

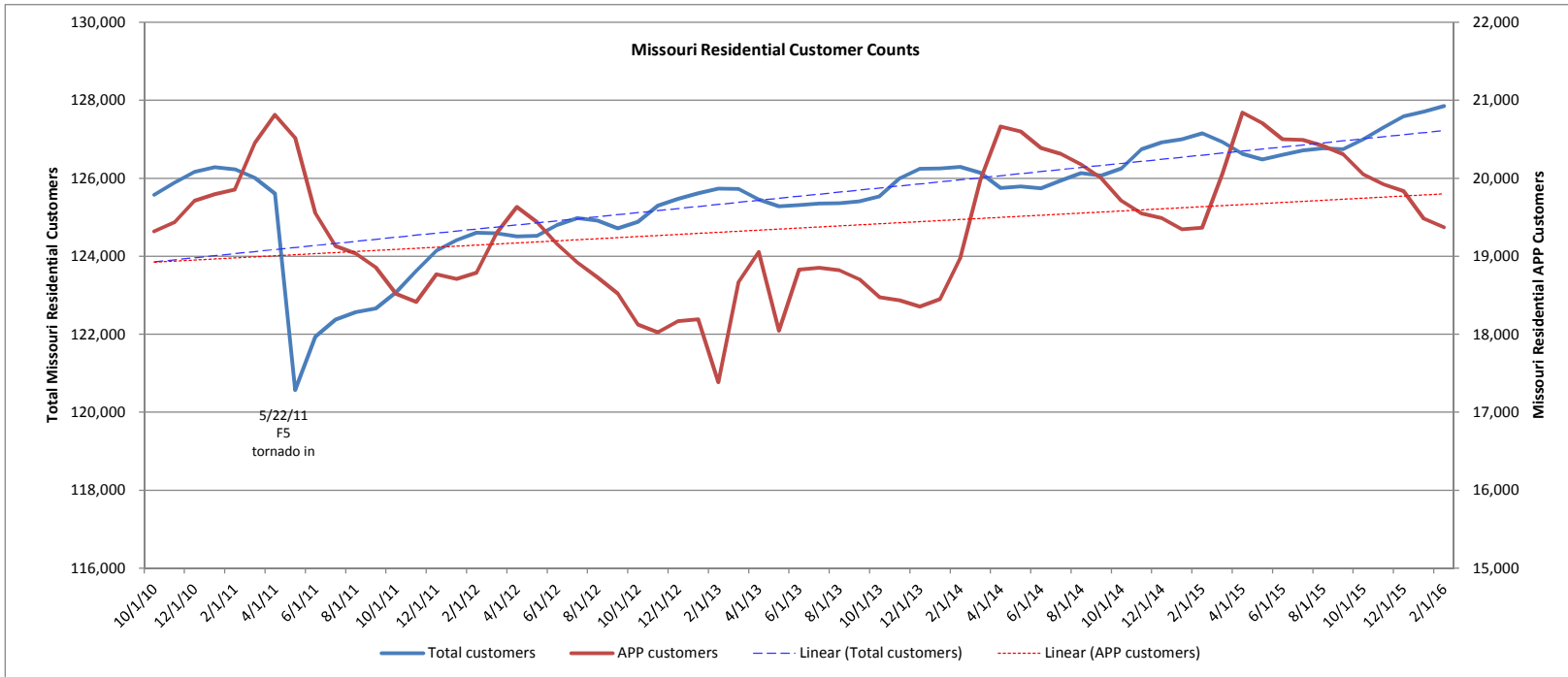
Empire District Electric Company
Response to EW-2013-0519
Summary of Customer Counts, UPC and Year-Over-Year Changes

Month	Year	Missouri Residential				Year-over-year % change			
		Customer Counts		Average Usage (kWh)		Customer Counts		Average Usage (kWh)	
		Total	APP	Total	APP	Total	APP	Total	APP
10	2010	125,577	19,316	848	1,034				
11	2010	125,887	19,432	739	874				
12	2010	126,167	19,711	1,210	1,401				
1	2011	126,281	19,794	1,652	1,902				
2	2011	126,230	19,857	1,696	1,942				
3	2011	126,005	20,454	1,136	1,334				
4	2011	125,608	20,814	954	1,126				
5	2011	120,567	20,521	861	984				
6	2011	121,937	19,553	1,048	1,265				
7	2011	122,379	19,130	1,432	1,770				
8	2011	122,568	19,037	1,650	2,036				
9	2011	122,664	18,857	1,302	1,612				
10	2011	123,074	18,516	738	887	-2.0%	-4.1%	-13.0%	-14.2%
11	2011	123,622	18,414	779	917	-1.8%	-5.2%	5.3%	4.9%
12	2011	124,139	18,769	1,166	1,363	-1.6%	-4.8%	-3.7%	-2.7%
1	2012	124,412	18,708	1,418	1,655	-1.5%	-5.5%	-14.1%	-13.0%
2	2012	124,603	18,788	1,253	1,460	-1.3%	-5.4%	-26.1%	-24.8%
3	2012	124,585	19,297	1,064	1,261	-1.1%	-5.7%	-6.4%	-5.4%
4	2012	124,509	19,632	772	927	-0.9%	-5.7%	-19.1%	-17.7%
5	2012	124,528	19,438	765	932	3.3%	-5.3%	-11.1%	-5.3%
6	2012	124,806	19,156	1,012	1,264	2.4%	-2.0%	-3.4%	-0.1%
7	2012	124,976	18,919	1,462	1,821	2.1%	-1.1%	2.1%	2.9%
8	2012	124,914	18,727	1,544	1,923	1.9%	-1.6%	-6.4%	-5.6%
9	2012	124,715	18,523	1,144	1,429	1.7%	-1.8%	-12.1%	-11.4%
10	2012	124,879	18,124	786	956	1.5%	-2.1%	6.5%	7.7%
11	2012	125,294	18,025	843	996	1.4%	-2.1%	8.3%	8.7%
12	2012	125,475	18,167	1,040	1,217	1.1%	-3.2%	-10.8%	-10.7%
1	2013	125,611	18,190	1,529	1,842	1.0%	-2.8%	7.8%	11.3%
2	2013	125,737	17,383	1,290	1,502	0.9%	-7.5%	3.0%	2.9%
3	2013	125,726	18,671	1,326	1,552	0.9%	-3.2%	24.6%	23.0%
4	2013	125,453	19,055	1,122	1,381	0.8%	-2.9%	45.2%	49.0%
5	2013	125,280	18,045	881	1,057	0.6%	-7.2%	15.1%	13.5%
6	2013	125,315	18,827	836	1,018	0.4%	-1.7%	-17.4%	-19.4%
7	2013	125,352	18,854	1,209	1,495	0.3%	-0.3%	-17.3%	-17.9%
8	2013	125,363	18,819	1,187	1,473	0.4%	0.5%	-23.1%	-23.4%
9	2013	125,411	18,704	1,189	1,469	0.6%	1.0%	4.0%	2.8%
10	2013	125,533	18,476	866	1,061	0.5%	1.9%	10.2%	11.0%
11	2013	125,995	18,434	834	988	0.6%	2.3%	-1.0%	-0.8%
12	2013	126,243	18,353	1,383	1,619	0.6%	1.0%	33.0%	33.0%
1	2014	126,254	18,450	1,784	2,082	0.5%	1.4%	16.7%	13.0%
2	2014	126,289	18,976	1,673	1,976	0.4%	9.2%	29.6%	31.6%
3	2014	126,142	19,980	1,394	1,679	0.3%	7.0%	5.2%	8.2%

