

Otter Tail Power Company
 Allocation of Weather Normalized kWhs to Customer Groups

9) WN kWh

* Output data from the noted SAS program that appends each monthly estimated Weather Normalized regression results

Comparison of Calendar Month kWh to Weather Normalized kWh
 States: 'SD'
 (E:\Weather Normalized\Weather Normalization Adjustment for COSS\wnstateclass_cm_cos.sas)

434,650,633	Weather Normalized Sales Estimate (cell H483)
426,769,586	CIS339 - Actual Billed
91,649	Bill Adjustments
1,835,830	Unbilled Incremental
5,953,568	Adjusted Weather Normalized kWh

A	B	C	D	E	F	G	H	I	J
St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	1	11	01_Residential	10,198,355	10,382,702	(184,347)	5.41%	321,901.86
SD	2017	1	12	01_Residential	1,294,353	1,330,358	(36,005)	1.06%	62,870.98
SD	2017	1	13	08_Water Heating	431,101	432,314	(1,213)	0.04%	2,118.11
SD	2017	1	14	09_Controlled - Interruptible	1,713,038	1,774,388	(61,349)	1.80%	107,126.00
SD	2017	1	15	09_Controlled - Interruptible	-	-	-	0.00%	-
SD	2017	1	16	10_Controlled - Deferred	388,504	403,703	(15,199)	0.45%	26,540.09
SD	2017	1	17	06_Lighting	34,424	34,424	-	0.00%	-
SD	2017	1	21	02_Farm	861,568	871,710	(10,143)	0.30%	17,711.44
SD	2017	1	22	02_Farm	-	-	-	0.00%	-
SD	2017	1	23	02_Farm	-	-	-	0.00%	-
SD	2017	1	24	08_Water Heating	1,820	1,820	-	0.00%	-
SD	2017	1	25	09_Controlled - Interruptible	89,011	91,766	(2,754)	0.08%	4,808.96
SD	2017	1	26	09_Controlled - Interruptible	-	-	-	0.00%	-
SD	2017	1	27	10_Controlled - Deferred	37,959	40,021	(2,062)	0.06%	3,600.61
SD	2017	1	28	06_Lighting	7,780	7,780	-	0.00%	-
SD	2017	1	29	05_Irrigation	-	-	-	0.00%	-
SD	2017	1	30	09_Controlled - Interruptible	-	-	-	0.00%	-
SD	2017	1	31	03_General Service	3,946,360	3,999,768	(53,408)	1.57%	93,259.64
SD	2017	1	32	09_Controlled - Interruptible	446,107	461,917	(15,810)	0.46%	27,607.00
SD	2017	1	33	09_Controlled - Interruptible	89,089	89,089	-	0.00%	-
SD	2017	1	34	08_Water Heating	29,583	29,666	(83)	0.00%	144.93
SD	2017	1	35	10_Controlled - Deferred	495,632	517,884	(22,252)	0.65%	38,855.85
SD	2017	1	38	06_Lighting	69,745	69,745	-	0.00%	-
SD	2017	1	41	03_General Service	2,768,602	2,789,286	(20,684)	0.61%	36,117.85
SD	2017	1	42	04_Large General Service	351,957	351,957	-	0.00%	-
SD	2017	1	43	04_Large General Service	17,643,777	17,702,602	(58,824)	1.73%	102,716.92
SD	2017	1	44	09_Controlled - Interruptible	131,950	131,950	-	0.00%	-
SD	2017	1	45	09_Controlled - Interruptible	871,527	886,503	(14,976)	0.44%	26,150.70
SD	2017	1	46	08_Water Heating	1,438	1,438	-	0.00%	-
SD	2017	1	47	10_Controlled - Deferred	275,236	282,916	(7,680)	0.23%	13,410.61
SD	2017	1	49	06_Lighting	31,256	31,256	-	0.00%	-
SD	2017	1	51	07_OPA	360,699	363,552	(2,852)	0.08%	4,980.09
SD	2017	1	61	06_Lighting	211,825	211,825	-	0.00%	-
SD	2017	2	11	01_Residential	8,112,179	9,000,890	(888,711)	26.07%	1,551,843.69
SD	2017	2	12	01_Residential	894,801	1,047,699	(152,898)	4.48%	266,986.45
SD	2017	2	13	08_Water Heating	371,937	378,167	(6,230)	0.18%	10,878.66
SD	2017	2	14	09_Controlled - Interruptible	1,320,649	1,618,728	(298,080)	8.74%	520,499.43
SD	2017	2	16	10_Controlled - Deferred	368,228	458,707	(90,479)	2.65%	157,992.04
SD	2017	2	17	06_Lighting	34,331	34,331	-	0.00%	-
SD	2017	2	21	02_Farm	725,328	777,508	(52,181)	1.53%	91,117.08
SD	2017	2	24	08_Water Heating	1,788	1,788	-	0.00%	-

