(785,057)	983,548	320,891
Weather Adjustment													
Residential Schedule 001/002	6,683,941	(38,586,897)	(21,820,475)	4,045,887	11,850,868	(5,307,066)	15,150,402	(11,998,999)	259,188	(16,096,417)	(1,174,373)	21,135,872	(35,858,069)
General Svc Schedule 011/012	725,103	(4,189,699)	(2,358,273)	328,552	965,607	(966,044)	2,098,785	(1,659,958)	36,202	(1,272,492)	(93,919)	2,276,728	(4,109,408)
Large Gen Svc Schedule 021/022	397,747	(2,259,839)	(1,299,040)	33,177	138,665	(1,511,718)	2,513,371	(1,980,388)	42,496	(97,145)	(9,681)	1,245,007	(2,787,348)
Extra Large Gen Schedule 25	-	-	-	-	-	-	-	-	-	-	-	-	-
Pumping Schedule 31/32	-	-	-	-	-	-	-	-	-	-	-	-	-
Street and Area Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Weather Adjustment	7,806,791	(45,036,435)	(25,477,788)	4,407,616	12,955,140	(7,784,828)	19,762,558	(15,639,345)	337,886	(17,466,054)	(1,277,973)	24,657,607	(42,754,825)
Normalized Test Year Usage													
Residential Schedule 001/002	274,360,635	207,193,378	229,428,046	169,631,983	168,765,600	147,189,238	194,257,187	178,597,372	154,091,918	172,757,207	218,913,346	280,299,614	2,395,485,525
General Svc Schedule 011/012	59,352,723	54,231,250	53,715,552	47,955,252	47,548,784	45,995,348	53,148,621	50,915,294	45,893,651	50,369,033	52,595,857	60,176,787	621,898,154
Large Gen Svc Schedule 021/022	116,124,001	110,604,753	107,582,426	108,869,510	113,950,739	114,893,359	124,562,709	116,483,271	105,127,678	128,571,425	107,626,919	115,173,338	1,369,570,126
Extra Large Gen Schedule 25	91,254,362	85,256,588	90,115,026	81,790,112	92,286,223	90,662,370	96,315,788	98,229,504	91,866,248	93,890,911	82,979,731	91,254,718	1,085,901,581
Pumping Schedule 31/32	4,340,245	4,244,972	4,022,822	4,817,233	13,137,489	20,691,277	25,293,031	26,711,195	22,077,427	7,942,711	2,368,275	3,976,376	139,623,053
Street and Area Lights	1,588,090	1,465,579	1,457,301	1,504,468	1,481,577	1,502,971	1,517,746	1,485,523	1,534,874	1,490,310	1,428,253	1,505,232	17,961,924
Total Normalized Test Year Usage	547,020,055	462,996,522	486,321,174	414,568,557	437,170,412	420,934,563	495,095,081	472,422,158	420,591,797	455,021,597	465,912,382	552,386,065	5,630,440,363
Residential Usage	274,360,635	207,193,378	229,428,046	169,631,983	168,765,600	147,189,238	194,257,187	178,597,372	154,091,918	172,757,207	218,913,346	280,299,614	2,395,485,525
Schedule 001 Customers	218,072	211,902	222,747	215,993	220,087	217,384	217,872	218,567	212,455	225,200	219,433	219,805	2,619,517
Schedule 001 Norm Use/Customer	1,258	978	1,030	785	767	677	892	817	725	767	998	1,275	914
Non-Residential Group Usage	179,816,968	169,080,976	165,320,800	161,641,994	174,637,012	181,579,984	203,004,360	194,109,760	173,098,756	186,883,169	162,591,052	179,326,501	2,131,091,333
Non-Residential Group Customers	37,058	36,002	37,683	36,937	37,134	36,980	37,030	37,108	36,405	37,917	36,879	37,103	444,236
Non-Residential Group Norm Use/Ct	4,852	4,696	4,387	4,376	4,703	4,910	5,482	5,231	4,755	4,929	4,409	4,833	4,797
WA Jurisdiction % of Annual Usage	9.7%	8.2%	8.6%	7.4%	7.8%	7.5%	8.8%	8.4%	7.5%	8.1%	8.3%	9.8%	100.0%

Usage Report 12 Month-Ended

Data Source: Financial Reporting

Data Updated Daily

Service	State Code	Rate Schedule	201901	201902	201903	201904	201905	201906	201907	201908	201909	201910	201911	201912	Total
ED	WA	0001	267,841,299	247,922,335	271,502,364	188,866,567	158,832,437	150,300,788	166,751,651	182,573,435	175,245,165	166,760,828	196,809,184	258,267,007	2,431,763,061
		0002	580,054	541,307	592,340	390,822	304,577	250,103	259,801	268,163	258,865	229,542	332,385	494,005	4,501,964
		0011	53,083,032	51,246,782	54,357,500	44,837,527	41,462,024	41,657,082	44,672,129	47,293,311	47,060,587	42,290,683	44,623,313	53,474,198	565,078,169
		0012	6,837,295	6,592,706	7,219,461	5,132,242	4,021,854	3,596,510	3,730,906	3,971,285	4,020,595	4,234,167	4,985,397	6,674,916	61,017,333
		0021	117,023,159	109,993,861	116,204,908	106,013,436	105,108,727	108,348,275	114,187,517	115,593,591	114,991,795	110,670,009	105,357,158	119,394,840	1,342,887,276
		0022	3,558,257	3,261,934	3,652,456	2,665,607	2,247,395	2,170,829	2,299,235	2,528,388	2,314,247	2,542,422	2,624,069	3,289,862	33,141,701
		0025	92,475,541	91,334,912	85,256,588	90,115,026	81,790,112	92,286,223	90,638,942	96,199,702	98,369,017	91,866,248	93,890,911	82,979,731	1,087,202,954
		0030	6,894	6,617	8,014	155,068	3,631,764	5,611,284	6,277,475	5,034,975	6,450,053	2,328,934	146,425	(6,150)	29,651,355
		0031	4,048,512	3,870,737	4,055,003	4,139,743	7,604,758	11,954,210	15,358,992	18,433,987	16,525,529	7,528,436	3,776,306	4,000,037	101,296,250
		0032	312,407	299,555	336,330	320,872	685,504	975,118	1,691,500	1,637,430	1,306,740	466,506	273,963	306,448	8,612,374
		0041	1,331	5,800	3,443	3,688	1,172	5,540	1,224	1,172	1,198	1,194	1,134	1,320	28,214
		0042	794,948	731,550	730,226	768,962	761,924	751,079	773,990	750,514	767,841	768,639	719,671	792,314	9,111,660
		0044	16,437	16,275	16,254	16,475	16,212	17,032	16,479	16,394	17,426	16,145	15,360	(57,376)	123,112
		0045	36,191	35,813	33,924	33,857	34,885	37,148	33,986	34,799	38,299	33,876	33,764	38,382	424,923
		0046	94,724	87,021	82,040	94,278	69,727	87,191	88,913	84,811	90,197	87,191	83,215	92,626	1,041,933
		0047	423,840	387,189	388,240	379,370	393,290	395,650	391,993	391,200	405,302	382,398	375,706	418,659	4,732,836
		0048	220,619	201,932	203,175	207,838	204,367	209,331	211,160	206,633	214,611	200,869	199,403	219,308	2,499,245
		0058	-	-	-	-	-	-	-	-	-	-	-	-	-
		0058A	-	-	-	-	-	-	-	-	-	-	-	-	-
		0095	-	-	-	-	-	-	-	-	-	-	-	-	-
		0099	-	-	-	-	-	-	-	-	-	-	-	-	-
		025B	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total	547,354,540	516,536,325	544,642,265	444,134,378	407,170,729	418,743,394	447,379,893	475,019,789	468,097,469	430,408,085	454,247,365	530,380,127	5,584,114,360

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Run Date: Jun 3, 2020

Billed Usage

WA Sch 1/2	268,421,353	248,463,642	272,094,704	189,257,389	159,137,014	150,640,891	167,011,451	182,841,598	175,504,030	166,990,371	197,141,569	258,761,012	2,436,265,025
WA Sch 11/12	59,920,327	57,839,488	61,576,960	49,969,769	45,483,878	45,253,592	48,403,035	51,264,596	51,101,182	46,524,849	49,608,710	60,149,115	627,095,503
WA Sch 21/22	120,581,417	113,255,795	119,857,364	108,672,043	107,356,122	110,519,104	116,480,752	118,121,979	117,306,042	113,212,431	107,981,227	122,684,702	1,376,028,976
WA Sch 25	92,475,541	91,334,912	85,256,588	90,115,026	81,790,112	92,286,223	90,638,942	96,199,702	98,369,017	91,866,248	93,890,911	82,979,731	1,087,202,954
WA Sch 30/31/32	4,367,813	4,176,908	4,399,347	4,615,684	11,922,026	18,540,612	23,327,967	25,106,393	24,282,323	10,323,876	4,196,695	4,300,335	139,559,979
WA St & Area Lights	1,588,090	1,465,579	1,457,301	1,504,468	1,481,577	1,502,971	1,517,746	1,485,523	1,534,874	1,490,310	1,428,253	1,505,232	17,961,924