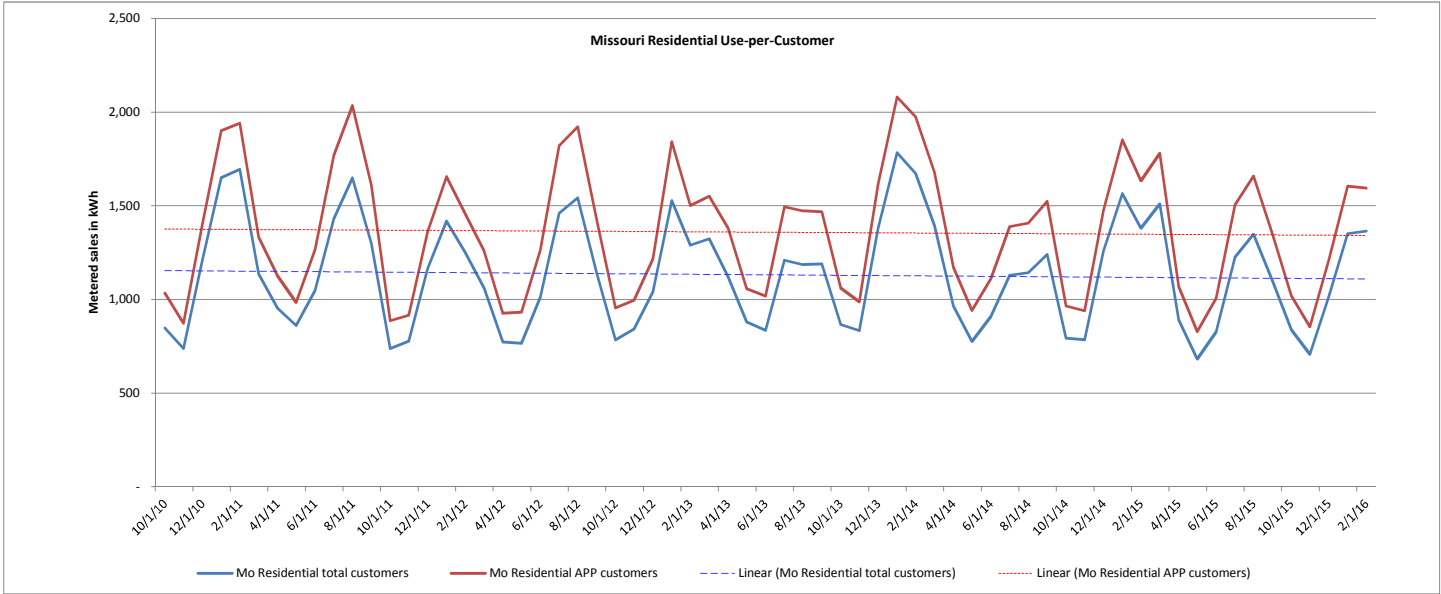
Empire District Electric Company
 Response to EW-2013-0519
 Summary of Customer Counts, UPC and Year-Over-Year Changes

Month	Year	Missouri Residential				Year-over-year % change			
		Customer Counts		Average Usage (kWh)		Customer Counts		Average Usage (kWh)	
		Total	APP	Total	APP	Total	APP	Total	APP
4	2014	125,750	20,663	967	1,172	0.2%	8.4%	-13.8%	-15.1%
5	2014	125,787	20,600	777	943	0.4%	14.2%	-11.8%	-10.9%
6	2014	125,742	20,389	909	1,111	0.3%	8.3%	8.8%	9.1%
7	2014	125,940	20,314	1,131	1,389	0.5%	7.7%	-6.5%	-7.1%
8	2014	126,130	20,176	1,143	1,408	0.6%	7.2%	-3.7%	-4.4%
9	2014	126,067	20,003	1,242	1,524	0.5%	6.9%	4.4%	3.8%
10	2014	126,252	19,711	794	965	0.6%	6.7%	-8.3%	-9.0%
11	2014	126,746	19,548	784	941	0.6%	6.0%	-6.0%	-4.7%
12	2014	126,918	19,487	1,260	1,476	0.5%	6.2%	-8.9%	-8.8%
1	2015	127,000	19,346	1,565	1,852	0.6%	4.9%	-12.3%	-11.0%
2	2015	127,152	19,366	1,381	1,634	0.7%	2.1%	-17.5%	-17.3%
3	2015	126,928	20,053	1,511	1,782	0.6%	0.4%	8.4%	6.1%
4	2015	126,628	20,841	892	1,070	0.7%	0.9%	-7.8%	-8.7%
5	2015	126,485	20,708	682	828	0.6%	0.5%	-12.2%	-12.1%
6	2015	126,598	20,499	828	1,008	0.7%	0.5%	-9.0%	-9.3%
7	2015	126,715	20,493	1,225	1,507	0.6%	0.9%	8.3%	8.5%
8	2015	126,768	20,416	1,349	1,660	0.5%	1.2%	18.0%	17.9%
9	2015	126,745	20,310	1,102	1,351	0.5%	1.5%	-11.3%	-11.4%
10	2015	126,997	20,051	840	1,021	0.6%	1.7%	5.8%	5.7%
11	2015	127,304	19,921	708	855	0.4%	1.9%	-9.7%	-9.1%
12	2015	127,592	19,836	1,016	1,210	0.5%	1.8%	-19.4%	-18.0%
1	2016	127,711	19,480	1,352	1,605	0.6%	0.7%	-13.6%	-13.4%
2	2016	127,853	19,370	1,365	1,594	0.6%	0.0%	-1.1%	-2.4%

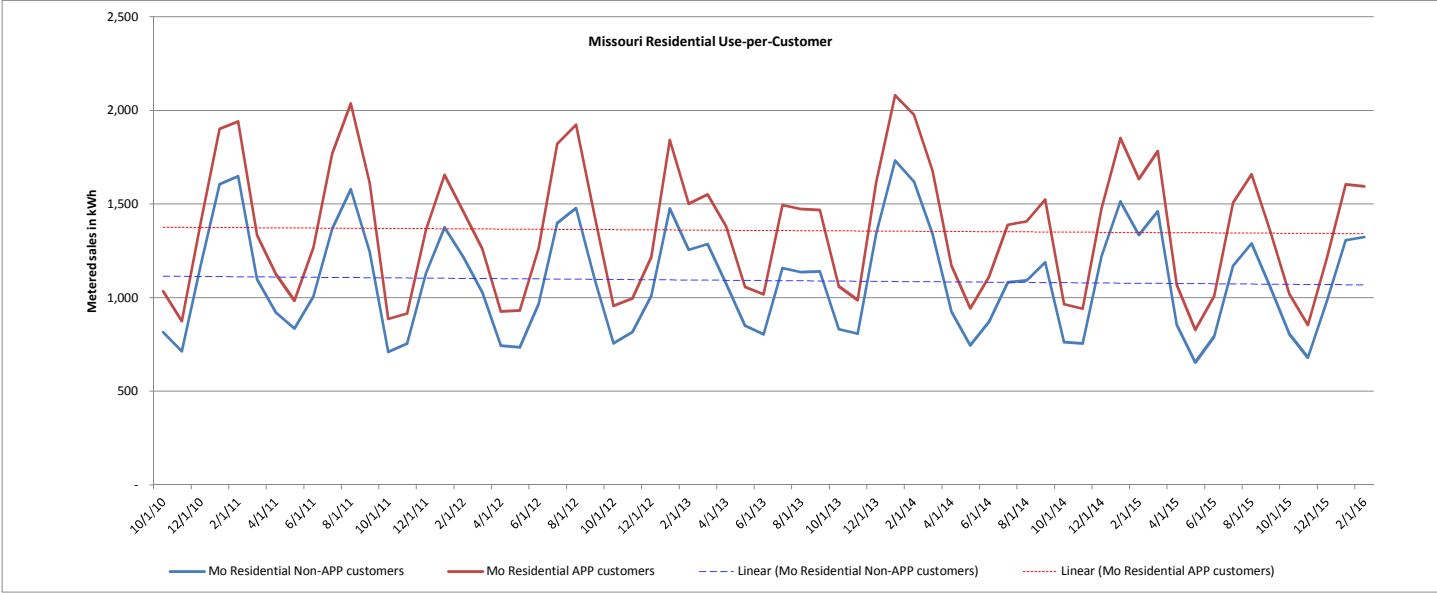
Empire District Electric Company
 Response to EW-2013-0519
 Missouri Residential Customer Count Chart