Row Labels	Sum of Adjusted kWh
01_Residential	2,865,673
02_Farm	70,662
03_General Service	1,143,965
04_Large General Service	595,103
05_Irrigation	19,386
06_Lighting	-
07_OPA	42,823
08_Water Heating	11,118
09_Controlled - Interruptible	767,545
10_Controlled - Deferred	437,293
Grand Total	5,953,568

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St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	2	25	09_Controlled - Interruptible	76,157	91,378	(15,220)	0.45%	26,576.76
SD	2017	2	27	10_Controlled - Deferred	29,740	40,583	(10,843)	0.32%	18,933.76
SD	2017	2	28	06_Lighting	7,671	7,671	-	0.00%	-
SD	2017	2	31	03_General Service	3,285,046	3,551,409	(266,363)	7.81%	465,116.04
SD	2017	2	32	09_Controlled - Interruptible	372,648	456,002	(83,354)	2.44%	145,550.55
SD	2017	2	33	09_Controlled - Interruptible	75,181	75,181	-	0.00%	-
SD	2017	2	34	08_Water Heating	27,610	27,610	-	0.00%	-
SD	2017	2	35	10_Controlled - Deferred	433,197	558,733	(125,536)	3.68%	219,207.65
SD	2017	2	38	06_Lighting	65,942	65,942	-	0.00%	-
SD	2017	2	41	03_General Service	3,619,454	3,781,658	(162,203)	4.76%	283,234.60
SD	2017	2	42	04_Large General Service	322,654	322,654	-	0.00%	-
SD	2017	2	43	04_Large General Service	17,039,826	17,393,312	(353,485)	10.37%	617,246.17
SD	2017	2	44	09_Controlled - Interruptible	117,436	117,436	-	0.00%	-
SD	2017	2	45	09_Controlled - Interruptible	600,873	663,484	(62,611)	1.84%	109,329.68
SD	2017	2	46	08_Water Heating	1,632	1,632	-	0.00%	-
SD	2017	2	47	10_Controlled - Deferred	250,792	296,252	(45,460)	1.33%	79,381.05
SD	2017	2	49	06_Lighting	30,639	30,639	-	0.00%	-
SD	2017	2	51	07_OPA	315,620	330,980	(15,359)	0.45%	26,819.48
SD	2017	2	61	06_Lighting	278,518	278,518	-	0.00%	-
SD	2017	3	11	01_Residential	8,885,711	8,814,147	71,564	-2.10%	(124,963.17)
SD	2017	3	12	01_Residential	1,056,973	1,043,940	13,033	-0.38%	(22,757.88)
SD	2017	3	13	08_Water Heating	437,221	436,707	514	-0.02%	(897.53)
SD	2017	3	14	09_Controlled - Interruptible	1,498,132	1,474,312	23,820	-0.70%	(41,593.86)
SD	2017	3	16	10_Controlled - Deferred	383,484	376,890	6,594	-0.19%	(11,514.27)
SD	2017	3	17	06_Lighting	33,716	33,716	-	0.00%	-
SD	2017	3	21	02_Farm	686,496	682,695	3,801	-0.11%	(6,637.21)
SD	2017	3	24	08_Water Heating	1,948	1,948	-	0.00%	-
SD	2017	3	25	09_Controlled - Interruptible	77,371	76,318	1,053	-0.03%	(1,838.72)
SD	2017	3	27	10_Controlled - Deferred	29,130	28,426	704	-0.02%	(1,229.31)
SD	2017	3	28	06_Lighting	7,786	7,786	-	0.00%	-
SD	2017	3	31	03_General Service	3,687,813	3,665,185	22,627	-0.66%	(39,510.67)
SD	2017	3	32	09_Controlled - Interruptible	392,321	386,157	6,164	-0.18%	(10,763.41)
SD	2017	3	33	09_Controlled - Interruptible	61,461	61,480	(19)	0.00%	33.18
SD	2017	3	34	08_Water Heating	33,708	33,665	43	0.00%	(75.09)
SD	2017	3	35	10_Controlled - Deferred	452,471	443,341	9,130	-0.27%	(15,942.56)
SD	2017	3	38	06_Lighting	67,017	67,017	-	0.00%	-
SD	2017	3	41	03_General Service	2,901,429	2,891,691	9,738	-0.29%	(17,004.24)
SD	2017	3	42	04_Large General Service	401,195	401,195	-	0.00%	-
SD	2017	3	43	04_Large General Service	17,219,353	17,191,012	28,341	-0.83%	(49,488.31)
SD	2017	3	44	09_Controlled - Interruptible	102,157	102,157	-	0.00%	-
SD	2017	3	45	09_Controlled - Interruptible	894,691	887,711	6,980	-0.20%	(12,188.29)
SD	2017	3	46	08_Water Heating	1,419	1,421	(2)	0.00%	3.49