Data Source: Financial Reporting
Data Updated Daily

Unbilled Usage 12 Month-Ended

Service	State Code	Usage Qty	Rate Sch	Journal Source	201901	201902	201903	201904	201905	201906	201907	201908	201909	201910	201911	201912	Total
ED	WA	001	REVUNBL-E	126,345,126	123,665,373	102,864,779	79,253,910	77,047,881	78,919,795	91,004,591	98,756,098	77,115,939	98,956,893	121,833,489	122,208,219	1,197,972,093	
				-127,093,842	-128,345,126	-123,665,373	-102,864,779	-79,253,910	-77,047,881	-78,919,795	-91,004,591	-98,756,098	-77,115,939	-98,956,893	-121,833,489	-1,197,972,093	
				-748,716	-2,679,753	-20,800,594	-23,610,889	-205,029	1,871,914	12,084,796	-7,751,507	21,840,954	22,876,896	374,730	-4,885,623	2,187,580	
002	WA	REVUNBL-E	273,631	270,017	224,428	164,004	147,751	131,250	141,788	145,054	113,913	136,212	205,766	233,766	205,766	2,187,580	
			-269,574	-273,631	-270,017	-224,428	-164,004	-147,751	-131,250	-141,788	-145,054	-113,913	-136,212	-205,766	-233,766	-2,187,580	
			4,057	-3,614	-45,589	-60,424	-16,253	-16,501	10,538	3,266	-31,141	22,299	69,554	28,000	-35,808		
011	WA	REVUNBL-E	24,924,085	25,442,340	20,492,468	18,731,044	20,033,011	21,804,441	24,302,464	25,501,155	20,636,289	25,009,635	27,517,043	25,195,627	279,589,602		
			-26,276,394	-24,924,085	-25,442,340	-20,492,468	-18,731,044	-20,033,011	-21,804,441	-24,302,464	-25,501,155	-20,636,289	-25,009,635	-27,517,043	-25,195,627		
			-1,352,309	518,255	-4,949,872	-1,761,424	1,301,967	1,771,430	2,498,023	1,198,691	-4,864,866	4,373,346	2,507,408	-1,080,767	-1,080,767		
012	WA	REVUNBL-E	3,225,387	3,288,593	2,735,330	2,153,685	1,951,017	1,887,387	2,036,165	2,148,130	1,769,263	2,512,593	3,086,251	3,156,611	29,952,412		
			-3,165,785	-3,225,387	-3,288,593	-2,735,330	-1,953,685	-1,951,017	-1,887,387	-2,036,165	-2,148,130	-1,769,263	-2,512,593	-3,086,251	-3,156,611		
			59,602	63,206	-553,263	-561,645	-202,668	-63,630	148,778	111,965	-378,867	743,330	573,658	72,360	-7,174		
021	WA	REVUNBL-E	54,809,718	54,469,939	43,737,316	44,169,806	50,651,191	56,488,170	61,944,423	62,170,005	50,298,406	65,264,233	64,803,850	56,115,148	664,922,205		
			-59,753,857	-54,809,718	-54,469,939	-43,737,316	-44,169,806	-50,651,191	-56,488,170	-61,944,423	-62,170,005	-50,298,406	-65,264,233	-64,803,850	-56,115,148		
			-4,944,139	-339,779	-10,732,623	432,490	6,481,385	5,836,979	5,456,253	225,582	-11,871,599	14,965,827	-460,383	-8,688,702	-3,638,709		
022	WA	REVUNBL-E	1,678,552	1,627,128	1,383,853	1,115,653	1,090,220	1,139,214	1,251,547	1,367,645	1,018,384	1,508,696	1,624,452	1,556,763	16,362,127		
			-1,589,576	-1,678,552	-1,627,128	-1,383,853	-1,115,653	-1,090,220	-1,139,214	-1,251,547	-1,367,645	-1,018,384	-1,508,696	-1,624,452	-1,556,763		
			88,976	-51,424	-243,275	-288,200	-25,433	48,994	112,333	116,098	-349,261	490,312	115,756	-67,689	-32,793		
025	WA	REVUNBL-E	91,484,247	84,934,068	89,487,500	79,454,560	92,015,166	91,195,162	95,775,976	94,768,404	91,927,127	93,727,705	83,601,582	90,893,021	1,079,264,518		
			-92,515,285	-91,484,247	-84,934,068	-89,487,500	-79,454,560	-92,015,166	-91,195,162	-95,775,976	-94,768,404	-91,927,127	-93,727,705	-83,601,582	-90,893,021		
			-1,031,038	-6,550,179	4,553,432	-10,032,940	12,560,606	-820,004	4,580,814	-1,007,572	-2,841,277	1,800,578	-10,126,123	7,291,439	-1,622,264		
031	WA	REVUNBL-E	1,866,223	1,751,695	1,396,018	1,602,289	2,739,460	6,396,055	8,016,094	6,038,413	3,879,449	2,094,330	1,779,535	42,137,981			
			-1,728,595	-1,866,223	-1,751,695	-1,396,018	-2,739,460	-4,758,420	-6,396,055	-8,016,094	-6,038,413	-3,879,449	-2,094,330	-1,779,535	42,137,981		
			-42,372	65,472	-355,677	206,271	1,137,171	2,018,960	1,637,635	1,620,039	-2,158,964	-1,785,119	-314,795	50,940	-42,087,041		
032	WA	REVUNBL-E	137,133	139,725	118,877	114,155	192,447	651,581	0	636,344	409,129	186,928	143,627	134,463	2,864,409		
			-122,329	-137,133	-139,725	-118,877	-192,447	-651,581	0	-636,344	-409,129	-186,928	-143,627	-134,463	2,864,409		
			14,804	2,592	-20,848	-4,722	78,292	-192,447	651,581	-15,237	-227,215	-43,301	-9,164	12,134	-2,852,275		
0032	WA	REVUNBL-E	-7,951,135	-8,975,224	-33,148,309	-35,681,463	19,109,038	10,779,847	26,856,599	10,004,339	-44,182,066	41,855,481	13,728,046	-3,635,217	-11,240,064		
			-7,951,135	-8,975,224	-33,148,309	-35,681,463	19,109,038	10,779,847	26,856,599	10,004,339	-44,182,066	41,855,481	13,728,046	-3,635,217	-11,240,064		
			-7,951,135	-8,975,224	-33,148,309	-35,681,463	19,109,038	10,779,847	26,856,599	10,004,339	-44,182,066	41,855,481	13,728,046	-3,635,217	-11,240,064		

Run Date: Jan 9, 2020

For Internal Use Only

Unbilled Usage

WA Sch 1/2	-744,659	-2,683,367	-20,846,183	-23,671,293	-2,222,282	1,855,413	12,095,334	7,754,773	-21,671,300	21,863,253	402,730	-4,921,431
WA Sch 11/12	-1,292,707	581,461	-5,503,135	-2,343,069	1,099,299	1,707,800	2,646,801	1,310,656	-5,243,733	5,116,676	3,081,066	-1,087,941
WA Sch 21/22	-4,855,163	-391,203	-10,975,898	164,290	6,455,952	5,885,973	5,568,586	341,680	-12,220,860	15,456,139	-344,627	-3,671,502
WA Sch 25	-1,031,038	-6,550,179	4,553,432	-10,032,940	12,560,606	-820,004	4,580,814	-1,007,572	-2,841,277	1,800,578	-10,126,123	-1,622,264
WA Sch 30/31/32	-27,568	68,064	-376,525	201,549	1,215,463	2,150,665	1,965,814	1,604,802	-2,204,896	-2,381,165	-1,828,420	63,074
WA St & Area Lights	0	0	0	0	0	0	0	0	0	0	0	0

Meters Report 12 Month-Ended

Data Source: Financial Reporting

Data Updated Daily

Service	State Code	Meter Qty	201901	201902	201903	201904	201905	201906	201907	201908	201909	201910	201911	201912	Total
ED	WA	Rate Schedule													
		0001	217,684	211,540	222,366	215,628	219,714	217,018	217,513	218,216	212,112	224,928	219,143	219,477	2,615,339
		0002	388	362	381	365	373	366	359	351	343	272	290	328	4,178
		0011	22,982	22,350	23,346	22,874	23,001	22,905	22,923	22,963	22,548	23,421	22,854	22,937	275,104
		0012	9,681	9,412	9,903	9,672	9,767	9,693	9,737	9,768	9,552	10,012	9,706	9,796	116,699
		0021	1,860	1,809	1,910	1,865	1,846	1,877	1,876	1,868	1,811	1,920	1,846	1,879	22,367
		0022	50	44	50	47	48	48	47	49	44	52	48	47	574
		0025	23	23	23	23	23	23	23	23	23	23	23	23	276
		0030	58	53	53	52	53	52	52	51	53	52	51	51	631
		0031	1,216	1,170	1,203	1,200	1,209	1,201	1,212	1,198	1,197	1,228	1,180	1,197	14,411
		0032	1,211	1,164	1,218	1,227	1,210	1,204	1,183	1,211	1,200	1,232	1,194	1,196	14,450
		0041	4	6	5	3	3	5	2	3	3	3	2	3	42
		0042	352	358	358	356	363	363	369	370	370	373	379	390	4,401
		0044	12	12	12	12	12	12	12	12	12	12	12	12	144
		0045	9	9	9	9	9	9	9	9	9	9	9	9	108
		0046	49	49	48	50	49	49	49	49	49	49	49	49	588
		0047	0	0	0	0	0	0	0	0	0	0	0	0	0
		0048	0	0	0	0	0	0	0	0	0	0	0	0	0
		0058	0	0	0	0	0	0	0	0	0	0	0	0	0
		0058A	0	0	0	0	0	0	0	0	0	0	0	0	0
		0095	0	0	0	0	0	0	0	0	0	0	0	0	0
		0099	0	0	0	0	0	0	0	0	0	0	0	0	0
		025B	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total	255,579	248,361	260,885	253,383	257,680	254,825	255,366	256,141	249,326	263,586	256,786	257,394	3,069,312
		Total	389,557	382,149	394,907	387,360	391,935	388,682	389,856	390,797	384,127	399,081	392,201	392,987	4,683,639

Run Date: Jun 3, 2020

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Billed Customers

WA Sch 1/2	218,072	211,902	222,747	215,993	220,087	217,384	217,872	218,567	212,455	225,200	219,433	219,805	2,619,517
WA Sch 11/12	32,663	31,762	33,249	32,546	32,768	32,598	32,660	32,731	32,100	33,433	32,560	32,733	391,803
WA Sch 21/22	1,910	1,853	1,960	1,912	1,894	1,925	1,923	1,917	1,855	1,972	1,894	1,926	22,941
WA Sch 25	23	23	23	23	23	23	23	23	23	23	23	23	276
WA Sch 30/31/32	2,485	2,387	2,474	2,479	2,472	2,457	2,447	2,460	2,450	2,512	2,425	2,444	29,492
WA St & Area Lights	426	434	432	430	436	438	441	443	443	446	451	463	5,283

Washington Schedule 25 Billing Determinants

KWHs	Acct No.	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Total
1		6,430,355	5,834,220	6,772,223	5,461,138	6,566,826	6,641,355	6,479,962	6,676,870	6,590,296	4,241,370	3,978,169	3,647,007	69,319,790
2		2,489,222	2,924,872	3,069,759	2,967,686	2,938,064	2,839,666	2,858,247	2,982,000	2,826,235	2,997,326	2,858,726	2,088,534	33,830,336
3		1,540,777	1,346,983	1,473,202	1,247,284	1,264,634	1,231,642	1,276,636	1,211,727	1,230,002	1,437,600	1,268,366	1,327,428	15,856,281
4		1,352,948	1,264,439	1,402,042	1,231,146	1,287,875	1,221,032	1,295,526	1,267,560	1,233,765	1,341,955	1,374,169	1,435,293	15,697,750
5		1,702,092	1,591,292	1,673,400	1,630,085	1,897,795	1,883,614	2,068,525	2,152,669	1,809,992	1,622,815	1,374,169	1,680,708	21,239,798
6		2,304,565	2,401,188	2,216,379	2,001,342	1,765,532	1,635,488	1,831,124	2,051,921	2,065,095	2,194,744	2,178,733	2,139,620	24,785,732
7		1,228,851	1,108,142	1,209,638	1,196,999	1,275,578	1,274,087	1,361,623	1,441,545	1,281,734	1,280,936	1,253,442	1,206,101	15,118,676
8		1,014,296	920,665	1,040,462	1,028,404	1,090,068	1,089,215	1,102,202	1,142,723	1,004,531	1,109,871	957,184	1,008,655	12,508,276
9		36,161,892	35,055,804	35,276,106	34,282,368	38,684,638	37,544,592	40,314,368	40,335,278	38,614,866	40,639,056	33,404,254	40,786,226	451,099,448
10		5,425,757	4,067,650	5,397,126	4,048,065	5,523,718	5,344,492	5,579,020	5,677,426	5,432,990	5,384,127	4,750,036	4,830,865	61,461,271
11		5,699,154	4,675,479	5,387,805	3,086,608	5,451,589	5,317,446	5,464,402	5,389,888	4,830,078	5,042,687	3,148,918	4,548,415	58,042,468
12		3,145,376	2,906,864	3,123,668	3,080,977	3,501,914	3,576,136	3,982,117	4,114,333	3,464,177	3,097,832	2,982,909	3,113,639	40,089,941
13		908,496	840,762	892,970	907,828	1,046,361	1,030,852	1,122,425	1,142,553	998,960	891,912	850,725	890,436	11,524,279
14		1,041,768	961,987	979,598	998,028	1,073,129	963,899	1,020,265	951,238	939,187	1,032,137	791,913	874,927	11,628,077
15		1,277,909	1,119,014	1,207,836	1,144,088	1,235,388	1,242,377	1,362,211	1,430,923	1,217,521	1,178,335	1,179,503	1,089,341	14,684,447
16		2,443,134	2,144,335	2,337,362	2,038,019	1,872,601	1,966,054	2,046,626	1,872,030	1,706,678	2,161,275	2,097,822	2,095,229	24,781,165
17		2,625,235	2,513,678	2,712,830	2,454,127	2,385,270	2,280,983	2,338,896	2,448,113	2,425,590	2,582,274	2,521,019	2,595,869	29,873,883
18		4,074,088	3,735,432	3,894,820	3,475,767	3,975,954	4,146,438	4,743,233	5,200,296	4,225,128	3,955,310	4,073,921	4,189,061	49,689,449
19		3,338,542	3,082,229	3,179,446	2,963,474	2,905,484	2,736,304	2,831,325	2,882,762	2,935,838	3,192,197	3,254,874	3,400,228	36,702,704
20		3,026,576	2,990,184	3,046,976	2,713,032	2,616,832	2,535,008	2,541,848	2,592,288	2,438,608	2,575,288	2,593,312	2,605,920	32,275,872
21		2,366,302	2,198,090	2,276,613	2,306,926	2,288,518	2,609,135	3,090,948	3,605,997	3,042,250	2,602,236	2,213,898	2,088,850	30,689,764
22		756,162	715,803	698,617	760,234	810,712	771,814	766,338	799,288	783,356	2,483,057	2,890,653	2,797,082	15,033,116
23		900,862	857,476	846,149	766,487	827,744	800,738	837,921	860,076	779,373	846,573	830,374	815,283	9,969,057
Schedule 25 Total		91,254,362	85,256,588	90,115,026	81,790,112	92,286,223	90,662,370	96,315,788	98,229,504	91,866,248	93,890,911	82,979,731	91,254,718	1,085,901,581
Revenue Run Total		92,475,541	91,334,912	85,256,588	90,115,026	81,790,112	92,286,223	90,638,942	96,199,702	98,369,017	91,866,248	93,890,911	82,979,731	1,087,202,954
Gross Booked Unbilled		91,484,247	84,934,068	89,487,500	79,454,560	92,015,166	91,195,162	95,775,976	94,768,404	91,927,127	93,727,705	83,601,582	90,893,021	1,079,264,518
Booked Unbilled Reversal		(92,515,285)	(91,484,247)	(84,934,068)	(89,487,500)	(79,454,560)	(92,015,166)	(91,195,162)	(95,775,976)	(94,768,404)	(91,927,127)	(93,727,705)	(83,601,582)	(1,080,886,782)
Calendar Books		91,444,503	84,784,733	89,810,020	80,082,086	94,350,718	91,466,219	95,219,756	95,192,130	95,527,740	93,666,826	83,764,788	90,271,170	1,085,580,690
Gross Unbilled True-up		(229,885)	241,971	546,977	2,255,002	190,508	(613,342)	482,689	3,520,064	(141,428)	82,656	(702,401)	281,147	5,913,957
Unbilled Reversal True-up		39,744	229,885	(241,971)	(546,977)	(2,255,002)	(190,508)	613,342	(482,689)	(3,520,064)	141,428	(82,656)	702,401	(5,593,066)
Adj Revenue Runs, Sch 25		91,254,362	85,256,588	90,115,026	81,790,112	92,286,223	90,662,370	96,315,788	98,229,504	91,866,248	93,890,911	82,979,731	91,254,718	1,085,901,581