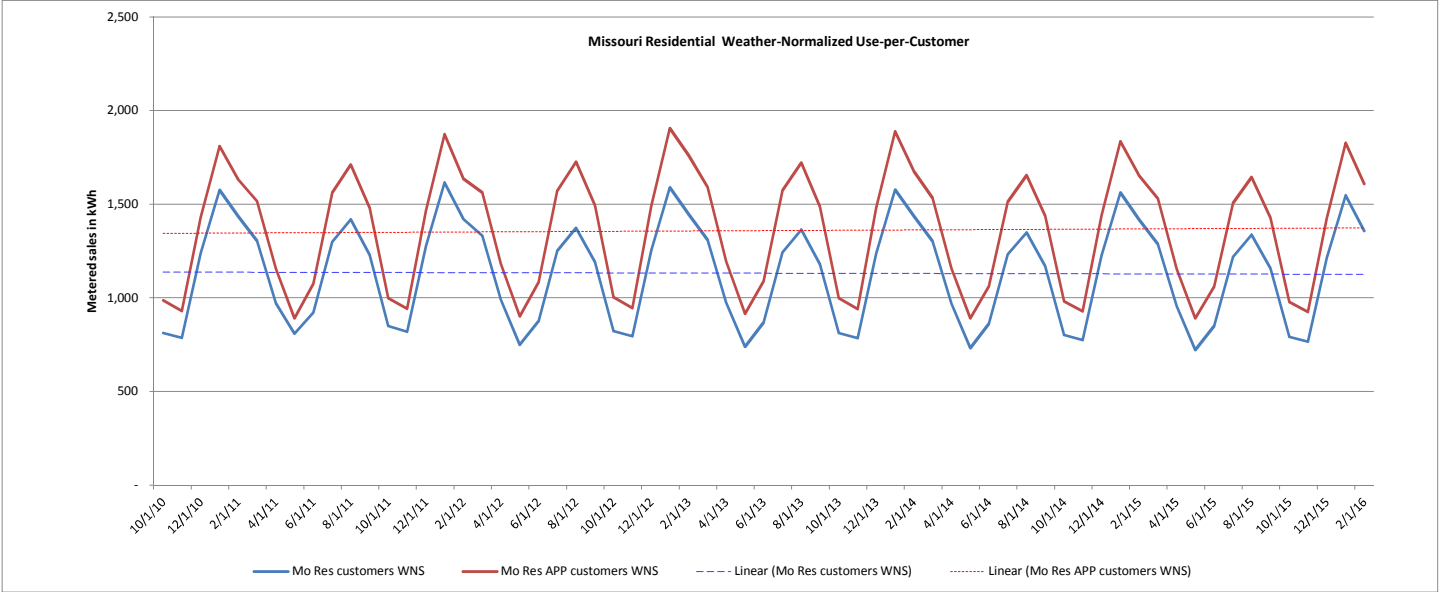
COMPARING MO-RESIDENTIAL-APP CUSTOMERS TO ALL MO-RESIDENTIAL CUSTOMERS, INCLUDING APP CUSTOMERS -ACTUAL USE-PER-CUSTOMER



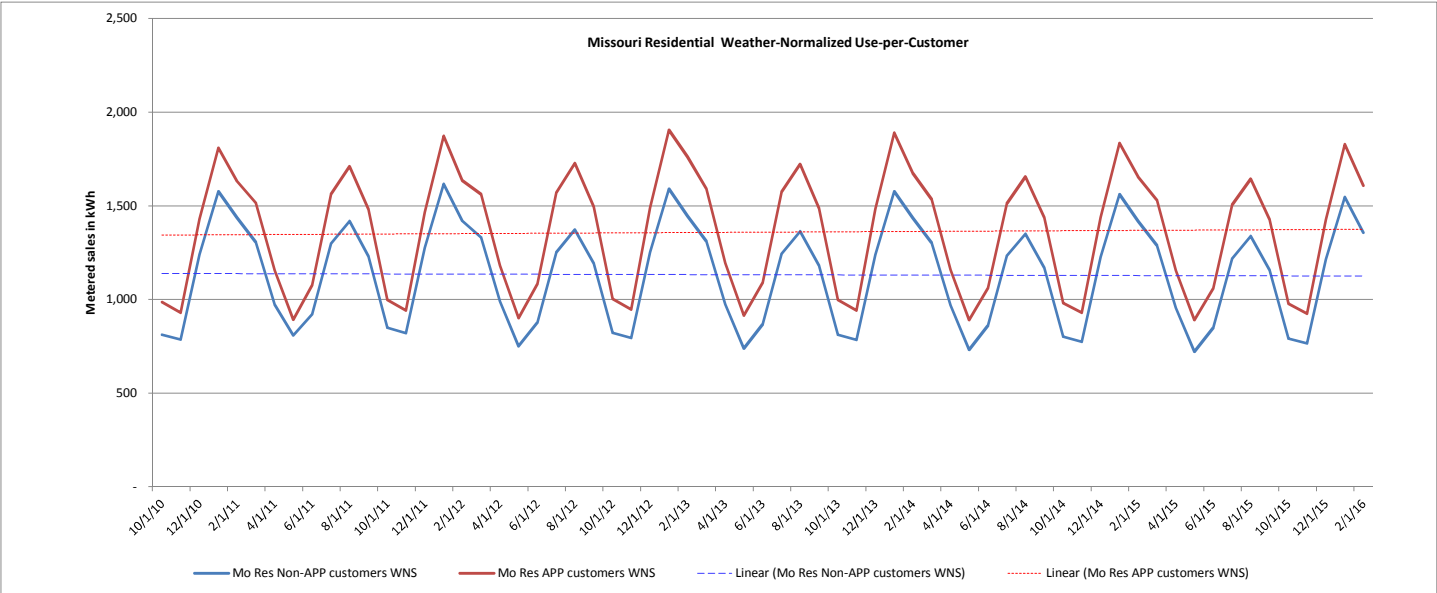
COMPARING MO-RESIDENTIAL-APP CUSTOMERS TO MO-RESIDENTIAL CUSTOMERS WITHOUT APP CUSTOMERS - ACTUAL USE PER CUSTOMER



COMPARING MO-RESIDENTIAL-APP CUSTOMERS TO ALL MO-RESIDENTIAL CUSTOMERS, INCLUDING APP CUSTOMERS - WEATHER-NORMALIZED USE-PER-CUSTOMER



COMPARING MO-RESIDENTIAL-APP CUSTOMERS TO MO-RESIDENTIAL CUSTOMERS, WITHOUT APP CUSTOMERS - WEATHER-NORMALIZED USE-PER-CUSTOMER



Empire District Electric Company
 Response to EW-2013-0519
 Weather Normalization Regressions for Missouri APP Customers

			y-axis	x-axis																								
Date	Month	Year	Sales	UPC	Season	Actual		Customers												Normal			Predicted	Predicted-	Weather - Normal			
						HDD	CDD	DD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	HDD	CDD	DD	Sales	to-Actual	Sales	UPC

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.933493
R Square	0.871409
Adjusted R	0.815404
Standard E	2675608
Observatio	65