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St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	3	47	10_Controlled - Deferred	247,100	243,865	3,235	-0.09%	(5,648.87)
SD	2017	3	49	06_Lighting	31,083	31,083	-	0.00%	-
SD	2017	3	51	07_OPA	358,953	357,636	1,316	-0.04%	(2,297.96)
SD	2017	3	61	06_Lighting	213,502	213,502	-	0.00%	-
SD	2017	4	11	01_Residential	6,329,218	6,390,741	(61,523)	1.80%	107,429.84
SD	2017	4	12	01_Residential	673,021	681,366	(8,345)	0.24%	14,571.82
SD	2017	4	13	08_Water Heating	429,171	429,581	(409)	0.01%	714.19
SD	2017	4	14	09_Controlled - Interruptible	892,591	906,423	(13,832)	0.41%	24,153.07
SD	2017	4	16	10_Controlled - Deferred	185,303	188,428	(3,125)	0.09%	5,456.79
SD	2017	4	17	06_Lighting	33,822	33,822	-	0.00%	-
SD	2017	4	21	02_Farm	542,768	545,187	(2,419)	0.07%	4,223.99
SD	2017	4	24	08_Water Heating	1,845	1,845	-	0.00%	-
SD	2017	4	25	09_Controlled - Interruptible	46,547	47,059	(512)	0.02%	894.04
SD	2017	4	27	10_Controlled - Deferred	11,101	11,316	(215)	0.01%	375.43
SD	2017	4	28	06_Lighting	8,219	8,219	-	0.00%	-
SD	2017	4	31	03_General Service	2,889,177	2,908,233	(19,056)	0.56%	33,275.08
SD	2017	4	32	09_Controlled - Interruptible	190,205	193,266	(3,060)	0.09%	5,343.29
SD	2017	4	33	09_Controlled - Interruptible	32,844	33,029	(185)	0.01%	323.04
SD	2017	4	34	08_Water Heating	31,356	31,389	(33)	0.00%	57.62
SD	2017	4	35	10_Controlled - Deferred	252,184	256,321	(4,138)	0.12%	7,225.67
SD	2017	4	38	06_Lighting	72,618	72,618	-	0.00%	-
SD	2017	4	41	03_General Service	2,639,407	2,649,723	(10,316)	0.30%	18,013.53
SD	2017	4	42	04_Large General Service	292,813	292,813	-	0.00%	-
SD	2017	4	43	04_Large General Service	17,262,621	17,284,738	(22,116)	0.65%	38,618.38
SD	2017	4	44	09_Controlled - Interruptible	67,094	67,094	-	0.00%	-
SD	2017	4	45	09_Controlled - Interruptible	743,460	748,153	(4,693)	0.14%	8,194.79
SD	2017	4	46	08_Water Heating	1,471	1,511	(40)	0.00%	69.85
SD	2017	4	47	10_Controlled - Deferred	158,432	160,109	(1,677)	0.05%	2,928.33
SD	2017	4	49	06_Lighting	30,456	30,456	-	0.00%	-
SD	2017	4	51	07_OPA	332,161	333,521	(1,360)	0.04%	2,374.80
SD	2017	4	61	06_Lighting	211,645	211,645	-	0.00%	-
SD	2017	5	11	01_Residential	5,718,832	5,851,001	(132,169)	3.88%	230,790.02
SD	2017	5	12	01_Residential	456,083	465,157	(9,075)	0.27%	15,846.53
SD	2017	5	13	08_Water Heating	429,085	429,276	(191)	0.01%	333.52
SD	2017	5	14	09_Controlled - Interruptible	567,374	579,908	(12,535)	0.37%	21,888.29
SD	2017	5	16	10_Controlled - Deferred	86,402	88,448	(2,046)	0.06%	3,572.67
SD	2017	5	17	06_Lighting	33,464	33,464	-	0.00%	-
SD	2017	5	21	02_Farm	477,568	478,553	(984)	0.03%	1,718.23
SD	2017	5	24	08_Water Heating	1,683	1,683	-	0.00%	-
SD	2017	5	25	09_Controlled - Interruptible	21,225	21,338	(113)	0.00%	197.32
SD	2017	5	27	10_Controlled - Deferred	2,643	2,666	(23)	0.00%	40.16
SD	2017	5	28	06_Lighting	8,142	8,142	-	0.00%	-