12.2019	Total	January	February	March	April	May	June	July	August	September	October	November	December
Normal DDH	6,513	1,103	915	775	542	298	137	26	30	158	534	863	1,132
Actual DDH	6,748	1,218	1,218	938	500	180	96	8	8	209	697	875	972
Unbilled DDH	-235	51	-303	-163	42	118	41	18	27	-51	-163	-12	160
Normal DDC	503	0	0	0	0	15	52	209	185	41	1	0	0
Actual DDC	523	0	0	0	0	14	87	152	230	40	0	0	0
Unbilled DDC	-20	0	0	0	0	1	-35	57	-45	1	1	0	0
Rate Group													
WA Res Sched 1	-35,858,069	6,683,941	-38,586,897	-21,820,475	4,045,887	11,850,868	-5,307,066	15,150,402	-11,998,999	259,188	-16,096,417	-1,174,373	21,135,872
No of Cust	218,287	218,066	211,896	222,742	215,988	220,080	217,378	217,866	218,561	212,449	225,194	219,427	219,799
Usage/DDH	0.601	0.601	0.601	0.601	0.446	0.446	0.446	0.000	0.000	0.000	0.446	0.446	0.601
Usage/DDC	0.000	0.000	0.000	0.000	1.220	1.220	1.220	1.220	1.220	1.220	1.220	1.220	0.000
WA Res Sched 11	-846,183	173,282	-1,000,888	-566,523	113,325	324,534	6,048	171,480	-135,810	2,951	-452,177	-32,492	550,087
No of Cust	9,724	9,680	9,411	9,902	9,671	9,766	9,692	9,736	9,767	9,551	10,011	9,705	9,795
Usage/DDH	0.351	0.351	0.351	0.351	0.279	0.279	0.279	0.000	0.000	0.000	0.279	0.279	0.351
Usage/DDC	0.000	0.000	0.000	0.000	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.309	0.000
WA Com Sched 11	-3,205,454	540,441	-3,122,797	-1,754,806	209,600	626,098	-971,577	1,917,840	-1,516,615	33,084	-798,647	-59,857	1,691,782
No of Cust	22,735	22,789	22,164	23,152	22,684	22,817	22,711	22,734	22,772	22,354	23,230	22,673	22,739
Usage/DDH	0.465	0.465	0.465	0.465	0.220	0.220	0.220	0.000	0.000	0.000	0.220	0.220	0.465
Usage/DDC	0.000	0.000	0.000	0.000	1.480	1.480	1.480	1.480	1.480	1.480	1.480	1.480	0.000
WA Ind Sched 11	-57,771	11,380	-66,014	-36,944	5,627	14,975	-515	9,465	-7,533	167	-21,668	-1,570	34,859
No of Cust	125	127	124	129	127	119	129	123	124	124	127	124	124
Usage/DDH	1.757	1.757	1.757	1.757	1.055	1.055	1.055	0.000	0.000	0.000	1.055	1.055	1.757
Usage/DDC	0.000	0.000	0.000	0.000	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350	0.000
WA Res Sched 21	-349,931	70,125	-366,630	-224,125	33,177	97,247	-38,759	114,551	-94,284	1,881	-140,233	-9,681	206,800
No of Cust	48	50	44	50	47	48	48	47	49	44	52	48	47
Usage/DDH	27,500	27,500	27,500	27,500	16,807	16,807	16,807	0.000	0.000	0.000	16,807	16,807	27,500
Usage/DDC	0.000	0.000	0.000	0.000	42.759	42.759	42.759	42.759	42.759	42.759	42.759	42.759	0.000
WA Com Sched 21	-2,311,267	307,653	-1,776,130	-1,011,092	0	39,975	-1,418,231	2,309,691	-1,819,347	39,111	41,544	0	975,559
No of Cust	1,772	1,768	1,718	1,818	1,772	1,758	1,782	1,782	1,778	1,720	1,827	1,757	1,787
Usage/DDH	3,412	3,412	3,412	3,412	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3,412
Usage/DDC	0.000	0.000	0.000	0.000	22.739	22.739	22.739	22.739	22.739	22.739	22.739	22.739	0.000
WA Ind Sched 21	-126,150	19,969	-117,079	-63,823	0	1,443	-54,728	89,129	-66,757	1,504	1,544	0	62,648
No of Cust	76	76	75	76	77	72	78	78	74	75	77	73	76
Usage/DDH	5,152	5,152	5,152	5,152	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5,152
Usage/DDC	0.000	0.000	0.000	0.000	20.047	20.047	20.047	20.047	20.047	20.047	20.047	20.047	0.000

12.2019

	Total	January	February	March	April	May	June	July	August	September	October	November	December
ID Res Sched 1	-17,317,498	3,299,412	-19,603,644	-10,553,768	2,107,972	6,037,703	-1,760,675	6,238,801	-4,933,723	109,884	-8,154,342	-608,998	10,503,880
No of Cust	109,799	109,281	109,288	109,370	109,346	109,458	109,284	109,672	109,858	110,104	110,464	110,566	110,894
Usage/DDH	0.592	0.592	0.592	0.592	0.459	0.459	0.459	0.000	0.000	0.000	0.459	0.459	0.592
Usage/DDC	0.000	0.000	0.000	0.000	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.000
ID Res Sched 11	-394,730	80,680	-476,593	-258,230	51,855	148,492	-4,373	90,844	-71,555	1,587	-205,190	-15,188	262,941
No of Cust	5,666	5,590	5,558	5,598	5,612	5,659	5,607	5,692	5,679	5,667	5,767	5,753	5,807
Usage/DDH	0.283	0.283	0.283	0.283	0.220	0.220	0.220	0.000	0.000	0.000	0.220	0.220	0.283
Usage/DDC	0.000	0.000	0.000	0.000	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.280	0.000
ID Com Sched 11	-2,397,909	405,063	-2,389,625	-1,292,057	160,767	478,113	-671,588	1,360,661	-1,074,933	23,774	-608,825	-46,246	1,256,987
No of Cust	16,196	16,209	16,095	16,177	16,151	16,243	16,106	16,250	16,261	16,184	16,383	16,261	16,033
Usage/DDH	0.490	0.490	0.490	0.490	0.237	0.237	0.237	0.000	0.000	0.000	0.237	0.237	0.490
Usage/DDC	0.000	0.000	0.000	0.000	1.469	1.469	1.469	1.469	1.469	1.469	1.469	1.469	0.000
ID Ind Sched 11	-26,016	5,007	-29,277	-15,498	2,670	7,698	-2,121	7,635	-6,028	132	-9,974	-731	14,471
No of Cust	121	127	125	123	122	123	122	121	121	119	119	117	117
Usage/DDH	0.773	0.773	0.773	0.773	0.521	0.521	0.521	0.000	0.000	0.000	0.521	0.521	0.773
Usage/DDC	0.000	0.000	0.000	0.000	1.107	1.107	1.107	1.107	1.107	1.107	1.107	1.107	0.000
ID Res Sched 21	-72,151	13,417	-79,712	-42,881	6,037	17,401	-9,512	25,088	-19,807	440	-22,989	-1,725	42,092
No of Cust	17	17	17	17	17	17	17	17	17	17	17	17	17
Usage/DDH	15.475	15.475	15.475	15.475	8.455	8.455	8.455	0.000	0.000	0.000	8.455	8.455	15.475
Usage/DDC	0.000	0.000	0.000	0.000	25.891	25.891	25.891	25.891	25.891	25.891	25.891	25.891	0.000
ID Com Sched 21	-1,455,993	217,864	-1,281,373	-694,213	0	18,677	-646,452	1,053,868	-826,064	18,357	18,376	0	664,967
No of Cust	981	996	986	993	988	991	980	981	974	974	975	966	969
Usage/DDH	4.289	4.289	4.289	4.289	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.289
Usage/DDC	0.000	0.000	0.000	0.000	18.847	18.847	18.847	18.847	18.847	18.847	18.847	18.847	0.000
ID Ind Sched 21	-85,903	18,216	-108,223	-59,277	0	0	0	0	0	0	0	0	63,381
No of Cust	57	55	55	56	56	58	57	59	57	58	59	58	61
Usage/DDH	6.494	6.494	6.494	6.494	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.494
Usage/DDC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Electric Adjustment	-64,505,025	11,846,450	-69,004,882	-38,393,712	6,736,917	19,663,224	-10,879,549	28,539,455	-22,571,455	492,060	-26,448,998	-1,950,861	37,466,326
WA subtotal	-42,754,825	7,806,791	-45,036,435	-25,477,788	4,407,616	12,955,140	-7,784,828	19,762,558	-15,639,345	337,886	-17,466,054	-1,277,973	24,657,607
ID subtotal	-21,750,200	4,039,659	-23,968,447	-12,915,924	2,329,301	6,708,084	-3,094,721	8,776,897	-6,932,110	154,174	-8,982,944	-672,888	12,808,719
Summarize by Schedule													
WA Sch 1	-35,858,069	6,683,941	-38,586,897	-21,820,475	4,045,887	11,850,868	-5,307,066	15,150,402	-11,998,999	259,188	-16,096,417	-1,174,373	21,135,872
WA Sch 11	-4,109,408	725,103	-4,189,699	-2,358,273	328,552	965,607	-966,044	2,098,785	-1,659,958	36,202	-1,272,492	-93,919	2,276,728
WA Sch 21	-2,787,348	397,747	-2,259,839	-1,299,040	33,177	138,665	-1,511,718	2,513,371	-1,980,388	42,496	-97,145	-9,681	1,245,007
ID Sch 1	-17,317,498	3,299,412	-19,603,644	-10,553,768	2,107,972	6,037,703	-1,760,675	6,238,801	-4,933,723	109,884	-8,154,342	-608,998	10,503,880
ID Sch 11	-2,818,655	490,750	-2,895,495	-1,565,785	215,292	634,303	-678,082	1,459,140	-1,152,516	25,493	-823,989	-62,165	1,534,399
ID Sch 21	-1,614,047	249,497	-1,469,308	-796,371	6,037	36,078	-655,964	1,078,956	-845,871	18,797	-4,613	-1,725	770,440