ANOVA					
	df	SS	MS	F	Significance F
Regression	15	2.43E+15	1.6171E+14	24.20221	1.4291E-17
Residual	50	3.58E+14	7.1589E+12		
Total	65	2.78E+15			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	11488768	9018216	1.27395128	0.208571	-6624852.2	29602388	-6624852	29602388
DD	15693.62	3614.013	4.3424372	6.87E-05	8434.66498	22952.58	8434.665	22952.58
Customers	728.1367	460.3416	1.58173121	0.120017	-196.48663	1652.76	-196.487	1652.76
Jan	-5798385	3231216	-1.7944902	0.078782	-12288473	691702.8	-1.2E+07	691702.8
Feb	-5759671	3109327	-1.85238476	0.069878	-12004939	485597.2	-1.2E+07	485597.2
Mar	-4491584	2158272	-2.0811018	0.042566	-8826601.2	-156567	-8826601	-156567
Apr	-7644912	1779163	-4.29691454	7.99E-05	-11218466	-4071358	-1.1E+07	-4071358
May	-1.1E+07	1728922	-6.37828195	5.63E-08	-14500190	-7554908	-1.5E+07	-7554908
Jun	-8802243	1788991	-4.92022714	9.79E-06	-12395538	-5208949	-1.2E+07	-5208949
Jul	-1976766	1985985	-0.99535775	0.324355	-5965733.7	2012203	-5965734	2012203
Aug	976793.2	1869392	0.52251931	0.603616	-2777990.4	4731577	-2777990	4731577
Sep	0	0	65535	#NUM!	0	0	0	0
Oct	-1E+07	1639024	-6.37710614	#NUM!	-13744310	-7160155	-1.4E+07	-7160155
Nov	-1.7E+07	2109558	-7.82858633	3.06E-10	-20752031	-1.2E+07	-2.1E+07	-1.2E+07
Dec	-1.2E+07	2860409	-4.27901966	8.47E-05	-17985046	-6494446	-1.8E+07	-6494446
Year	-1263268	2429460	-0.519979	0.605373	-6142982.4	3616446	-6142982	3616446

Empire District Electric Company
 Response to EW-2013-0519
 Weather Normalization Regressions for Missouri Non-APP Customers

			y-axis	x-axis																												
Date	Month	Year	Sales	UPC	Season	Actual		DD	Customers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Normal			Predicted	Predicted-	Weather - Normal				
						HDD	CDD																HDD	CDD	DD	Sales	to-Actual	Sales	UPC			

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.941202
R Square	0.88586
Adjusted R	0.833901
Standard E	11706568
Observatio	65

ANOVA

	df	SS	MS	F	ignificance F
Regression	15	5.32E+16	3.54541E+15	27.71854	8.21E-19
Residual	50	6.85E+15	1.37044E+14		
Total	65	6E+16			

	Coefficients	andard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	pper 95.0%
Intercept	1.49E+08	1.34E+08	1.112827822	0.271104	-1.2E+08	4.19E+08	-1.2E+08	4.19E+08
DD	71715.27	15806.81	4.536984819	3.6E-05	39966.35	103464.2	39966.35	103464.2
Customers	-392.489	1264.397	-0.310415616	0.757535	-2932.104	2147.127	-2932.1	2147.127
Jan	-1.5E+07	14331068	-1.051809783	0.297944	-43858355	13711240	-4.4E+07	13711240
Feb	-1.4E+07	13849172	-0.980230553	0.331692	-41392261	14241499	-4.1E+07	14241499
Mar	-1.5E+07	9400176	-1.595446236	0.116915	-33878286	3883334	-3.4E+07	3883334
Apr	-3.2E+07	7556201	-4.281909539	8.39E-05	-47532047	-1.7E+07	-4.8E+07	-1.7E+07
May	-4.6E+07	7601316	-6.042036165	1.88E-07	-61195116	-3.1E+07	-6.1E+07	-3.1E+07
Jun	-3.9E+07	7800949	-4.960745419	8.51E-06	-54367192	-2.3E+07	-5.4E+07	-2.3E+07
Jul	-1.1E+07	8655632	-1.297102745	0.200549	-28612591	6158104	-2.9E+07	6158104
Aug	2115206	8163362	0.259109617	0.796614	-14281389	18511800	-1.4E+07	18511800
Sep	0	0	65535	#NUM!	0	0	0	0
Oct	-4.2E+07	7191444	-5.885107748	#NUM!	-56766862	-2.8E+07	-5.7E+07	-2.8E+07
Nov	-6.7E+07	9356721	-7.140926085	3.61E-09	-85609182	-4.8E+07	-8.6E+07	-4.8E+07
Dec	-4.5E+07	12677219	-3.554075821	0.000839	-70518742	-2E+07	-7.1E+07	-2E+07
Year	-6726664	10642034	-0.632084407	0.530211	-28101818	14648490	-2.8E+07	14648490

Empire District Electric Company
 Response to EW-2013-0519
 Weather Normalization Regressions for All Missouri Residential Customers

Date	Month	Year	y-axis	UPC	Season	x-axis																		Normal			Predicted Sales	Predicted-to-Actual	Weather - Normal	
			Sales			HDD	CDD	DD	Customers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	HDD	CDD	DD	Sales			UPC	

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.941038
R Square	0.885553
Adjusted R	0.833508
Standard E	14188515
Observatio	65

ANOVA					
	df	SS	MS	F	ignificance F
Regression	15	7.79E+16	5.19233E+15	27.63452	8.76E-19
Residual	50	1.01E+16	2.01314E+14		
Total	65	8.8E+16			

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	pper 95.0%
Intercept	2.63E+08	1.72E+08	1.52549219	0.133438	-83156557	6.08E+08	-8.3E+07	6.08E+08
DD	86229.75	19190.15	4.493438958	4.16E-05	47685.21	124774.3	47685.21	124774.3
Customers	-1032.29	1372.407	-0.752171902	0.455474	-3788.846	1724.274	-3788.85	1724.274
Jan	-2E+07	17335173	-1.129459648	0.264094	-54398097	15239341	-5.4E+07	15239341
Feb	-1.8E+07	16710454	-1.086005199	0.282685	-51711574	15416295	-5.2E+07	15416295
Mar	-1.8E+07	11467540	-1.579624241	0.120499	-41147635	4918828	-4.1E+07	4918828
Apr	-3.9E+07	9170959	-4.204638143	0.000108	-56980974	-2E+07	-5.7E+07	-2E+07
May	-5.7E+07	9075611	-6.237488878	9.34E-08	-74837921	-3.8E+07	-7.5E+07	-3.8E+07
Jun	-4.7E+07	9417440	-4.993352926	7.61E-06	-65940085	-2.8E+07	-6.6E+07	-2.8E+07
Jul	-1.3E+07	10494564	-1.201174421	0.235343	-33684755	8473150	-3.4E+07	8473150
Aug	3541228	9900552	0.357679841	0.722088	-16344616	23427072	-1.6E+07	23427072
Sep	0	0	65535	#NUM!	0	0	0	0
Oct	-5.3E+07	8687057	-6.078929641	#NUM!	-70256476	-3.5E+07	-7E+07	-3.5E+07
Nov	-8.3E+07	11279689	-7.341069603	1.76E-09	-1.05E+08	-6E+07	-1.1E+08	-6E+07
Dec	-5.6E+07	15338941	-3.661160026	0.000605	-86967486	-2.5E+07	-8.7E+07	-2.5E+07
Year	-8101819	12889594	-0.62855505	0.532501	-33991330	17787692	-3.4E+07	17787692

Empire District Electric Company
Response to EW-2013-0519
Summaries in Tabular Form

Missouri Residential APP Customers							
Month	2010	2011	2012	2013	2014	2015	2016
1	-	19,794	18,708	18,190	18,450	19,346	19,480
2	-	19,857	18,788	17,383	18,976	19,366	19,370
3	-	20,454	19,297	18,671	19,980	20,053	
4	-	20,814	19,632	19,055	20,663	20,841	
5	-	20,521	19,438	18,045	20,600	20,708	
6	-	19,553	19,156	18,827	20,389	20,499	
7	-	19,130	18,919	18,854	20,314	20,493	
8	-	19,037	18,727	18,819	20,176	20,416	
9	-	18,857	18,523	18,704	20,003	20,310	
10	19,316	18,516	18,124	18,476	19,711	20,051	
11	19,432	18,414	18,025	18,434	19,548	19,921	
12	19,711	18,769	18,167	18,353	19,487	19,836	