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St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	5	31	03_General Service	2,911,173	2,946,456	(35,283)	1.03%	61,610.24
SD	2017	5	32	09_Controlled - Interruptible	119,884	123,050	(3,166)	0.09%	5,528.39
SD	2017	5	33	09_Controlled - Interruptible	1,376	1,424	(48)	0.00%	83.82
SD	2017	5	34	08_Water Heating	30,886	30,900	(15)	0.00%	26.19
SD	2017	5	35	10_Controlled - Deferred	103,002	103,780	(778)	0.02%	1,358.52
SD	2017	5	38	06_Lighting	67,224	67,224	-	0.00%	-
SD	2017	5	41	03_General Service	2,459,823	2,481,219	(21,396)	0.63%	37,361.13
SD	2017	5	42	04_Large General Service	299,210	299,210	-	0.00%	-
SD	2017	5	43	04_Large General Service	16,962,088	16,972,052	(9,964)	0.29%	17,398.87
SD	2017	5	44	09_Controlled - Interruptible	68,909	68,909	-	0.00%	-
SD	2017	5	45	09_Controlled - Interruptible	379,388	380,495	(1,107)	0.03%	1,933.01
SD	2017	5	46	08_Water Heating	1,471	1,748	(278)	0.01%	485.44
SD	2017	5	47	10_Controlled - Deferred	75,056	75,449	(393)	0.01%	686.25
SD	2017	5	49	06_Lighting	30,456	30,456	-	0.00%	-
SD	2017	5	51	07_OPA	320,610	323,318	(2,708)	0.08%	4,728.64
SD	2017	5	61	06_Lighting	211,409	211,409	-	0.00%	-
SD	2017	6	11	01_Residential	6,153,535	5,956,940	196,595	-5.77%	(343,289.00)
SD	2017	6	12	01_Residential	423,360	413,216	10,144	-0.30%	(17,713.18)
SD	2017	6	13	08_Water Heating	368,389	368,430	(41)	0.00%	71.59
SD	2017	6	14	09_Controlled - Interruptible	346,958	338,314	8,644	-0.25%	(15,093.92)
SD	2017	6	16	10_Controlled - Deferred	70,166	68,344	1,822	-0.05%	(3,181.53)
SD	2017	6	17	06_Lighting	33,317	33,317	-	0.00%	-
SD	2017	6	21	02_Farm	494,366	494,615	(249)	0.01%	434.80
SD	2017	6	24	08_Water Heating	1,421	1,421	-	0.00%	-
SD	2017	6	25	09_Controlled - Interruptible	19,021	19,046	(25)	0.00%	43.65
SD	2017	6	27	10_Controlled - Deferred	1,103	1,105	(2)	0.00%	3.49
SD	2017	6	28	06_Lighting	8,422	8,422	-	0.00%	-
SD	2017	6	31	03_General Service	2,984,008	2,936,282	47,726	-1.40%	(83,337.88)
SD	2017	6	32	09_Controlled - Interruptible	83,473	80,779	2,694	-0.08%	(4,704.19)
SD	2017	6	33	09_Controlled - Interruptible	10,244	9,680	564	-0.02%	(984.84)
SD	2017	6	34	08_Water Heating	28,196	28,199	(3)	0.00%	5.24
SD	2017	6	35	10_Controlled - Deferred	42,314	42,393	(78)	0.00%	136.20
SD	2017	6	38	06_Lighting	74,459	74,459	-	0.00%	-
SD	2017	6	41	03_General Service	2,123,501	2,097,480	26,021	-0.76%	(45,437.18)
SD	2017	6	42	04_Large General Service	269,514	269,514	-	0.00%	-
SD	2017	6	43	04_Large General Service	17,522,052	17,524,559	(2,506)	0.07%	4,375.91
SD	2017	6	44	09_Controlled - Interruptible	73,485	73,485	-	0.00%	-
SD	2017	6	45	09_Controlled - Interruptible	150,743	150,850	(107)	0.00%	186.84
SD	2017	6	46	08_Water Heating	960	960	-	0.00%	-
SD	2017	6	47	10_Controlled - Deferred	66,789	66,872	(84)	0.00%	146.68
SD	2017	6	49	06_Lighting	30,671	30,671	-	0.00%	-
SD	2017	6	51	07_OPA	317,873	314,328	3,545	-0.10%	(6,190.19)