Prep by: _____

1st Review: _____

Date: 10/27/2020

Mgr. Review: _____

12.2019 Total January February March April May June July August September October November December

Weighted Block Rate Calculation

	January	February	March	April	May	June	July	August	September	October	November	December
WS weighted block Base Rates (Excluding Adder Schedules ERM, BPA ResX, and PP Rider)	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243	0.09243
WA Sch 1	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341	0.08341
WA Sch 11	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430	0.06430
ERM RRC	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811	0.01811
WS weighted block Base Rates (Excluding Adder Schedules PCA, BPA ResX, SIT, and PP Rider)	0.09637	0.09637	0.09637	0.09637	0.09637	0.09637	0.09637	0.09637	0.09637	0.09637	0.09637	0.09533
ID Sch 1	0.06909	0.06909	0.06909	0.06909	0.06909	0.06909	0.06909	0.06909	0.06909	0.06909	0.06909	0.06244
ID Sch 11	0.05362	0.05362	0.05362	0.05362	0.05362	0.05362	0.05362	0.05362	0.05362	0.05362	0.05362	0.05049
PCA LCAR	0.02484	0.02484	0.02484	0.02484	0.02484	0.02484	0.02484	0.02484	0.02484	0.02484	0.02484	0.02200
WA Schedule 1	Percentage WS Usage											
Block 1	1,563,076,768	1,541,243,052	100.00%	21,833,716	3.00%	100.00%	0.07390	0.07533	1/1/2016	5/1/2018	0.07533	0.07533
Block 2	458,131,072	0	0.00%	458,131,072	62.95%	0.00%	0.08755	0.08598	0.08598	0.08755	0.08755	0.08765
Block 3	247,853,664	0	0.00%	247,853,664	34.05%	0.00%	0.10264	0.10264	0.10264	0.10264	0.10264	0.10276
	2,269,061,504	1,541,243,052	100.00%	727,818,452	100.00%	0.09232	0.09232	0.09066	0.09066	0.09232	0.09243	0.09243
	2,518,371	612	1,373	515,473,628	375,436	612	1,541,243,052	2,518,371	9,237¢	9,405¢	9,243¢	9,243¢
WA Schedule 11	ERM RRC rate											
Block 1	419,807,178	419,807,178	81.44%	0	0.00%	0.00%	0.11507	0.11293	0.11293	0.11507	0.11349	0.11349
Block 2	192,006,796	95,666,450	18.56%	96,340,346	100.00%	100.00%	0.08455	0.08298	0.08298	0.08455	0.08341	0.08341
	611,813,974	515,473,628	100.00%	96,340,346	100.00%	100.00%	8.455¢	8.298¢	8.298¢	8.455¢	8.341¢	8.341¢
WA Schedule 21	Decoupling RRA rate											
Block 1	1,239,435,303	1,239,435,303	93.57%	0	0.00%	0.00%	0.07240	0.07089	0.07089	0.07240	0.07189	0.07189
Block 2	158,308,533	85,144,041	6.43%	73,164,492	100.00%	100.00%	0.06475	0.06340	0.06340	0.06475	0.06430	0.06430
	1,397,743,836	1,324,579,344	100.00%	73,164,492	100.00%	100.00%	0.06475	0.06340	0.06340	0.06475	0.06430	0.06430
	22,836	58,004	594	747,405,252	1,258,258	594	1,258,258	22,836	6,430¢	6,475	6,430¢	6,430¢
ID Schedule 1	ERM RRC rate											
Block 1	631,683,680	631,683,680	84.52%	0	0.00%	0.00%	0.02012	0.02012	0.02012	0.02012	0.01811	0.01811
Block 2	466,874,373	115,721,572	15.48%	351,152,801	100.00%	100.00%	0.01641	0.01641	0.01641	0.01641	0.01900	0.01900
	1,098,558,053	747,405,252	100.00%	351,152,801	100.00%	100.00%	0.01641	0.01641	0.01641	0.01641	0.01900	0.01900
	1,258,258	594	747,405,252	1,258,258	1,258,258	594	1,258,258	1,258,258	6/1/2018	1/1/2019	1/1/2019	1/1/2019
ID Schedule 11	Decoupling RRA rate											
Block 1	262,422,258	262,422,258	89.18%	0	0.00%	0.00%	0.08909	0.08341	0.08341	0.08909	0.09857	0.09857
Block 2	95,790,406	31,836,498	10.82%	63,953,908	100.00%	100.00%	0.06244	0.05676	0.05676	0.06244	0.06909	0.06909
	358,212,664	294,258,756	100.00%	63,953,908	100.00%	100.00%	0.06244	0.05676	0.05676	0.06244	0.06909	0.06909
	252,366	1,166	1,166	294,258,756	252,366	1,166	252,366	6,840¢	6,840¢	6,840¢	6,909¢	6,909¢
ID Schedule 21	PCA LCAR											
Block 1	595,628,304	595,628,304	88.83%	0	0.00%	0.00%	0.05991	0.05543	0.05543	0.05991	0.06361	0.06361
Block 2	52,010,569	74,903,082	11.17%	-22,892,513	100.00%	100.00%	0.05049	0.04601	0.04601	0.05049	0.05362	0.05362
	647,638,873	670,531,386	100.00%	-22,892,513	100.00%	100.00%	0.05049	0.04601	0.04601	0.05049	0.05362	0.05362
	13,657	49,098	49,098	670,531,386	13,657	49,098	13,657	0.000¢	0.000¢	0.000¢	5.362¢	5.362¢
				Fixed Cost Adjustment RRA rate			0.02212	0.02473	0.02473	0.02212	0.02488	0.02488

Weather Sensitivity Regression Summary for January 2009 through December 2018

Adj R ²	Dependent Variable	Shoulder Mo. Heating Apr, May, Jun, Oct, Nov	Winter Mo Heating Dec, Jan, Feb, Mar	Shoulder Mo Cooling Apr, May, Oct, Nov	Summer Mo Cooling Jun, Jul, Aug, Sep	Usage/Cust Base Load	Usage/Cust 2018 Low	Durbin Watson test results
Washington Electric								
0.962	WR1	0.446	0.601	1.220	1.220	576	684	No Autocorrelation
0.944	WR11	0.279	0.351	0.309	0.309	359	384	Corrected with AR(1)
0.914	WC11	0.220	0.465	1.480	1.480	1,892	1,771	Corrected with AR(1),(2)
0.954	W111	1.055	1.757	1.350	1.350	3,489	3,262	Corrected with AR(1),(2)
0.917	WT11	0.209	0.418	1.108	1.108	1,465	1,380	Corrected with AR(1),(2)
0.911	WR21	16.807	27.500	42.759	42.759	45,938	46,172	Corrected with AR(1)
0.950	WC21	0.000	3.412	22.739	22.739	60,948	55,403	Corrected with AR(1)
0.881	WI21	0.000	5.152	20.047	20.047	109,435	96,412	Corrected with AR(1),(2)
0.952	WT21	0.000	3.679	22.835	22.835	62,392	56,932	Corrected with AR(1),(2)
Idaho Electric								
0.970	IR1	0.459	0.592	0.998	0.998	562	668	No Autocorrelation
0.959	IR11	0.220	0.283	0.280	0.280	267	287	Corrected with AR(1)
0.875	IC11	0.237	0.490	1.469	1.469	1,535	1,500	No Autocorrelation
0.796	I111	0.521	0.773	1.107	1.107	2,975	2,926	Corrected with AR(1)
0.890	IT11	0.222	0.435	1.161	1.161	1,232	1,213	No Autocorrelation
0.865	IR21	8.455	15.475	25.891	25.891	26,521	26,529	Corrected with AR(1)
0.862	IC21	0.000	4.289	18.847	18.847	44,874	41,762	Corrected with AR(1)
0.520	I21	0.000	6.494	0.000	0.000	108,429	77,709	Corrected with AR(1),(2)
0.842	IT21	0.000	4.329	16.919	16.919	48,228	43,775	Corrected with AR(1)