Missouri Residential APP Customers - Monthly Change							
Month	2010	2011	2012	2013	2014	2015	2016
1		83	(61)	23	97	(141)	(356)
2	-	63	80	(807)	526	20	(110)
3	-	597	509	1,288	1,004	687	
4	-	360	335	384	683	788	
5	-	(293)	(194)	(1,010)	(63)	(133)	
6	-	(968)	(282)	782	(211)	(209)	
7	-	(423)	(237)	27	(75)	(6)	
8	-	(93)	(192)	(35)	(138)	(77)	
9	-	(180)	(204)	(115)	(173)	(106)	
10	19,316	(341)	(399)	(228)	(292)	(259)	
11	116	(102)	(99)	(42)	(163)	(130)	
12	279	355	142	(81)	(61)	(85)	

Missouri Residential APP Average Use-per-Customer							
Month	2010	2011	2012	2013	2014	2015	2016
1	-	1,902	1,655	1,842	2,082	1,852	1,605
2	-	1,942	1,460	1,502	1,976	1,634	1,594
3	-	1,334	1,261	1,552	1,679	1,782	
4	-	1,126	927	1,381	1,172	1,070	
5	-	984	932	1,057	943	828	
6	-	1,265	1,264	1,018	1,111	1,008	
7	-	1,770	1,821	1,495	1,389	1,507	
8	-	2,036	1,923	1,473	1,408	1,660	
9	-	1,612	1,429	1,469	1,524	1,351	
10	1,034	887	956	1,061	965	1,021	
11	874	917	996	988	941	855	
12	1,401	1,363	1,217	1,619	1,476	1,210	

Total Missouri Residential Average Use-per-Customer							
Month	2010	2011	2012	2013	2014	2015	2016
1	1,963	1,652	1,418	1,529	1,784	1,565	1,352
2	1,561	1,696	1,253	1,290	1,673	1,381	1,365
3	1,335	1,136	1,064	1,326	1,394	1,511	
4	961	954	772	1,122	967	892	
5	723	861	765	881	777	682	
6	1,015	1,048	1,012	836	909	828	
7	1,429	1,432	1,462	1,209	1,131	1,225	
8	1,575	1,650	1,544	1,187	1,143	1,349	
9	1,325	1,302	1,144	1,189	1,242	1,102	
10	848	738	786	866	794	840	
11	739	779	843	834	784	708	
12	1,210	1,166	1,040	1,383	1,260	1,016	

Missouri Residential APP Weather-Normalized Average Use-per-Customer							
Month	2010	2011	2012	2013	2014	2015	2016
1	-	1,811	1,874	1,906	1,890	1,836	1,828
2	-	1,633	1,637	1,762	1,675	1,656	1,609
3	-	1,516	1,563	1,591	1,535	1,532	
4	-	1,156	1,181	1,195	1,159	1,155	
5	-	892	901	915	891	891	
6	-	1,077	1,084	1,090	1,062	1,061	
7	-	1,562	1,571	1,574	1,513	1,506	
8	-	1,711	1,727	1,722	1,656	1,645	
9	-	1,481	1,495	1,488	1,438	1,427	
10	987	999	1,004	999	982	978	
11	931	942	946	942	929	926	
12	1,431	1,467	1,491	1,483	1,439	1,427	

Total Missouri Residential Weather-Normalized Average Use-per-Customer							
Month	2010	2011	2012	2013	2014	2015	2016
1	-	1,577	1,616	1,591	1,578	1,562	1,548
2	-	1,437	1,420	1,447	1,436	1,419	1,358
3	-	1,306	1,332	1,311	1,303	1,289	
4	-	972	990	975	970	956	
5	-	809	750	739	732	722	
6	-	922	877	869	863	850	
7	-	1,299	1,251	1,244	1,233	1,220	
8	-	1,419	1,373	1,364	1,350	1,338	
9	-	1,230	1,193	1,181	1,169	1,157	
10	812	850	822	813	802	791	
11	787	820	796	786	775	767	
12	1,240	1,277	1,253	1,239	1,227	1,215	

Empire District Electric Company
 Response to EW-2013-0519
 Total Missouri Residential Use-Per-Customer Calculations

	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2011	2011	2011	2011	2011	2011	2011	2011	2011
	1/1/10	2/1/10	3/1/10	4/1/10	5/1/10	6/1/10	7/1/10	8/1/10	9/1/10	10/1/10	11/1/10	12/1/10	1/1/11	2/1/11	3/1/11	4/1/11	5/1/11	6/1/11	7/1/11	8/1/11	9/1/11
Total MO Residential Customers																					
Calendar sales	238,437,031	185,936,967	149,170,671	91,309,715	100,179,795	159,571,465	193,199,549	202,344,070	124,123,798	89,800,432	110,108,093	194,099,378	216,887,526	179,689,897	132,852,924	99,455,300	100,480,171	154,142,204	209,112,755	194,225,474	106,778,828
Less net unbilled sales	8,522,359	10,634,980	18,691,464	29,213,769	(9,521,890)	(32,147,464)	(13,574,628)	(4,397,255)	42,133,728	16,733,803	(17,065,914)	(41,431,247)	(8,277,985)	34,351,883	10,322,205	20,431,550	3,349,154	(26,352,862)	(33,852,640)	7,966,000	52,883,829
Billed sales	246,959,390	196,571,947	167,862,135	120,523,484	90,657,905	127,424,001	179,624,921	197,946,815	166,257,526	106,534,235	93,042,179	152,668,131	208,609,541	214,041,780	143,175,129	119,886,850	103,829,325	127,789,342	175,260,115	202,191,474	159,662,657
Customers	125,823	125,906	125,747	125,415	125,379	125,558	125,740	125,718	125,501	125,577	125,887	126,167	126,281	126,230	126,005	125,608	120,567	121,937	122,379	122,568	122,664
UPC	1,963	1,561	1,335	961	723	1,015	1,429	1,575	1,325	848	739	1,210	1,652	1,696	1,136	954	861	1,048	1,432	1,650	1,302

- Source:
[.. \Revenue Variance\2010\CKR\2010_Revenue_Rpts_CKR-Dec.xls](#)
[.. \Revenue Variance\2011\CKR\2011_Revenue_Rpts_CKR-Dec 2011.xls](#)
[.. \Revenue Variance\2012\CKR\2012_Revenue_Rpts_CKR - Dec.xls](#)
[.. \Revenue Variance\2013\CKR\2013_Revenue_Rpts_CKR - Dec.xls](#)
[.. \Revenue Variance\2014\CKR\2014_Revenue_Rpts_CKR 12-31-14.xls](#)
[.. \Revenue Variance\2015\CKR\2015_Revenue_Rpts_CKR 12-31-15.xls](#)
[.. \Revenue Variance\2016\CKR\2016_Revenue_Rpts_CKR 2-29-16.xls](#)

TME		
Calendar sales		1,787,632,982
Less net unbilled sales		19,057,776
Billed sales		1,806,690,758
Customers		124,323
UPC		14,532

Empire District Electric Company
Response to EW-2013-0519
Total Missouri Residential Use-Per-Customer Calculations