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SD	2017	6	61	06_Lighting	212,725	212,725	-	0.00%	-
SD	2017	7	11	01_Residential	7,324,479	7,211,875	112,605	-3.30%	(196,627.88)
SD	2017	7	12	01_Residential	495,503	490,609	4,894	-0.14%	(8,545.77)
SD	2017	7	13	08_Water Heating	346,682	346,814	(133)	0.00%	232.24
SD	2017	7	14	09_Controlled - Interruptible	332,967	329,806	3,161	-0.09%	(5,519.65)
SD	2017	7	16	10_Controlled - Deferred	40,134	39,751	383	-0.01%	(668.78)
SD	2017	7	17	06_Lighting	33,278	33,278	-	0.00%	-
SD	2017	7	21	02_Farm	516,996	517,888	(893)	0.03%	1,559.33
SD	2017	7	24	08_Water Heating	1,058	1,058	-	0.00%	-
SD	2017	7	25	09_Controlled - Interruptible	16,815	16,890	(75)	0.00%	130.96
SD	2017	7	27	10_Controlled - Deferred	1,625	1,637	(12)	0.00%	20.95
SD	2017	7	28	06_Lighting	8,448	8,448	-	0.00%	-
SD	2017	7	31	03_General Service	3,540,066	3,514,885	25,181	-0.74%	(43,970.40)
SD	2017	7	32	09_Controlled - Interruptible	110,821	109,306	1,515	-0.04%	(2,645.45)
SD	2017	7	33	09_Controlled - Interruptible	1,601	1,553	49	0.00%	(85.56)
SD	2017	7	34	08_Water Heating	26,554	26,565	(11)	0.00%	19.21
SD	2017	7	35	10_Controlled - Deferred	12,515	12,594	(79)	0.00%	137.95
SD	2017	7	38	06_Lighting	74,736	74,736	-	0.00%	-
SD	2017	7	41	03_General Service	2,863,300	2,846,383	16,917	-0.50%	(29,540.02)
SD	2017	7	42	04_Large General Service	305,931	305,931	-	0.00%	-
SD	2017	7	43	04_Large General Service	17,279,756	17,288,217	(8,461)	0.25%	14,774.37
SD	2017	7	44	09_Controlled - Interruptible	71,307	71,307	-	0.00%	-
SD	2017	7	45	09_Controlled - Interruptible	-	-	-	0.00%	-
SD	2017	7	46	08_Water Heating	369	369	-	0.00%	-
SD	2017	7	47	10_Controlled - Deferred	95,998	96,418	(419)	0.01%	731.65
SD	2017	7	49	06_Lighting	29,913	29,913	-	0.00%	-
SD	2017	7	51	07_OPA	334,933	333,211	1,722	-0.05%	(3,006.91)
SD	2017	7	61	06_Lighting	206,503	206,503	-	0.00%	-
SD	2017	8	11	01_Residential	6,235,748	7,097,136	(861,388)	25.26%	1,504,132.98
SD	2017	8	12	01_Residential	422,516	467,038	(44,522)	1.31%	77,743.14
SD	2017	8	13	08_Water Heating	337,614	337,615	(1)	0.00%	1.75
SD	2017	8	14	09_Controlled - Interruptible	279,244	310,275	(31,031)	0.91%	54,185.51
SD	2017	8	16	10_Controlled - Deferred	40,539	45,265	(4,726)	0.14%	8,252.42
SD	2017	8	17	06_Lighting	33,577	33,577	-	0.00%	-
SD	2017	8	21	02_Farm	470,129	470,135	(6)	0.00%	10.48
SD	2017	8	24	08_Water Heating	1,370	1,370	-	0.00%	-
SD	2017	8	25	09_Controlled - Interruptible	13,637	13,638	-	0.00%	-
SD	2017	8	27	10_Controlled - Deferred	2,961	2,961	-	0.00%	-
SD	2017	8	28	06_Lighting	8,424	8,424	-	0.00%	-
SD	2017	8	31	03_General Service	3,291,606	3,509,958	(218,352)	6.40%	381,280.50
SD	2017	8	32	09_Controlled - Interruptible	59,652	68,419	(8,767)	0.26%	15,308.70
SD	2017	8	33	09_Controlled - Interruptible	3,067	3,829	(762)	0.02%	1,330.58

Otter Tail Power Company
 Allocation of Weather Normalized kWhs to Customer Groups

9) WN kWh

* Output data from the noted SAS program that appends each monthly estimated Weather Normalized regression results

Comparison of Calendar Month kWh to Weather Normalized kWh
 States: 'SD'
 (E:\Weather Normalized\Weather Normalization Adjustment for COSS\wnstateclass_cm_cos.sas)