Dependent Variable Name Code

1st letter

W = Washington Jurisdiction
 I = Idaho Jurisdiction

2nd letter

R = Residential Class
 C = Commercial Class
 I = Industrial Class

Numerical reference

Rate Schedule

Prep by: _____ 1st Review: _____

	A	B	C	D	E	F	G	H	I	J	K
1	Dependent Variable: WR1						Dependent Variable: WR1				
2	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)				
3	Date: 12/06/19 Time: 10:08						Date: 12/09/19 Time: 11:39				
4	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12				
5	Included observations: 120						Included observations: 120				
6	No always included regressors						Convergence achieved after 3 iterations				
7	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients				
8	Selection method: Stepwise backwards										
9	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.
10											
11	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	676.903603	14.735445	45.9371008	1.67E-74
12							JUNE	92.20688761	16.982755	5.42944239	3.32E-07
13	C	675.17274	15.087098	44.751662	3.67E-74		@TREND	-0.867224256	0.0951237	-9.1168019	3.60E-15
14	WADDH*WINTER	0.6013064	0.0146388	41.076328	3.65E-70		WADDH*WINTER	0.600510061	0.013487	44.5251372	4.61E-73
15	WADDH*SHOULDER	0.4460597	0.0274625	16.242472	1.94E-31		WADDH*SHOULDER	0.437249439	0.0287423	15.2127275	5.13E-29
16	WADDC	1.2196965	0.0766883	15.904602	1.03E-30		WADDC	1.213246297	0.0817713	14.8370746	3.36E-28
17	@TREND	-0.871953	0.1105681	-7.886116	2.06E-12		AR(1)	-0.141466365	0.1104223	-1.2811391	0.20279113
18	JUNE	92.52377	17.48054	5.2929582	5.91E-07		SIGMASQ	1628.243743	229.18149	7.10460398	1.19E-10
19											
20	R-squared	0.9638896	Mean dependent var	967.5166667			R-squared	0.964530376	Mean dependent var	967.516667	
21	Adjusted R-squared	0.9623059	S.D. dependent var	215.1535697			Adjusted R-squared	0.962313524	S.D. dependent var	215.15357	
22	S.E. of regression	41.77202	Akaike info criterion	10.35103723			S.E. of regression	41.76777307	Akaike info criterion	10.3666361	
23	Sum squared resid	198918.78	Schwarz criterion	10.49041181			Sum squared resid	195389.2491	Schwarz criterion	10.5524689	
24	Log likelihood	-615.06223	Hannan-Quinn criter.	10.40763789			Log likelihood	-613.9981671	Hannan-Quinn criter.	10.4421037	
25	F-statistic	6.09E+02	Durbin-Watson stat	2.220412204			F-statistic	435.0902	Durbin-Watson stat	1.97426497	
26	Prob(F-statistic)	1.93E-80					Prob(F-statistic)	4.32E-78			
27											
28		Selection Summary					Inverted AR Roots	-0.14			
29											
30	Removed WADDH*WINTER*YEAR										
31	Removed WADDH*SHOULDER*YEAR										
32	Removed WADDC*YEAR										
33											
34	*Note: p-values and subsequent tests do not account for stepwise selection.										
35											
36											
37											
38	Dependent Variable: WR11						Dependent Variable: WR11				
39	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)				
40	Date: 12/06/19 Time: 10:43						Date: 12/09/19 Time: 12:06				
41	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12				
42	Included observations: 120						Included observations: 120				
43	No always included regressors						Convergence achieved after 12 iterations				
44	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients				
45	Selection method: Stepwise backwards										
46	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.
47											
48	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	358.6885998	9.1322585	39.2770968	6.09E-67
49							JUNE	42.67065041	17.117293	2.4928387	0.01414885
50	C	356.00441	10.218253	34.840045	2.84E-62		WADDH*WINTER	0.249042736	0.0133114	18.7089329	4.13E-36
51	WADDH*WINTER	0.2565709	0.0140086	18.315214	1.30E-35		WADDH*SHOULDER	0.161716523	0.0249803	6.47377286	2.69E-09
52	WADDH*SHOULDER	0.1557862	0.0250797	6.2116389	8.98E-09		WADDC	0.309154973	0.0658595	4.6941566	7.70E-06
53	WADDH*SHOULDER*YEAR	0.0120758	0.0032319	3.7364852	2.94E-04		WADDH*WINTER*YEAR	0.010189185	0.0014927	6.82620244	4.85E-10
54	WADDC	0.3377617	0.0571689	5.9081349	3.73E-08		WADDH*SHOULDER*YEAR	0.011704558	0.0034373	3.40520421	0.00092113
55	WADDH*WINTER*YEAR	0.0100303	0.0016317	6.1472374	1.22E-08		AR(1)	0.38345842	0.1025968	3.73752827	0.00029545
56	JUNE	39.785189	13.016948	3.0564144	2.80E-03		SIGMASQ	793.7045387	104.39841	7.60264965	1.00E-11
57											
58	R-squared	0.9398915	Mean dependent var	517.25			R-squared	0.947322957	Mean dependent var	517.25	
59	Adjusted R-squared	0.9366999	S.D. dependent var	123.2638933			Adjusted R-squared	0.943526414	S.D. dependent var	123.263893	
60	S.E. of regression	31.012587	Akaike info criterion	9.763226149			S.E. of regression	29.29264346	Akaike info criterion	9.6659137	
61	Sum squared resid	1.09E+05	Schwarz criterion	9.925829834			Sum squared resid	95244.54464	Schwarz criterion	9.87497558	
62	Log likelihood	-5.79E+02	Hannan-Quinn criter.	9.829260255			Log likelihood	-570.954822	Hannan-Quinn criter.	9.75081469	
63	F-statistic	2.94E+02	Durbin-Watson stat	1.296519623			F-statistic	249.5224736	Durbin-Watson stat	2.10175207	
64	Prob(F-statistic)	1.52E-66					Prob(F-statistic)	3.03E-67			
65											
66		Selection Summary					Inverted AR Roots	0.38			
67											
68	Removed @TREND										
69	Removed WADDC*YEAR										
70											
71	*Note: p-values and subsequent tests do not account for stepwise selection.										
72											
73											
74	Dependent Variable: WC11						Dependent Variable: WC11				
75	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)				
76	Date: 12/06/19 Time: 10:53						Date: 12/09/19 Time: 13:31				
77	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12				
78	Included observations: 120						Included observations: 120				
79	No always included regressors						Convergence achieved after 9 iterations				
80	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients				
81	Selection method: Stepwise backwards										
82	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.
83											
84	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	1365.78684	91.916838	14.8589407	3.01E-28
85							@TREND	4.617003728	1.1687272	3.95045445	0.00013678
86	C	1333.3103	33.856297	39.381458	1.35E-68		WADDH*WINTER	0.464836054	0.0249283	18.6469469	3.92E-36
87	WADDC	1.5830094	0.1822923	8.6839054	2.98E-14		WADDH*SHOULDER	0.220100885	0.0404982	5.434836	3.24E-07
88	@TREND	5.1001253	0.3071066	16.607019	2.50E-32		WADDC	1.480100589	0.1403904	10.5427497	1.81E-18
89	WADDH*SHOULDER	0.2301211	0.0623469	3.6909799	3.43E-04		AR(1)	0.442947742	0.1036098	4.27515385	4.03E-05

	A	B	C	D	E	F	G	H	I	J	K	
90	WADDH*WINTER	0.4741546	0.0329998	14.368395	1.98E-27		AR(2)	0.357172847	0.0899826	3.96935665	0.00012761	
91							SIGMASQ	6107.885404	695.8968	8.77699881	2.17E-14	
92	R-squared	0.829848	Mean dependent var		1.91E+03							
93	Adjusted R-squared	0.8239297	S.D. dependent var		2.77E+02		R-squared	0.919439598	Mean dependent var		1913.45	
94	S.E. of regression	116.0232	Akaike info criterion		1.24E+01		Adjusted R-squared	0.914404573	S.D. dependent var		276.504224	
95	Sum squared resid	1548059	Schwarz criterion		1.25E+01		S.E. of regression	80.89600072	Akaike info criterion		11.6961875	
96	Log likelihood	-738.17386	Hannan-Quinn criter.		12.4333983		Sum squared resid	732946.2485	Schwarz criterion		11.8820203	
97	F-statistic	140.21659	Durbin-Watson stat		6.51E-01		Log likelihood	-693.7712481	Hannan-Quinn criter.		11.771655	
98	Prob(F-statistic)	2.89E-43					F-statistic	182.6087404	Durbin-Watson stat		2.13788616	
99							Prob(F-statistic)	3.43E-58				
100		Selection Summary										
101							Inverted AR Roots	0.86	-0.42			
102	Removed WADDH*SHOULDER*YEAR											
103	Removed WADDC*YEAR											
104	Removed JUNE											
105	Removed WADDH*WINTER*YEAR											
106												
107	*Note: p-values and subsequent tests do not account for stepwise selection.											
108												
109												
110												
111												
112	Dependent Variable: W111						Dependent Variable: W111					
113	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)					
114	Date: 12/06/19 Time: 10:56						Date: 12/09/19 Time: 13:34					
115	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12					
116	Included observations: 120						Included observations: 120					
117	No always included regressors						Convergence achieved after 18 iterations					
118	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients					
119	Selection method: Stepwise backwards											
120	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.	
121												
122	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	1773.07916	305.48439	5.80415641	6.23E-08	
123							@TREND	15.04865392	4.294861	3.50387446	0.00066216	
124	C	1591.1743	102.42958	15.534325	6.51E-30		WADDH*WINTER	1.036696721	0.1124726	9.21732302	2.27E-15	
125	WADDH*WINTER*YEAR	0.0690201	0.0211901	3.2571783	1.48E-03		WADDH*SHOULDER	1.055236329	0.1338052	7.88636154	2.35E-12	
126	@TREND	17.96541	1.0661068	16.851416	9.92E-33		WADDC	1.349532585	0.3033661	4.44852845	2.06E-05	
127	WADDH*WINTER	1.1051407	0.1486059	7.4367238	2.08E-11		WADDH*WINTER*YEAR	0.072076367	0.0142924	5.04297955	1.80E-06	
128	WADDH*SHOULDER	1.0795	0.1779216	6.0672799	1.74E-08		AR(1)	0.494266114	0.0936568	5.27742087	6.56E-07	
129	WADDC	1.4200016	0.5209192	2.7259534	7.42E-03		AR(2)	0.370170455	0.1117027	3.31388983	0.00124301	
130							SIGMASQ	38082.4864	4812.8	7.91275072	2.05E-12	
131	R-squared	0.8831952	Mean dependent var		3.41E+03							
132	Adjusted R-squared	0.8780722	S.D. dependent var		9.48E+02		R-squared	0.957281654	Mean dependent var		3407.51667	
133	S.E. of regression	331.07309	Akaike info criterion		14.49126211		Adjusted R-squared	0.954202854	S.D. dependent var		948.140232	
134	Sum squared resid	12495471	Schwarz criterion		1.46E+01		S.E. of regression	202.9045479	Akaike info criterion		13.5458157	
135	Log likelihood	-863.47573	Hannan-Quinn criter.		14.54786277		Sum squared resid	4569898.368	Schwarz criterion		13.7548776	
136	F-statistic	172.39754	Durbin-Watson stat		0.483031699		Log likelihood	-803.7489441	Hannan-Quinn criter.		13.6307167	
137	Prob(F-statistic)	1.95E-51					F-statistic	310.9269003	Durbin-Watson stat		1.98216259	
138							Prob(F-statistic)	2.78E-72				
139		Selection Summary										
140							Inverted AR Roots	0.9	-0.41			
141	Removed WADDH*SHOULDER*YEAR											
142	Removed WADDC*YEAR											
143	Removed JUNE											
144												
145	*Note: p-values and subsequent tests do not account for stepwise selection.											
146												
147												
148												
149	Dependent Variable: WT11						Dependent Variable: WT11					
150	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)					
151	Date: 12/06/19 Time: 11:18						Date: 12/09/19 Time: 13:37					
152	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12					
153	Included observations: 120						Included observations: 120					
154	No always included regressors						Convergence achieved after 9 iterations					
155	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients					
156	Selection method: Stepwise backwards											
157	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.	
158												
159	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	1071.926439	72.859101	14.7123205	6.29E-28	
160							@TREND	3.452109774	0.9444009	3.65534359	0.00039261	
161	C	1044.4632	27.102229	38.537908	1.37E-67		WADDH*WINTER	0.41799512	0.0200557	20.8416801	2.41E-40	
162	WADDC	1.181823	0.1459264	8.0987589	6.52E-13		WADDH*SHOULDER	0.20905012	0.0330199	6.33103033	5.20E-09	
163	@TREND	3.8727104	0.2458412	15.752893	1.72E-30		WADDC	1.107906025	0.1163746	9.52016708	4.24E-16	
164	WADDH*SHOULDER	0.2181307	0.0499092	4.3705554	2.73E-05		AR(1)	0.422143877	0.109119	3.86865758	0.00018421	
165	WADDH*WINTER	0.425896	0.0264166	16.122274	2.73E-31		AR(2)	0.378114309	0.0951815	3.97256275	0.00012612	
166							SIGMASQ	3981.410217	471.08887	8.45150553	1.20E-13	
167	R-squared	0.8368405	Mean dependent var		1513.291667							
168	Adjusted R-squared	0.8311654	S.D. dependent var		226.037046		R-squared	0.921420011	Mean dependent var		1513.29167	
169	S.E. of regression	92.877471	Akaike info criterion		11.94121301		Adjusted R-squared	0.916508761	S.D. dependent var		226.037046	
170	Sum squared resid	992015.84	Schwarz criterion		12.0573585		S.E. of regression	65.31306654	Akaike info criterion		11.2683202	
171	Log likelihood	-711.47278	Hannan-Quinn criter.		11.98838023		Sum squared resid	477769.226	Schwarz criterion		11.454153	
172	F-statistic	147.45793	Durbin-Watson stat		0.67590114		Log likelihood	-668.0992105	Hannan-Quinn criter.		11.3437877	
173	Prob(F-statistic)	2.61E-44					F-statistic	187.6141789	Durbin-Watson stat		2.15218002	
174							Prob(F-statistic)	8.56E-59				
175		Selection Summary										
176							Inverted AR Roots	0.86	-0.44			
177	Removed WADDH*SHOULDER*YEAR											
178	Removed WADDC*YEAR											