	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
	2011	2011	2011	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2013	2013	2013	2013
	10/1/11	11/1/11	12/1/11	1/1/12	2/1/12	3/1/12	4/1/12	5/1/12	6/1/12	7/1/12	8/1/12	9/1/12	10/1/12	11/1/12	12/1/12	1/1/13	2/1/13	3/1/13	4/1/13
Total MO Residential Customers																			
Calendar sales	84,977,709	113,869,423	170,430,901	171,390,718	144,898,726	110,860,731	84,808,956	111,506,772	148,427,260	208,878,932	170,451,055	126,021,064	94,043,556	115,185,311	160,524,266	197,570,744	154,600,240	159,485,468	113,839,356
Less net unbilled sales	5,836,590	(17,622,847)	(25,711,570)	5,056,081	11,276,300	21,703,909	11,351,734	(16,206,722)	(22,111,862)	(26,194,739)	22,439,004	16,593,344	4,049,808	(9,579,537)	(29,992,177)	(5,551,907)	7,645,852	7,173,957	26,885,656
Billed sales	90,814,299	96,246,576	144,719,331	176,446,799	156,175,026	132,564,640	96,160,690	95,300,050	126,315,398	182,684,193	192,890,059	142,614,408	98,093,364	105,605,774	130,532,089	192,018,837	162,246,092	166,659,425	140,725,012
Customers	123,074	123,622	124,139	124,412	124,603	124,585	124,509	124,528	124,806	124,976	124,914	124,715	124,879	125,294	125,475	125,611	125,737	125,726	125,453
UPC	738	779	1,166	1,418	1,253	1,064	772	765	1,012	1,462	1,544	1,144	786	843	1,040	1,529	1,290	1,326	1,122

Source:
[\.\Revenue Variance\2010\CKR\2](#)
[\.\Revenue Variance\2011\CKR\2](#)
[\.\Revenue Variance\2012\CKR\2](#)
[\.\Revenue Variance\2013\CKR\2](#)
[\.\Revenue Variance\2014\CKR\2](#)
[\.\Revenue Variance\2015\CKR](#)
[\.\Revenue Variance\2016\CKR](#)

TME																				
Calendar sales	1,782,810,259	1,786,571,589	1,762,903,112	1,717,406,304	1,682,615,133	1,660,622,940	1,645,976,596	1,657,003,197	1,651,288,253	1,651,054,430	1,627,280,011	1,646,522,247	1,655,588,094	1,656,903,982	1,646,997,347	1,673,177,373	1,682,878,887	1,731,503,624	1,760,534,024	
Less net unbilled sales	8,160,563	7,603,630	23,323,307	36,657,373	13,581,790	24,963,494	15,883,678	(3,672,198)	568,802	8,226,703	22,699,707	(13,590,778)	(15,377,560)	(7,334,250)	(11,614,857)	(22,222,845)	(25,853,293)	(40,383,245)	(24,849,323)	
Billed sales	1,790,970,822	1,794,175,219	1,786,226,419	1,754,063,677	1,696,196,923	1,685,586,434	1,661,860,274	1,653,330,999	1,651,857,055	1,659,281,133	1,649,979,718	1,632,931,469	1,640,210,534	1,649,569,732	1,635,382,490	1,650,954,528	1,657,025,594	1,691,120,379	1,735,684,701	
Customers	124,114	123,925	123,756	123,600	123,465	123,347	123,255	123,585	123,824	124,041	124,236	124,407	124,557	124,697	124,808	124,908	125,002	125,098	125,176	
UPC	14,430	14,478	14,433	14,191	13,738	13,665	13,483	13,378	13,340	13,377	13,281	13,126	13,168	13,229	13,103	13,217	13,256	13,518	13,866	

Empire District Electric Company
 Response to EW-2013-0519
 Total Missouri Residential Use-Per-Customer Calculations

	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
	2013	2013	2013	2013	2013	2013	2013	2013	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014
	5/1/13	6/1/13	7/1/13	8/1/13	9/1/13	10/1/13	11/1/13	12/1/13	1/1/14	2/1/14	3/1/14	4/1/14	5/1/14	6/1/14	7/1/14	8/1/14	9/1/14	10/1/14	11/1/14
Total MO Residential Customers																			
Calendar sales	105,208,876	126,337,275	162,428,473	147,389,944	127,315,064	97,737,153	126,153,414	209,337,105	229,267,727	188,489,752	157,597,416	99,513,065	103,223,147	127,124,843	150,220,942	162,258,985	126,335,301	88,477,449	129,276,232
Less net unbilled sales	5,131,921	(21,557,588)	(10,827,018)	1,394,077	21,820,358	10,964,991	(21,035,098)	(34,729,997)	(4,068,299)	22,752,769	18,244,010	22,051,815	(5,521,400)	(12,780,433)	(7,824,793)	(18,080,113)	30,219,622	11,767,682	(29,904,353)
Billed sales	110,340,797	104,779,687	151,601,455	148,784,021	149,135,422	108,702,144	105,118,316	174,607,108	225,199,428	211,242,521	175,841,426	121,564,880	97,701,747	114,344,410	142,396,149	144,178,872	156,554,923	100,245,131	99,371,879
Customers	125,280	125,315	125,352	125,363	125,411	125,533	125,995	126,243	126,254	126,289	126,142	125,750	125,787	125,742	125,940	126,130	126,067	126,252	126,746
UPC	881	836	1,209	1,187	1,189	866	834	1,383	1,784	1,673	1,394	967	777	909	1,131	1,143	1,242	794	784

Source:
[..Revenue Variance\2010\CKR\2](#)
[..Revenue Variance\2011\CKR\2](#)
[..Revenue Variance\2012\CKR\2](#)
[..Revenue Variance\2013\CKR\2](#)
[..Revenue Variance\2014\CKR\2](#)
[..Revenue Variance\2015\CKR](#)
[..Revenue Variance\2016\CKR](#)

TME	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
Calendar sales	1,754,236,128	1,732,146,143	1,685,695,684	1,662,634,573	1,663,928,573	1,667,622,170	1,678,590,273	1,727,403,112	1,759,100,095	1,792,989,607	1,791,101,555	1,776,775,264	1,774,789,535	1,775,577,103	1,763,369,572	1,778,238,613	1,777,258,850	1,767,999,146	1,771,121,964
Less net unbilled sales	(3,510,680)	(2,956,406)	12,411,315	(8,633,612)	(3,406,598)	3,508,585	(7,946,976)	(12,684,796)	(11,201,188)	3,905,729	14,975,782	10,141,941	(511,380)	8,265,775	11,268,000	(8,206,190)	193,074	995,765	(7,873,490)
Billed sales	1,750,725,448	1,729,189,737	1,698,106,999	1,654,000,961	1,660,521,975	1,671,130,755	1,670,643,297	1,714,718,316	1,747,898,907	1,796,895,336	1,806,077,337	1,786,917,205	1,774,278,155	1,783,842,878	1,774,637,572	1,770,032,423	1,777,451,924	1,768,994,911	1,763,248,474
Customers	125,239	125,281	125,313	125,350	125,408	125,463	125,521	125,585	125,639	125,685	125,719	125,744	125,786	125,822	125,871	125,935	125,989	126,049	126,112
UPC	13,979	13,802	13,551	13,195	13,241	13,320	13,310	13,654	13,912	14,297	14,366	14,211	14,106	14,178	14,099	14,055	14,108	14,034	13,982

Empire District Electric Company
Response to EW-2013-0519
Total Missouri Residential Use-Per-Customer Calculations