434,650,633	Weather Normalized Sales Estimate (cell H483)
426,769,586	CIS339 - Actual Billed
91,649	Bill Adjustments
1,835,830	Unbilled Incremental
5,953,568	Adjusted Weather Normalized kWh

A	B	C	D	E	F	G	H	I	J
St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	8	34	08_Water Heating	27,822	27,822	-	0.00%	-
SD	2017	8	35	10_Controlled - Deferred	17,026	17,027	(1)	0.00%	1.75
SD	2017	8	38	06_Lighting	73,104	73,104	-	0.00%	-
SD	2017	8	41	03_General Service	2,624,029	2,757,399	(133,371)	3.91%	232,888.92
SD	2017	8	42	04_Large General Service	345,126	345,126	-	0.00%	-
SD	2017	8	43	04_Large General Service	17,692,288	17,692,360	(72)	0.00%	125.72
SD	2017	8	44	09_Controlled - Interruptible	61,357	61,357	-	0.00%	-
SD	2017	8	45	09_Controlled - Interruptible	345,486	345,492	(6)	0.00%	10.48
SD	2017	8	46	08_Water Heating	51	51	-	0.00%	-
SD	2017	8	47	10_Controlled - Deferred	93,634	93,637	(3)	0.00%	5.24
SD	2017	8	49	06_Lighting	30,741	30,741	-	0.00%	-
SD	2017	8	51	07_OPA	291,670	305,232	(13,562)	0.40%	23,681.61
SD	2017	8	61	06_Lighting	206,333	206,333	-	0.00%	-
SD	2017	9	11	01_Residential	5,872,495	5,847,157	25,338	-0.74%	(44,244.55)
SD	2017	9	12	01_Residential	395,794	396,325	(531)	0.02%	927.22
SD	2017	9	13	08_Water Heating	307,246	307,555	(309)	0.01%	539.57
SD	2017	9	14	09_Controlled - Interruptible	240,692	241,583	(891)	0.03%	1,555.84
SD	2017	9	16	10_Controlled - Deferred	39,977	40,122	(145)	0.00%	253.20
SD	2017	9	17	06_Lighting	33,725	33,725	-	0.00%	-
SD	2017	9	21	02_Farm	461,062	463,045	(1,984)	0.06%	3,464.41
SD	2017	9	24	08_Water Heating	1,150	1,150	-	0.00%	-
SD	2017	9	25	09_Controlled - Interruptible	10,087	10,199	(112)	0.00%	195.57
SD	2017	9	27	10_Controlled - Deferred	4,628	4,713	(86)	0.00%	150.17
SD	2017	9	28	06_Lighting	8,448	8,448	-	0.00%	-
SD	2017	9	31	03_General Service	3,096,902	3,095,266	1,636	-0.05%	(2,856.74)
SD	2017	9	32	09_Controlled - Interruptible	71,192	71,275	(83)	0.00%	144.93
SD	2017	9	33	09_Controlled - Interruptible	10,350	10,161	189	-0.01%	(330.03)
SD	2017	9	34	08_Water Heating	26,021	26,047	(26)	0.00%	45.40
SD	2017	9	35	10_Controlled - Deferred	20,817	21,147	(329)	0.01%	574.49
SD	2017	9	38	06_Lighting	75,448	75,448	-	0.00%	-
SD	2017	9	41	03_General Service	2,585,141	2,581,420	3,720	-0.11%	(6,495.77)
SD	2017	9	42	04_Large General Service	305,316	305,316	-	0.00%	-
SD	2017	9	43	04_Large General Service	17,939,195	17,961,078	(21,883)	0.64%	38,211.52
SD	2017	9	44	09_Controlled - Interruptible	54,865	54,865	-	0.00%	-
SD	2017	9	45	09_Controlled - Interruptible	8,741	8,794	(53)	0.00%	92.55
SD	2017	9	46	08_Water Heating	-	-	-	0.00%	-
SD	2017	9	47	10_Controlled - Deferred	87,438	88,381	(943)	0.03%	1,646.64
SD	2017	9	49	06_Lighting	30,741	30,741	-	0.00%	-
SD	2017	9	51	07_OPA	281,827	281,602	225	-0.01%	(392.89)
SD	2017	9	61	06_Lighting	206,878	206,878	-	0.00%	-
SD	2017	10	11	01_Residential	5,907,394	5,998,854	(91,460)	2.68%	159,705.04
SD	2017	10	12	01_Residential	514,899	524,884	(9,985)	0.29%	17,435.54

Otter Tail Power Company
 Allocation of Weather Normalized kWhs to Customer Groups