	A	B	C	D	E	F	G	H	I	J	K
179	Removed JUNE										
180	Removed WADDH*WINTER*YEAR										
181											
182	*Note: p-values and subsequent tests do not account for stepwise selection.										
183											
184											
185											
186	Dependent Variable: WR21						Dependent Variable: WR21				
187	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)				
188	Date: 12/06/19 Time: 11:23						Date: 12/09/19 Time: 15:32				
189	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12				
190	Included observations: 120						Included observations: 120				
191	No always included regressors						Convergence achieved after 7 iterations				
192	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients				
193	Selection method: Stepwise backwards										
194	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.
195											
196	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	27599.93552	3289.3361	8.39073128	1.73E-13
197							@TREND	160.8589869	37.183699	4.32606201	3.33E-05
198	C	26922.51	1787.0695	15.065172	8.58E-29		JUNE	5663.914168	1164.3651	4.86437982	3.82E-06
199	WADDH*WINTER*YEAR	1.0254216	0.3050837	3.3611156	1.06E-03		WADDH*WINTER	18.06128534	2.836894	6.36657032	4.49E-09
200	@TREND	164.44577	15.348614	10.714047	6.57E-19		WADDH*SHOULDER	16.80748554	2.3254363	7.2276698	6.63E-11
201	WADDH*WINTER	18.154781	2.3444978	7.7435692	4.49E-12		WADDC	42.75945304	7.4385158	5.74838508	8.03E-08
202	WADDC	48.678754	8.7618882	5.5557378	1.86E-07		WADDH*WINTER*YEAR	0.943876576	0.3157238	2.98956421	0.00344099
203	WADDH*SHOULDER	16.892976	3.1340009	5.3902269	3.90E-07		AR(1)	0.705652323	0.0823559	8.56832668	6.86E-14
204	JUNE	5819.8555	1994.7044	2.9176532	4.26E-03		SIGMASQ	10787679.27	1190865.6	9.05868773	5.23E-15
205											
206	R-squared	8.35E-01	Mean dependent var		50396.875		R-squared	0.917031995	Mean dependent var		50396.875
207	Adjusted R-squared	0.8267309	S.D. dependent var		11450.53641		Adjusted R-squared	0.911052319	S.D. dependent var		11450.5364
208	S.E. of regression	4766.3549	Akaike info criterion		19.83311403		S.E. of regression	3415.019176	Akaike info criterion		19.1875343
209	Sum squared resid	2.57E+09	Schwarz criterion		19.99571772		Sum squared resid	1.29E+09	Schwarz criterion		19.3965962
210	Log likelihood	-1182.9868	Hannan-Quinn criter.		19.89914814		Log likelihood	-1142.252061	Hannan-Quinn criter.		19.2724353
211	F-statistic	9.56E+01	Durbin-Watson stat		0.600032362		F-statistic	153.3581404	Durbin-Watson stat		2.29773634
212	Prob(F-statistic)	6.18E-42					Prob(F-statistic)	2.45E-56			
213											
214		Selection Summary					Inverted AR Roots	0.71			
215											
216	Removed WADDH*SHOULDER*YEAR										
217	Removed WADDC*YEAR										
218											
219	*Note: p-values and subsequent tests do not account for stepwise selection.										
220											
221											
222											
223	Dependent Variable: WC21						Dependent Variable: WC21				
224	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)				
225	Date: 12/06/19 Time: 11:27						Date: 12/09/19 Time: 15:22				
226	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12				
227	Included observations: 120						Included observations: 120				
228	No always included regressors						Convergence achieved after 3 iterations				
229	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients				
230	Selection method: Stepwise backwards										
231	Stopping criterion: t-stat forwards/backwards = 2/2						Variable	Coefficient	Std. Error	t-Statistic	Prob.
232											
233	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	36088.06454	3140.4522	11.4913593	9.11E-21
234							@TREND	218.0679122	40.032449	5.4472788	2.98E-07
235	C	35236.873	811.84733	43.403324	1.45E-73		WADDH*WINTER	3.41200575	0.5283593	6.45773705	2.70E-09
236	@TREND	231.64675	10.276019	22.54246	3.34E-44		WADDC	22.73938723	3.3183937	6.85252835	3.91E-10
237	WADDC	28.258785	4.6441095	6.0848662	1.54E-08		AR(1)	0.849838827	0.052253	16.2639088	1.74E-31
238	WADDH*WINTER	3.2096335	0.7988086	4.0180257	0.000104634		SIGMASQ	4156870.569	507541.67	8.19020545	4.24E-13
239											
240	R-squared	0.8311334	Mean dependent var		51515.625		R-squared	0.951819929	Mean dependent var		51515.625
241	Adjusted R-squared	0.8267661	S.D. dependent var		9.33E+03		Adjusted R-squared	0.949706768	S.D. dependent var		9327.53044
242	S.E. of regression	3882.2463	Akaike info criterion		19.39898062		S.E. of regression	2091.806212	Akaike info criterion		18.1888247
243	Sum squared resid	1.748E+09	Schwarz criterion		19.49189701		Sum squared resid	498824468.3	Schwarz criterion		18.3281993
244	Log likelihood	-1.16E+03	Hannan-Quinn criter.		19.4367144		Log likelihood	-1085.329483	Hannan-Quinn criter.		18.2454254
245	F-statistic	190.31087	Durbin-Watson stat		0.3190082		F-statistic	450.4247058	Durbin-Watson stat		2.24443789
246	Prob(F-statistic)	1.24E-44					Prob(F-statistic)	2.61E-73			
247											
248		Selection Summary					Inverted AR Roots	0.85			
249											
250	Removed WADDH*WINTER*YEAR										
251	Removed WADDH*SHOULDER*YEAR										
252	Removed WADDH*SHOULDER										
253	Removed WADDC*YEAR										
254	Removed JUNE										
255											
256	*Note: p-values and subsequent tests do not account for stepwise selection.										
257											
258											
259											
260	Dependent Variable: WI21						Dependent Variable: WI21				
261	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)				
262	Date: 12/06/19 Time: 11:38						Date: 12/09/19 Time: 15:34				
263	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12				
264	Included observations: 120						Included observations: 120				
265	No always included regressors						Convergence achieved after 25 iterations				
266	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients				
267	Selection method: Stepwise backwards										

	A	B	C	D	E	F	G	H	I	J	K	
268	Stopping criterion: t-stat forwards/backwards = 2/2							Variable	Coefficient	Std. Error	t-Statistic	Prob.
269												
270	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	66811.78781	7102.9536	9.406198	7.22E-16	
271							@TREND	373.8879772	87.124528	4.29142038	3.76E-05	
272	C	64164.103	1782.3037	36.000656	8.60E-65		WADDH*WINTER	5.15216988	1.2082917	4.26401164	4.18E-05	
273	@TREND	412.42857	22.559644	18.281697	5.92E-36		WADDC	20.04660142	9.9425907	2.0162352	0.04614733	
274	WADDH*WINTER	6.3272021	1.7536789	3.6079592	4.57E-04		AR(1)	0.524534438	0.0924507	5.6736686	1.09E-07	
275	WADDC	25.588843	10.19553	2.5098101	1.35E-02		AR(2)	0.274258964	0.0958287	2.86197226	0.00501804	
276							SIGMASQ	32188932.74	3426564.3	9.39393797	7.71E-16	
277	R-squared	0.7530442	Mean dependent var		92122.41667							
278	Adjusted R-squared	0.7466574	S.D. dependent var		16933.0953		R-squared	0.886794336	Mean dependent var		92122.4167	
279	S.E. of regression	8522.9597	Akaike info criterion		20.97168007		Adjusted R-squared	0.880783416	S.D. dependent var		16933.0953	
280	Sum squared resid	8.426E+09	Schwarz criterion		21.06459646		S.E. of regression	5846.617606	Akaike info criterion		20.2491381	
281	Log likelihood	-1254.3008	Hannan-Quinn criter.		21.00941384		Sum squared resid	3862671929	Schwarz criterion		20.4117417	
282	F-statistic	1.18E+02	Durbin-Watson stat		0.580229689		Log likelihood	-1207.948284	Hannan-Quinn criter.		20.3151722	
283	Prob(F-statistic)	4.45E-35					F-statistic	147.530545	Durbin-Watson stat		2.08196407	
284							Prob(F-statistic)	4.64E-51				
285		Selection Summary										
286							Inverted AR Roots	0.85	-0.32			
287	Removed WADDH*SHOULDER*YEAR											
288	Removed WADDC*YEAR											
289	Removed WADDH*WINTER*YEAR											
290	Removed JUNE											
291	Removed WADDH*SHOULDER											
292												
293	*Note: p-values and subsequent tests do not account for stepwise selection.											
294												
295												
296												
297	Dependent Variable: WT21						Dependent Variable: WT21					
298	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)					
299	Date: 12/06/19 Time: 11:41						Date: 12/09/19 Time: 15:36					
300	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12					
301	Included observations: 120						Included observations: 120					
302	No always included regressors						Convergence achieved after 8 iterations					
303	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients					
304	Selection method: Stepwise backwards											
305	Stopping criterion: t-stat forwards/backwards = 2/2							Variable	Coefficient	Std. Error	t-Statistic	Prob.
306												
307	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	37509.92763	4395.4223	8.53386208	7.35E-14	
308							@TREND	218.2653397	55.02265	3.96682713	0.00012821	
309	C	36269.304	862.60684	42.046159	4.65E-72		WADDH*WINTER	3.679471719	0.4766852	7.71887186	5.10E-12	
310	@TREND	239.44699	10.918511	21.930369	4.46E-43		WADDC	22.83514032	3.4883426	6.54612886	1.80E-09	
311	WADDH*WINTER	3.7080362	0.8487529	4.3688053	2.73E-05		AR(1)	0.735613074	0.0877809	8.38010683	1.65E-13	
312	WADDC	27.684923	4.9344753	5.6105099	1.39E-07		AR(2)	0.146414904	0.0908925	1.6108573	0.11000071	
313							SIGMASQ	4251206.319	528110.3	8.04984553	9.23E-13	
314	R-squared	0.822293	Mean dependent var		53152.40833							
315	Adjusted R-squared	0.8176971	S.D. dependent var		9.66E+03		R-squared	0.954069964	Mean dependent var		53152.4083	
316	S.E. of regression	4.12E+03	Akaike info criterion		19.52027405		Adjusted R-squared	0.951631201	S.D. dependent var		9661.06138	
317	Sum squared resid	1.974E+09	Schwarz criterion		19.61319044		S.E. of regression	2124.748311	Akaike info criterion		18.2289304	
318	Log likelihood	-1167.2164	Hannan-Quinn criter.		19.55800782		Sum squared resid	510144758.3	Schwarz criterion		18.3915341	
319	F-statistic	1.79E+02	Durbin-Watson stat		0.291247955		Log likelihood	-1086.735824	Hannan-Quinn criter.		18.2949645	
320	Prob(F-statistic)	2.39E-43					F-statistic	391.2106165	Durbin-Watson stat		2.06129847	
321							Prob(F-statistic)	3.93E-73				
322		Selection Summary										
323							Inverted AR Roots	0.9	-0.16			
324	Removed WADDH*WINTER*YEAR											
325	Removed WADDH*SHOULDER*YEAR											
326	Removed WADDH*SHOULDER											
327	Removed WADDC*YEAR											
328	Removed JUNE											
329												
330	*Note: p-values and subsequent tests do not account for stepwise selection.											
331												
332												
333												
334	Dependent Variable: WT31						Dependent Variable: WT31					
335	Method: Stepwise Regression						Method: ARMA Maximum Likelihood (OPG - BHHH)					
336	Date: 12/09/19 Time: 11:33						Date: 12/09/19 Time: 15:39					
337	Sample: 2009M01 2018M12						Sample: 2009M01 2018M12					
338	Included observations: 120						Included observations: 120					
339	No always included regressors						Convergence achieved after 10 iterations					
340	Number of search regressors: 9						Coefficient covariance computed using outer product of gradients					
341	Selection method: Stepwise backwards											
342	Stopping criterion: t-stat forwards/backwards = 2/2							Variable	Coefficient	Std. Error	t-Statistic	Prob.
343												
344	Variable	Coefficient	Std. Error	t-Statistic	Prob.*		C	6374.77944	158.72999	40.1611525	9.91E-69	
345							WADDH*WINTER	-4.557026424	0.2068126	-22.034564	1.03E-42	
346	WADDC	15.964047	1.2913556	12.36224	6.58E-23		WADDH*SHOULDER	-6.128748578	0.5192922	-11.80212	1.96E-21	
347	C	6398.4623	204.68493	31.260056	2.44E-58		WADDC	15.81043103	1.2387922	12.7627794	1.21E-23	
348	WADDH*WINTER	-4.5226415	0.2342282	-19.3087	4.94E-38		AR(1)	0.235954575	0.0932239	2.53105194	0.0127474	
349	WADDH*SHOULDER	-6.3795304	0.4425359	-14.41585	1.27E-27		AR(2)	-0.317033209	0.097871	-3.2392975	0.00157385	
350							SIGMASQ	576127.3455	70909.278	8.12485134	6.25E-13	
351	R-squared	0.9381684	Mean dependent var		4.63E+03							
352	Adjusted R-squared	0.9365693	S.D. dependent var		3269.876406		R-squared	0.945663695	Mean dependent var		4631.96667	
353	S.E. of regression	823.53335	Akaike info criterion		16.29785027		Adjusted R-squared	0.942778582	S.D. dependent var		3269.87641	
354	Sum squared resid	7.87E+07	Schwarz criterion		16.39076666		S.E. of regression	782.187094	Akaike info criterion		16.2206651	
355	Log likelihood	-973.87102	Hannan-Quinn criter.		16.33558404		Sum squared resid	69135281.46	Schwarz criterion		16.3832687	
356	F-statistic	5.87E+02	Durbin-Watson stat		1.639883394		Log likelihood	-966.2399031	Hannan-Quinn criter.		16.2866992	