	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	
	2014	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2016	2016	
	12/1/14	1/1/15	2/1/15	3/1/15	4/1/15	5/1/15	6/1/15	7/1/15	8/1/15	9/1/15	10/1/15	11/1/15	12/1/15	1/1/16	2/1/16	
Total MO Residential Customers																
Calendar sales	180,027,361	197,999,974	179,558,460	152,189,368	86,402,005	91,274,349	131,374,467	179,449,149	154,974,829	121,522,359	90,226,427	103,503,991	151,198,262	193,651,809	150,730,180	1
Less net unbilled sales	(20,087,201)	744,029	(4,016,248)	39,609,485	26,505,146	(4,992,521)	(26,576,523)	(24,232,791)	16,025,047	18,089,751	16,464,973	(13,416,911)	(21,532,670)	(20,961,619)	23,846,647	2
Billed sales	159,940,160	198,744,003	175,542,212	191,798,853	112,907,151	86,281,828	104,797,944	155,216,358	170,999,876	139,612,110	106,691,400	90,087,080	129,665,592	172,690,190	174,576,827	3
Customers	126,918	127,000	127,152	126,928	126,628	126,485	126,598	126,715	126,768	126,745	126,997	127,304	127,592	127,711	127,853	4
UPC	1,260	1,565	1,381	1,511	892	682	828	1,225	1,349	1,102	840	708	1,016	1,352	1,365	5

Source:
[\Revenue Variance\2010\CKR\2](#)
[\Revenue Variance\2011\CKR\2](#)
[\Revenue Variance\2012\CKR\2](#)
[\Revenue Variance\2013\CKR\2](#)
[\Revenue Variance\2014\CKR\2](#)
[\Revenue Variance\2015\CKR](#)
[\Revenue Variance\2016\CKR](#)

TME																
Calendar sales	1,741,812,220	1,710,544,467	1,701,613,175	1,696,205,127	1,683,094,067	1,671,145,269	1,675,394,893	1,704,623,100	1,697,338,944	1,692,526,002	1,694,274,980	1,668,502,739	1,639,673,640	1,635,325,475	1,606,497,195	
Less net unbilled sales	6,769,306	11,581,634	(15,187,383)	6,178,092	10,631,423	11,160,302	(2,635,788)	(19,043,786)	15,061,374	2,931,503	7,628,794	24,116,236	22,670,767	965,119	28,828,014	
Billed sales	1,748,581,526	1,722,126,101	1,686,425,792	1,702,383,219	1,693,725,490	1,682,305,571	1,672,759,105	1,685,579,314	1,712,400,318	1,695,457,505	1,701,903,774	1,692,618,975	1,662,344,407	1,636,290,594	1,635,325,209	
Customers	126,168	126,230	126,302	126,368	126,441	126,499	126,570	126,635	126,688	126,745	126,807	126,853	126,909	126,969	127,027	
UPC	13,859	13,643	13,352	13,472	13,395	13,299	13,216	13,311	13,517	13,377	13,421	13,343	13,099	12,887	12,874	

Empire District Electric Company
Response to EW-2013-0519
APP Customer Data

APPCustomerTable

1	2	3	4	5	6	7	8	9	10	11	12
Date	APP Usage	APP Customer Count	Average	Month	Year	Total MO Residential Customers	Non-APP Mo Res Customers	Total MO Residential Usage	Non-APP Mo Res Usage	Non-APP Mo Res UPC	
10/1/10	19,979,478	19,316	1,034	10	2010	125,577	106,261	106,534,235	86,554,757	815	
11/1/10	16,984,517	19,432	874	11	2010	125,887	106,455	93,042,179	76,057,662	714	
12/1/10	27,622,559	19,711	1,401	12	2010	126,167	106,456	152,668,131	125,045,572	1,175	
1/1/11	37,648,739	19,794	1,902	1	2011	126,281	106,487	208,609,541	170,960,802	1,605	
2/1/11	38,559,087	19,857	1,942	2	2011	126,230	106,373	214,041,780	175,482,693	1,650	
3/1/11	27,279,240	20,454	1,334	3	2011	126,005	105,551	143,175,129	115,895,889	1,098	
4/1/11	23,445,730	20,814	1,126	4	2011	125,608	104,794	119,886,850	96,441,120	920	
5/1/11	20,190,829	20,521	984	5	2011	120,567	100,046	103,829,325	83,638,496	836	
6/1/11	24,743,930	19,553	1,265	6	2011	121,937	102,384	127,789,342	103,045,412	1,006	
7/1/11	33,869,075	19,130	1,770	7	2011	122,379	103,249	175,260,115	141,391,040	1,369	
8/1/11	38,766,795	19,037	2,036	8	2011	122,568	103,531	202,191,474	163,424,679	1,579	
9/1/11	30,405,505	18,857	1,612	9	2011	122,664	103,807	159,662,657	129,257,152	1,245	
10/1/11	16,428,585	18,516	887	10	2011	123,074	104,558	90,814,299	74,385,714	711	
11/1/11	16,878,557	18,414	917	11	2011	123,622	105,208	96,246,576	79,368,019	754	
12/1/11	25,583,254	18,769	1,363	12	2011	124,139	105,370	144,719,331	119,136,077	1,131	
1/1/12	30,970,958	18,708	1,655	1	2012	124,412	105,704	176,446,799	145,475,841	1,376	
2/1/12	27,426,140	18,788	1,460	2	2012	124,603	105,815	156,175,026	128,748,886	1,217	
3/1/12	24,339,095	19,297	1,261	3	2012	124,585	105,288	132,564,640	108,225,545	1,028	
4/1/12	18,196,740	19,632	927	4	2012	124,509	104,877	96,160,690	77,963,950	743	
5/1/12	18,109,740	19,438	932	5	2012	124,528	105,090	95,300,050	77,190,310	735	
6/1/12	24,207,622	19,156	1,264	6	2012	124,806	105,650	126,315,398	102,107,776	966	
7/1/12	34,459,581	18,919	1,821	7	2012	124,976	106,057	182,684,193	148,224,612	1,398	
8/1/12	36,017,718	18,727	1,923	8	2012	124,914	106,187	192,890,059	156,872,341	1,477	
9/1/12	26,460,731	18,523	1,429	9	2012	124,715	106,192	142,614,408	116,153,677	1,094	
10/1/12	17,326,069	18,124	956	10	2012	124,879	106,755	98,093,364	80,767,295	757	
11/1/12	17,952,374	18,025	996	11	2012	125,294	107,269	105,605,774	87,653,400	817	
12/1/12	22,113,849	18,167	1,217	12	2012	125,475	107,308	130,532,089	108,418,240	1,010	
1/1/13	33,509,227	18,190	1,842	1	2013	125,611	107,421	192,018,837	158,509,610	1,476	
2/1/13	26,112,809	17,383	1,502	2	2013	125,737	108,354	162,246,092	136,133,283	1,256	
3/1/13	28,975,199	18,671	1,552	3	2013	125,726	107,055	166,659,425	137,684,226	1,286	
4/1/13	26,315,348	19,055	1,381	4	2013	125,453	106,398	140,725,012	114,409,664	1,075	
5/1/13	19,081,517	18,045	1,057	5	2013	125,280	107,235	110,340,797	91,259,280	851	
6/1/13	19,173,299	18,827	1,018	6	2013	125,315	106,488	104,779,687	85,606,388	804	
7/1/13	28,185,814	18,854	1,495	7	2013	125,352	106,498	151,601,455	123,415,641	1,159	
8/1/13	27,725,753	18,819	1,473	8	2013	125,363	106,544	148,784,021	121,058,268	1,136	
9/1/13	27,468,552	18,704	1,469	9	2013	125,411	106,707	149,135,422	121,666,870	1,140	
10/1/13	19,603,620	18,476	1,061	10	2013	125,533	107,057	108,702,144	89,098,524	832	
11/1/13	18,207,256	18,434	988	11	2013	125,995	107,561	105,118,316	86,911,060	808	
12/1/13	29,711,751	18,353	1,619	12	2013	126,243	107,890	174,607,108	144,895,357	1,343	
1/1/14	38,404,812	18,450	2,082	1	2014	126,254	107,804	225,199,428	186,794,616	1,733	
2/1/14	37,501,792	18,976	1,976	2	2014	126,289	107,313	211,242,521	173,740,729	1,619	
3/1/14	33,539,842	19,980	1,679	3	2014	126,142	106,162	175,841,426	142,301,584	1,340	
4/1/14	24,215,907	20,663	1,172	4	2014	125,750	105,087	121,564,880	97,348,973	926	
5/1/14	19,418,258	20,600	943	5	2014	125,787	105,187	97,701,747	78,283,489	744	
6/1/14	22,651,183	20,389	1,111	6	2014	125,742	105,353	114,344,410	91,693,227	870	
7/1/14	28,213,410	20,314	1,389	7	2014	125,940	105,626	142,396,149	114,182,739	1,081	
8/1/14	28,410,426	20,176	1,408	8	2014	126,130	105,954	144,178,872	115,768,446	1,093	
9/1/14	30,485,566	20,003	1,524	9	2014	126,067	106,064	156,554,923	126,069,357	1,189	
10/1/14	19,029,327	19,711	965	10	2014	126,252	106,541	100,245,131	81,215,804	762	
11/1/14	18,393,780	19,548	941	11	2014	126,746	107,198	99,371,879	80,978,099	755	
12/1/14	28,768,903	19,487	1,476	12	2014	126,918	107,431	159,940,160	131,171,257	1,221	
1/1/15	35,835,517	19,346	1,852	1	2015	127,000	107,654	198,744,003	162,908,486	1,513	
2/1/15	31,646,024	19,366	1,634	2	2015	127,152	107,786	175,542,212	143,896,188	1,335	
3/1/15	35,730,089	20,053	1,782	3	2015	126,928	106,875	191,798,853	156,068,764	1,460	
4/1/15	22,295,280	20,841	1,070	4	2015	126,628	105,787	112,907,151	90,611,871	857	
5/1/15	17,153,002	20,708	828	5	2015	126,485	105,777	86,281,828	69,128,826	654	
6/1/15	20,656,611	20,499	1,008	6	2015	126,598	106,099	104,797,944	84,141,333	793	
7/1/15	30,874,073	20,493	1,507	7	2015	126,715	106,222	155,216,358	124,342,285	1,171	
8/1/15	33,880,606	20,416	1,660	8	2015	126,768	106,352	170,999,876	137,119,270	1,289	
9/1/15	27,440,132	20,310	1,351	9	2015	126,745	106,435	139,612,110	112,171,978	1,054	