9) WN kWh

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Comparison of Calendar Month kWh to Weather Normalized kWh
 States: 'SD'
 (E:\Weather Normalized\Weather Normalization Adjustment for COSS\wnstateclass_cm_cos.sas)

434,650,633	Weather Normalized Sales Estimate (cell H483)
426,769,586	CIS339 - Actual Billed
91,649	Bill Adjustments
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5,953,568	Adjusted Weather Normalized kWh

A	B	C	D	E	F	G	H	I	J
St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	10	13	08_Water Heating	350,775	351,323	(548)	0.02%	956.90
SD	2017	10	14	09_Controlled - Interruptible	402,295	411,966	(9,671)	0.28%	16,887.24
SD	2017	10	16	10_Controlled - Deferred	64,978	66,744	(1,766)	0.05%	3,083.74
SD	2017	10	17	06_Lighting	34,255	34,255	-	0.00%	-
SD	2017	10	21	02_Farm	495,502	498,860	(3,357)	0.10%	5,861.90
SD	2017	10	24	08_Water Heating	1,164	1,164	-	0.00%	-
SD	2017	10	25	09_Controlled - Interruptible	20,564	20,920	(355)	0.01%	619.89
SD	2017	10	27	10_Controlled - Deferred	6,884	7,082	(198)	0.01%	345.74
SD	2017	10	28	06_Lighting	8,492	8,492	-	0.00%	-
SD	2017	10	31	03_General Service	3,029,238	3,060,286	(31,048)	0.91%	54,215.20
SD	2017	10	32	09_Controlled - Interruptible	104,588	107,234	(2,646)	0.08%	4,620.38
SD	2017	10	33	09_Controlled - Interruptible	28,881	29,143	(262)	0.01%	457.50
SD	2017	10	34	08_Water Heating	27,263	27,305	(42)	0.00%	73.34
SD	2017	10	35	10_Controlled - Deferred	97,567	99,970	(2,403)	0.07%	4,196.06
SD	2017	10	38	06_Lighting	70,215	70,215	-	0.00%	-
SD	2017	10	41	03_General Service	2,192,006	2,205,581	(13,575)	0.40%	23,704.31
SD	2017	10	42	04_Large General Service	279,706	279,706	-	0.00%	-
SD	2017	10	43	04_Large General Service	17,684,045	17,717,398	(33,353)	0.98%	58,240.13
SD	2017	10	44	09_Controlled - Interruptible	58,655	58,655	-	0.00%	-
SD	2017	10	45	09_Controlled - Interruptible	279,023	281,657	(2,634)	0.08%	4,599.42
SD	2017	10	46	08_Water Heating	72	72	-	0.00%	-
SD	2017	10	47	10_Controlled - Deferred	137,040	139,335	(2,295)	0.07%	4,007.47
SD	2017	10	49	06_Lighting	30,741	30,741	-	0.00%	-
SD	2017	10	51	07_OPA	284,204	286,018	(1,814)	0.05%	3,167.56
SD	2017	10	61	06_Lighting	206,507	206,507	-	0.00%	-
SD	2017	11	11	01_Residential	7,301,711	7,097,734	203,978	-5.98%	(356,181.00)
SD	2017	11	12	01_Residential	843,815	808,210	35,605	-1.04%	(62,172.51)
SD	2017	11	13	08_Water Heating	358,278	356,684	1,594	-0.05%	(2,783.40)
SD	2017	11	14	09_Controlled - Interruptible	960,852	909,030	51,823	-1.52%	(90,491.95)
SD	2017	11	16	10_Controlled - Deferred	162,929	152,853	10,076	-0.30%	(17,594.45)
SD	2017	11	17	06_Lighting	33,158	33,158	-	0.00%	-
SD	2017	11	21	02_Farm	898,776	881,049	17,726	-0.52%	(30,952.67)
SD	2017	11	24	08_Water Heating	1,167	1,167	-	0.00%	-
SD	2017	11	25	09_Controlled - Interruptible	43,905	41,804	2,102	-0.06%	(3,670.46)
SD	2017	11	27	10_Controlled - Deferred	25,148	23,165	1,982	-0.06%	(3,460.92)
SD	2017	11	28	06_Lighting	8,436	8,436	-	0.00%	-
SD	2017	11	31	03_General Service	3,622,580	3,547,670	74,910	-2.20%	(130,805.86)
SD	2017	11	32	09_Controlled - Interruptible	234,018	221,387	12,631	-0.37%	(22,055.92)
SD	2017	11	33	09_Controlled - Interruptible	58,913	58,913	-	0.00%	-
SD	2017	11	34	08_Water Heating	29,276	29,148	127	0.00%	(221.76)
SD	2017	11	35	10_Controlled - Deferred	260,750	242,990	17,760	-0.52%	(31,012.04)
SD	2017	11	38	06_Lighting	71,777	71,777	-	0.00%	-