	A	B	C	D	E	F	G	H	I	J	K
357	Prob(F-statistic)	6.51E-70					F-statistic	327.7734793	Durbin-Watson stat		1.87767217
358							Prob(F-statistic)	5.14E-69			
359		Selection Summary									
360							Inverted AR Roots	.12+.55i	.12-.55i		
361	Removed @TREND										
362	Removed WADDH*WINTER*YEAR										
363	Removed JUNE										
364	Removed WADDC*YEAR										
365	Removed WADDH*SHOULDER*YEAR										
366											
367	*Note: p-values and subsequent tests do not account for stepwise										
368	selection.										
369											
370											
371	Dependent Variable: WT31		DDC only with seasonal baseload								
372	Method: Least Squares										
373	Date: 12/17/19 Time: 15:58										
374	Sample: 2009M01 2018M12										
375	Included observations: 120										
376											
377	Variable	Coefficient	Std. Error	t-Statistic	Prob.						
378											
379	C	3884.1922	176.88531	21.958818	3.95E-43						
380	WINTER	-2191.2172	261.89767	-8.366692	1.52E-13						
381	SUMMER	2681.1847	513.06549	5.2258137	7.74E-07						
382	WADDC	16.209009	2.6583517	6.0973907	1.45E-08						
383											
384	R-squared	0.8639683	Mean dependent var		4631.966667						
385	Adjusted R-squared	0.8604502	S.D. dependent var		3269.876406						
386	S.E. of regression	1221.5069	Akaike info criterion		17.08632324						
387	Sum squared resid	173081173	Schwarz criterion		17.17923963						
388	Log likelihood	-1021.1794	Hannan-Quinn criter.		17.12405701						
389	F-statistic	245.58076	Durbin-Watson stat		1.955104014						
390	Prob(F-statistic)	4.54E-50									

AVISTA UTILITIES
Weather Normalization
Degree Day Comparison
Twelve Months Ended December 31, 2019

CALENDAR MONTHLY DDH & DDC	ACTUAL DDH	ACTUAL DDC	1990 - 2019 30 YEAR AVG		ADJUSTMENT		ADJUSTMENT	
			DDH	DDC	NORM - ACT DDH	NORM - ACT DDC		
Jan - 19	1,052	0	1,103	0	51	0	0	0
Feb - 19	1,218	0	915	0	-303	0	0	0
Mar - 19	938	0	775	0	-163	0	0	0
Apr - 19	500	0	542	0	42	0	0	0
May - 19	180	14	298	15	118	1	1	1
Jun - 19	96	87	137	52	41	-35	18	57
Jul - 19	8	152	26	209	18	27	27	-45
Aug - 19	3	230	30	185	41	-51	1	1
Sep - 19	209	40	158	41	-163	1	0	0
Oct - 19	697	0	534	1	-12	0	0	0
Nov - 19	875	0	863	0	160	0	0	0
Dec - 19	972	0	1,132	0	-235	0	0	0
	6,748	523	6,513	503	-229	-21		
Heating Season Totals	6,528	523	6,299	502				
Summer Season Totals								

Spokane AP Weather Station
Heating Degree Day History

Worksheet Ref. C-WN-

Heating
Season

	July	August	September	October	November	December	January	February	March	April	May	June	Total
1	15	24	169	517	836	1,021	1,052	1,218	938	500	180	96	6,566
2	0	3	166	560	811	1,179	960	968	783	543	125	103	6,201
3	20	10	158	508	637	1,289	1,379	992	741	556	272	66	6,628
4	5	11	197	322	899	1,054	1,048	753	683	308	198	110	5,588
5	7	5	94	357	906	991	1,049	713	597	519	157	25	5,420
6	0	7	160	590	898	1,213	1,090	1,085	780	537	227	106	6,693
7	20	14	68	504	779	1,040	1,243	869	730	561	272	140	6,240
8	40	8	99	516	890	1,118	1,078	930	809	494	345	175	6,502
9	48	47	158	472	948	1,096	1,103	1,006	790	698	401	192	6,959
10	17	23	103	668	834	1,252	919	751	733	538	420	190	6,448
11	8	52	142	529	785	1,328	1,204	957	936	586	303	93	6,923
12	0	27	194	553	894	1,126	1,243	952	880	683	274	176	7,002
13	8	30	170	552	865	1,122	1,243	864	685	548	270	136	6,493
14	11	22	229	489	919	1,258	905	949	812	525	301	104	6,524
15	16	34	204	480	857	1,020	1,128	842	711	503	260	166	6,221
16	9	1	151	418	1,056	1,083	1,193	945	668	455	315	131	6,425
17	28	26	219	678	839	962	957	885	745	588	365	90	6,382
18	33	20	100	588	744	1,136	1,063	934	938	581	412	137	6,686
19	51	43	285	572	1,134	1,245	1,168	1,060	795	634	320	201	7,508
20	75	36	181	540	703	1,030	1,143	908	799	496	363	142	6,416
21	0	20	101	565	748	1,119	1,010	836	769	594	448	186	6,396
22	35	15	116	549	785	1,098	1,058	747	721	505	276	90	5,995
23	35	49	281	603	949	1,241	1,130	928	794	642	264	154	7,070
24	21	88	146	648	742	1,120	1,217	1,045	880	556	471	143	7,077
25	26	13	81	558	970	1,071	1,045	771	771	578	262	170	6,316
26	151	83	217	457	1,063	1,051	904	998	713	469	262	160	6,528
27	32	60	232	481	916	1,297	1,331	1,102	834	578	192	165	7,220
28	15	16	108	574	918	992	1,024	750	598	477	206	61	5,739
29	37	42	54	610	774	1,356	1,212	716	866	568	406	248	6,889
30	22	76	149	554	805	1,048	976	968	739	454	373	166	6,330
1990 - 2019 30-Year Average	26	30	158	534	863	1,132	1,103	915	775	542	298	137	6,513

Prep by: _____ 1st Review: _____

Date: 10/27/2020 Mgr. Review: _____



TLK-R-20

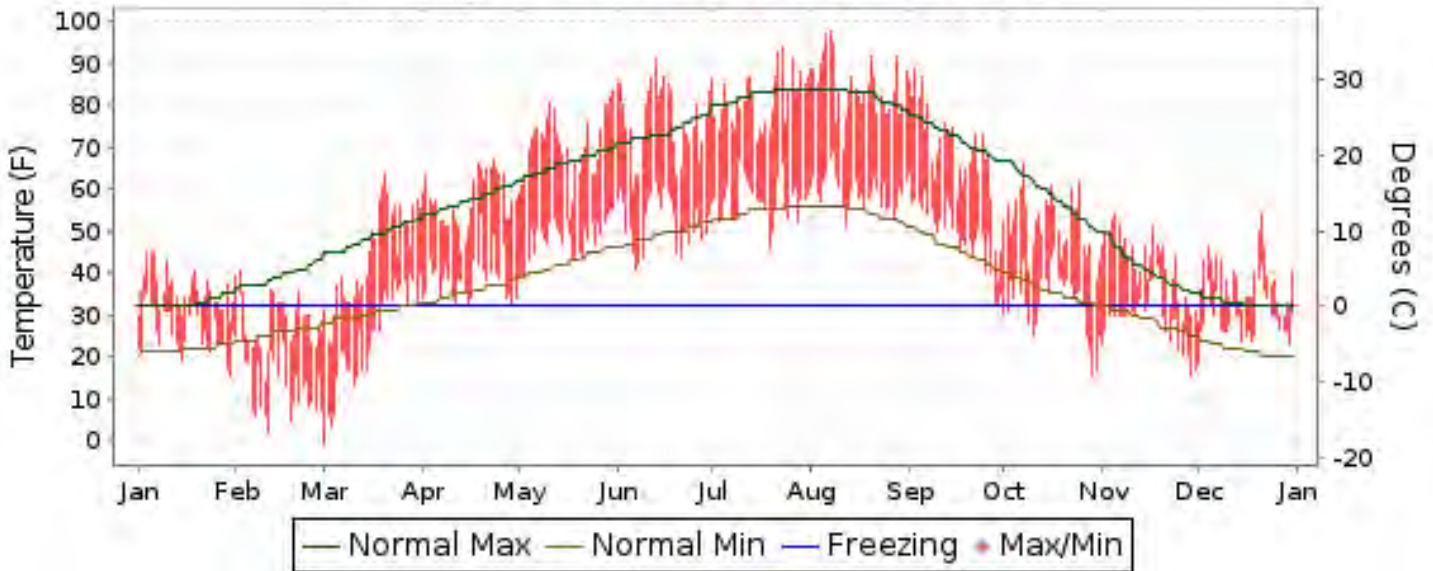


2019 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

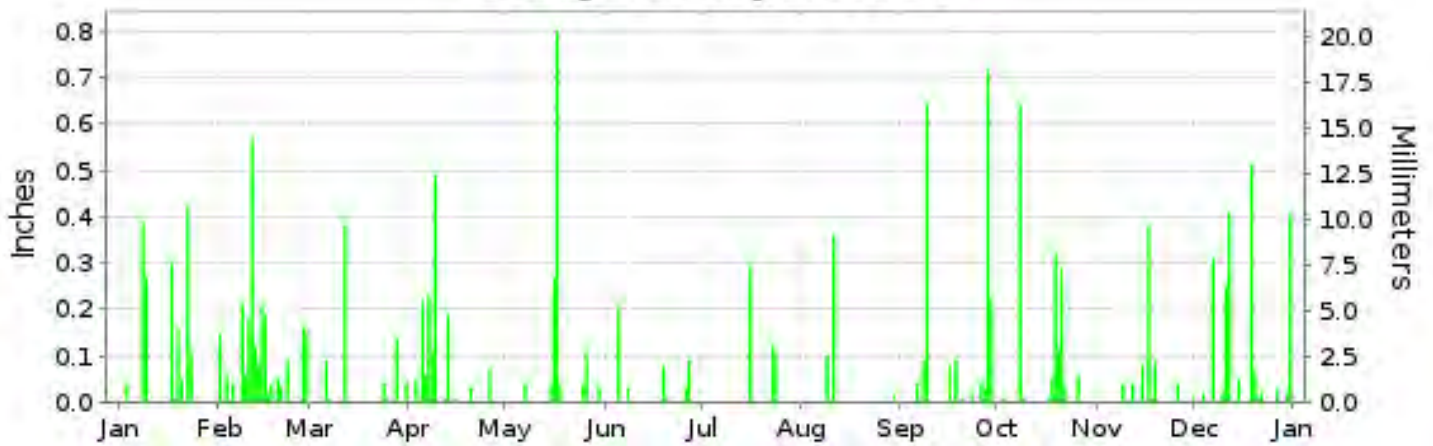
ISSN 0198-5485

SPOKANE, WASHINGTON (KGEG)