Otter Tail Power Company
 Allocation of Weather Normalized kWhs to Customer Groups

9) WN kWh

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5,953,568	Adjusted Weather Normalized kWh

A	B	C	D	E	F	G	H	I	J
St	Year	Month	Group	COSS	Modeled Delivered kWh	NORMC Weather Normalized kWh	Difference	Allocation of total	Weather Normalized Adjusted kWh
SD	2017	11	41	03_General Service	2,941,829	2,906,018	35,811	-1.05%	(62,532.22)
SD	2017	11	42	04_Large General Service	344,954	344,954	-	0.00%	-
SD	2017	11	43	04_Large General Service	18,270,729	18,176,032	94,698	-2.78%	(165,359.15)
SD	2017	11	44	09_Controlled - Interruptible	84,849	84,849	-	0.00%	-
SD	2017	11	45	09_Controlled - Interruptible	688,533	669,144	19,389	-0.57%	(33,856.56)
SD	2017	11	46	08_Water Heating	-	-	-	0.00%	-
SD	2017	11	47	10_Controlled - Deferred	151,584	144,618	6,966	-0.20%	(12,163.85)
SD	2017	11	49	06_Lighting	30,741	30,741	-	0.00%	-
SD	2017	11	51	07_OPA	297,260	293,393	3,867	-0.11%	(6,752.45)
SD	2017	11	61	06_Lighting	205,768	205,768	-	0.00%	-
SD	2017	12	11	01_Residential	9,116,427	8,977,869	138,558	-4.06%	(241,946.32)
SD	2017	12	12	01_Residential	1,194,457	1,166,929	27,529	-0.81%	(48,070.41)
SD	2017	12	13	08_Water Heating	407,590	406,626	963	-0.03%	(1,681.57)
SD	2017	12	14	09_Controlled - Interruptible	1,432,636	1,390,579	42,056	-1.23%	(73,437.08)
SD	2017	12	16	10_Controlled - Deferred	332,572	321,407	11,165	-0.33%	(19,496.03)
SD	2017	12	17	06_Lighting	33,347	33,347	-	0.00%	-
SD	2017	12	21	02_Farm	994,367	984,145	10,222	-0.30%	(17,849.39)
SD	2017	12	24	08_Water Heating	1,428	1,428	-	0.00%	-
SD	2017	12	25	09_Controlled - Interruptible	76,146	74,150	1,996	-0.06%	(3,485.36)
SD	2017	12	27	10_Controlled - Deferred	33,931	32,465	1,467	-0.04%	(2,561.64)
SD	2017	12	28	06_Lighting	7,391	7,391	-	0.00%	-
SD	2017	12	31	03_General Service	4,052,313	4,006,192	46,120	-1.35%	(80,533.53)
SD	2017	12	32	09_Controlled - Interruptible	382,055	370,770	11,284	-0.33%	(19,703.82)
SD	2017	12	33	09_Controlled - Interruptible	80,488	80,488	-	0.00%	-
SD	2017	12	34	08_Water Heating	32,515	32,515	-	0.00%	-
SD	2017	12	35	10_Controlled - Deferred	479,017	461,039	17,978	-0.53%	(31,392.71)
SD	2017	12	38	06_Lighting	66,412	66,412	-	0.00%	-
SD	2017	12	41	03_General Service	3,005,411	2,985,891	19,521	-0.57%	(34,087.05)
SD	2017	12	42	04_Large General Service	389,466	389,466	-	0.00%	-
SD	2017	12	43	04_Large General Service	17,630,198	17,583,376	46,821	-1.37%	(81,757.59)
SD	2017	12	44	09_Controlled - Interruptible	117,069	117,069	-	0.00%	-
SD	2017	12	45	09_Controlled - Interruptible	951,383	936,151	15,232	-0.45%	(26,597.72)
SD	2017	12	46	08_Water Heating	-	-	-	0.00%	-
SD	2017	12	47	10_Controlled - Deferred	236,669	230,886	5,784	-0.17%	(10,099.87)
SD	2017	12	48	03_General Service	-	-	-	0.00%	-
SD	2017	12	49	06_Lighting	29,503	29,503	-	0.00%	-
SD	2017	12	51	07_OPA	354,534	352,079	2,456	-0.07%	(4,288.60)
SD	2017	12	61	06_Lighting	206,242	206,242	-	0.00%	-
					431,241,133	434,650,633	(3,409,494)	100.00%	5,953,568