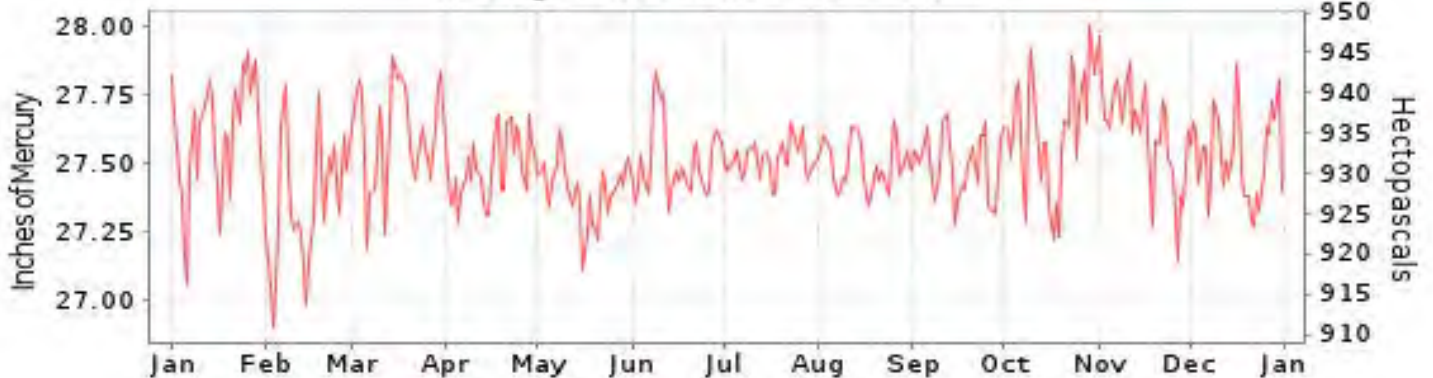
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

NATIONAL
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NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL CENTERS for
ENVIRONMENTAL INFORMATION (NCEI)
ASHEVILLE, NORTH CAROLINA

Mary S. Wohlgenant
DIRECTOR
NCEI

METEOROLOGICAL DATA FOR 2019

SPOKANE (KGEF)

LATITUDE: 47° 37'N LONGITUDE: 117° 31'W ELEVATION (FT): GRND: 2353 BARO: 2384 TIME ZONE: PACIFIC (UTC -8) WBAN: 24157

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	35.7	28.3	44.5	57.3	70.4	76.4	81.6	84.6	68.7	51.3	42.2	37.7	56.6	
	HIGHEST DAILY MAXIMUM	45	41	64	67	83	91	94	98	89	66	54	54	98	
	DATE OF OCCURRENCE	06+	02	20	23	31	13	23	07	03	07	05	21	AUG 07	
	MEAN DAILY MINIMUM	26.1	14.3	24.6	38.7	48.4	52.4	57.2	59.5	49.6	33.2	29.0	29.1	38.5	
	LOWEST DAILY MINIMUM	15	2	-1	32	39	41	46	51	32	16	15	18	-1	
	DATE OF OCCURRENCE	30	11	01	29+	03+	07	19	12	29+	29	29	01	MAR 01	
	AVERAGE DRY BULB	30.9	21.3	34.6	48.0	59.4	64.4	69.4	72.1	59.2	42.3	35.6	33.4	47.6	
	MEAN WET BULB	29.2	20.3	30.0	41.3	49.0	52.5	55.5	57.2	50.5		31.8			
	MEAN DEW POINT	26.5	16.1	23.1	32.6	37.9	41.5	43.7	45.5	43.5		26.6			
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	1	3	7	0	0	0	0	0	11
	MAXIMUM <= 32°	8	19	4	0	0	0	0	0	0	0	1	5	7	44
MINIMUM <= 32°	25	27	21	2	0	0	0	0	0	2	13	24	25	139	
MINIMUM <= 0°	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
H/C	HEATING DEGREE DAYS	1052	1218	938	500	180	96	8	3	209	697	875	972	6748	
	COOLING DEGREE DAYS	0	0	0	0	14	87	152	230	40	0	0	0	523	
RH	MEAN (PERCENT)	84	78	66	59	48	46	42	43	62	63	73	82	62	
	HOUR 04 LST	86	81	79	75	65	68	61	62	75	76	79	86	74	
	HOUR 10 LST	84	74	60	55	39	38	37	38	58	55	68	82	57	
	HOUR 16 LST	81	74	54	42	35	31	26	28	49	49	69	78	51	
	HOUR 22 LST	85	81	71	63	55	49	44	46	65	69	76	85	66	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	16	8	3	1	1	0	0	0	2	1	8	7	47	
	THUNDERSTORMS	0	0	0	1	1	2	1	2	0	0	0	0	7	
PR	MEAN STATION PRESS. (IN.)	27.60	27.36	27.62	27.49	27.40	27.51	27.51	27.50	27.49	27.63	27.62	27.53	27.52	
	MEAN SEA-LEVEL PRESS. (IN.)	30.15	29.91	30.16	29.98	29.85	29.96	29.95	29.93	29.95	30.15	30.15	30.07	30.02	
WINDS	RESULTANT SPEED (MPH)	1.9	2.6	1.5	4.8	0.9	6.2	5.6	3.2	2.5		1.9	3.1		
	RES. DIR. (TENS OF DEGS.)	13	07	13	22	14	21	21	21	20		07	18		
	MEAN SPEED (MPH)	7.2	7.0	6.4	9.5	8.6	9.2	8.3	7.1	8.0	7.7	5.7	6.0	7.6	
	PREVAIL.DIR.(TENS OF DEGS.)	05	05	05	22	05	20	21	22	21	05	05	17	05	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	36	30	29	39	30	31	52	33	28	37	30	28	52	
	DIR. (TENS OF DEGS.)	22	05	24	25	28	22	22	22	24	22	05	20	22	
	DATE OF OCCURRENCE	06	09	25	27	07	26	23	10	24	25	27	21	JUL 23	
	MAXIMUM 3-SECOND WIND:														
SPEED (MPH)	47	40	33	49	38	45	61	44	40	46	38	38	61		
DIR. (TENS OF DEGS.)	22	05	23	26	26	26	22	22	24	22	05	21	22		
DATE OF OCCURRENCE	06	09	25	27	07	19	23	10	24	25	28	21	JUL 23		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.75	2.40	0.71	1.47	1.35	0.44	0.52	0.48	1.98	1.53	0.68	2.14	15.45	
	GREATEST 24-HOUR (IN.)	0.57	0.57	0.38	0.58	0.90	0.20	0.29	0.36	0.81	0.65	0.38	0.51	0.90	
	DATE OF OCCURRENCE	08-09	11	12	08-09	16-17	05	16	11	28-29	08-09	17	19	MAY 16-17	
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	9	18	7	11	8	6	3	3	11	10	7	14	107		
PRECIPITATION 0.10	6	9	2	5	3	1	3	2	3	4	1	5	44		
PRECIPITATION 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	5.2	29.9	3.8	0.0	0.0	0.0	0.0	0.0	3.3	3.6	0.6	10.5	56.9	
	GREATEST 24-HOUR (IN.)	3.8	7.2	3.2	0.0	0.0	0.0	0.0	0.0	1.9	3.3	0.6	3.4	7.2	
	DATE OF OCCURRENCE	22	11	12						28	08	26	31	FEB 11	
	MAXIMUM SNOW DEPTH (IN.)	5	19	16	0	0	0	0	0	3	4	1	2	19	
	DATE OF OCCURRENCE	23	13	13+						29	09	27	11	FEB 13	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	1	9	1	0	0	0	0	0	2	1	0	4	18		

HEATING DEGREE DAYS (base 65°F) 2019 SPOKANE (KGE)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1990-91	37	42	54	610	774	1356	1212	716	866	568	406	248	6889
1991-92	15	16	108	574	918	992	1024	750	598	477	206	61	5739
1992-93	32	60	232	481	916	1297	1331	1102	834	578	192	165	7220
1993-94	151	83	217	457	1063	1051	904	998	713	469	262	160	6528
1994-95	26	13	81	558	970	1071	1045	771	771	578	262	170	6316
1995-96	21	88	146	648	742	1120	1217	1045	880	556	471	143	7077
1996-97	35	49	281	603	949	1241	1130	928	794	642	264	154	7070
1997-98	35	15	116	549	785	1098	1058	747	721	505	276	90	5995
1998-99	0	20	101	565	748	1119	1010	836	769	594	448	186	6396
1999-00	75	36	181	540	703	1030	1143	908	799	496	363	142	6416
2000-01	51	43	285	572	1134	1245	1168	1060	795	634	320	201	7508
2001-02	33	20	100	588	744	1136	1063	934	938	581	412	137	6686
2002-03	28	26	219	678	839	962	957	885	745	588	365	90	6382
2003-04	9	1	151	418	1056	1083	1193	945	668	455	315	131	6425
2004-05	16	34	204	480	857	1020	1128	842	711	503	260	166	6221
2005-06	11	22	229	489	919	1258	905	949	812	525	301	104	6524
2006-07	8	30	170	552	865	1122	1243	864	685	548	270	136	6493
2007-08	0	27	194	553	894	1126	1243	952	880	683	274	176	7002
2008-09	8	52	142	529	785	1328	1204	957	936	586	303	93	6923
2009-10	17	23	103	668	834	1252	919	751	733	538	420	190	6448
2010-11	48	47	158	472	948	1096	1103	1006	790	698	401	192	6959
2011-12	40	8	99	516	890	1118	1078	930	809	494	345	175	6502
2012-13	20	14	68	504	779	1040	1243	869	730	561	272	140	6240
2013-14	0	7	160	590	898	1213	1090	1085	780	537	227	106	6693
2014-15	7	5	94	357	906	991	1049	713	597	519	157	25	5420
2015-16	5	11	197	322	899	1054	1048	753	683	308	198	110	5588
2016-17	20	10	158	508	637	1289	1379	992	741	556	272	66	6628
2017-18	0	3	166	560	811	1179	960	968	783	543	125	103	6201
2018-19	15	24	169	517	836	1021	1052	1218	938	500	180	96	6566
2019-	8	3	209	697	875	972							

WBAN : 24157

COOLING DEGREE DAYS (base 65°F) 2019 SPOKANE (KGE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1990	0	0	0	0	0	42	213	157	68	0	0	0	480
1991	0	0	0	0	0	0	139	187	20	0	0	0	346
1992	0	0	0	0	25	159	124	209	11	8	0	0	536
1993	0	0	0	0	36	27	11	64	34	0	0	0	172
1994	0	0	0	0	9	37	280	159	43	0	0	0	528
1995	0	0	0	0	14	29	119	59	38	0	0	0	259
1996	0	0	0	0	0	16	198	150	17	0	0	0	381
1997	0	0	0	0	14	9	122	209	30	6	0	0	390
1998	0	0	0	0	6	22	325	234	110	0	0	0	697
1999	0	0	0	0	7	41	118	210	14	0	0	0	390
2000	0	0	0	0	0	29	146	129	16	0	0	0	320
2001	0	0	0	0	29	19	146	213	54	0	0	0	461
2002	0	0	0	0	0	63	231	81	30	0	0	0	405
2003	0	0	0	0	12	58	266	174	66	2	0	0	578
2004	0	0	0	0	0	96	249	225	1	0	0	0	571
2005	0	0	0	0	13	32	179	174	11	0	0	0	409
2006	0	0	0	0	41	66	285	161	62	0	0	0	615
2007	0	0	0	0	7	56	338	143	32	0	0	0	576
2008	0	0	0	0	27	60	182	176	29	4	0	0	478
2009	0	0	0	0	23	47	245	196	78	0	0	0	589
2010	0	0	0	0	4	19	178	165	10	4	0	0	380
2011	0	0	0	0	5	18	103	195	105	0	0	0	426
2012	0	0	0	2	8	20	251	227	27	0	0	0	535
2013	0	0	0	0	30	48	284	239	108	0	0	0	709
2014	0	0	0	0	6	14	348	238	47	1	0	0	654
2015	0	0	0	0	32	225	300	251	20	0	0	0	828
2016	0	0	0	6	6	114	152	209	7	0	0	0	494
2017	0	0	0	0	35	86	303	281	89	0	0	0	794
2018	0	0	0	1	37	31	280	209	15	0	0	0	573
2019	0	0	0	0	14	87	152	230	40	0	0	0	523