Empire District Electric Company
 Response to EW-2013-0519
 APP Customer Data

[APPCustomerTable](#)

1	2	3	4	5	6	7	8	9	10	11	12
	APP	APP					Total MO	Non-APP	Total MO	Non-APP	Non-APP
	Usage	Customer	Average	Month	Year		Residential	Mo Res	Residential	Mo Res	Mo Res
Date	Usage	Count	Average	Month	Year		Customers	Customers	Usage	Usage	UPC
10/1/15	20,462,938	20,051	1,021	10	2015		126,997	106,946	106,691,400	86,228,462	806
11/1/15	17,031,952	19,921	855	11	2015		127,304	107,383	90,087,080	73,055,128	680
12/1/15	24,001,057	19,836	1,210	12	2015		127,592	107,756	129,665,592	105,664,535	981
1/1/16	31,262,447	19,480	1,605	1	2016		127,711	108,231	172,690,190	141,427,743	1,307
2/1/16	30,884,182	19,370	1,594	2	2016		127,853	108,483	174,576,827	143,692,645	1,325
Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row

Empire District Electric Company
 Response to EW-2013-0519
 Weather Data for Normalization Regressions

Source [..\\Weather\\Weather Analysis - 2016.xls](#)

Rows 128

Tab - Degree Days Table SGF

[WeatherTable](#)

1	2	3	4	5	6	7	8	9	10
Date	Monthly HDD	Monthly CDD	Annual HDD	Annual CDD	'71-80 Normal HDD	'71-80 Normal CDD	'81-10 Normal HDD	'81-10 Normal CDD	Month
9/1/06	52	115	3,813	1,697	62	179	53	173	
10/1/06	307	41	3,813	1,697	248	28	253	28	
11/1/06	506	-	3,813	1,697	578	1	571	2	
12/1/06	765	-	3,813	1,697	899	-	931	-	
1/1/07	962	-	4,103	1,752	1,034	-	1,003	-	
2/1/07	842	-	4,103	1,752	790	-	780	-	
3/1/07	291	29	4,103	1,752	581	3	581	3	
4/1/07	356	21	4,103	1,752	300	20	300	22	
5/1/07	19	176	4,103	1,752	100	83	95	90	
6/1/07	-	317	4,103	1,752	8	258	9	263	
7/1/07	-	407	4,103	1,752	1	415	-	410	
8/1/07	-	522	4,103	1,752	1	379	2	398	
9/1/07	18	208	4,103	1,752	62	179	53	173	
10/1/07	192	72	4,103	1,752	248	28	253	28	
11/1/07	535	-	4,103	1,752	578	1	571	2	
12/1/07	888	-	4,103	1,752	899	-	931	-	
1/1/08	969	-	4,767	1,265	1,034	-	1,003	-	
2/1/08	863	-	4,767	1,265	790	-	803	-	
3/1/08	583	-	4,767	1,265	581	3	581	3	
4/1/08	365	13	4,767	1,265	300	20	300	22	
5/1/08	108	78	4,767	1,265	100	83	95	90	
6/1/08	-	255	4,767	1,265	8	258	9	263	
7/1/08	-	406	4,767	1,265	1	415	-	410	
8/1/08	-	357	4,767	1,265	1	379	2	398	
9/1/08	30	127	4,767	1,265	62	179	53	173	
10/1/08	264	28	4,767	1,265	248	28	253	28	
11/1/08	608	1	4,767	1,265	578	1	571	2	
12/1/08	977	-	4,767	1,265	899	-	931	-	
1/1/09	1,063	-	4,577	1,110	1,034	-	1,003	-	
2/1/09	670	-	4,577	1,110	790	-	780	-	
3/1/09	517	9	4,577	1,110	581	3	581	3	
4/1/09	337	30	4,577	1,110	300	20	300	22	
5/1/09	109	65	4,577	1,110	100	83	95	90	
6/1/09	6	326	4,577	1,110	8	258	9	263	
7/1/09	-	292	4,577	1,110	1	415	-	410	
8/1/09	7	286	4,577	1,110	1	379	2	398	
9/1/09	33	102	4,577	1,110	62	179	53	173	
10/1/09	399	-	4,577	1,110	248	28	253	28	
11/1/09	420	-	4,577	1,110	578	1	571	2	
12/1/09	1,016	-	4,577	1,110	899	-	931	-	
1/1/10	1,139	-	4,710	1,737	1,034	-	1,003	-	
2/1/10	953	-	4,710	1,737	790	-	780	-	
3/1/10	593	5	4,710	1,737	581	3	581	3	
4/1/10	164	28	4,710	1,737	300	20	300	22	
5/1/10	85	111	4,710	1,737	100	83	95	90	
6/1/10	-	407	4,710	1,737	8	258	9	263	
7/1/10	-	475	4,710	1,737	1	415	-	410	
8/1/10	-	513	4,710	1,737	1	379	2	398	
9/1/10	28	188	4,710	1,737	62	179	53	173	
10/1/10	210	10	4,710	1,737	248	28	253	28	
11/1/10	533	-	4,710	1,737	578	1	571	2	
12/1/10	1,005	-	4,710	1,737	899	-	931	-	
1/1/11	1,081	-	4,587	1,817	1,034	-	1,003	-	
2/1/11	853	-	4,587	1,817	790	-	780	-	
3/1/11	568	5	4,587	1,817	581	3	581	3	
4/1/11	231	33	4,587	1,817	300	20	300	22	
5/1/11	177	115	4,587	1,817	100	83	95	90	
6/1/11	-	406	4,587	1,817	8	258	9	263	
7/1/11	-	616	4,587	1,817	1	415	-	410	
8/1/11	-	502	4,587	1,817	1	379	2	398	
9/1/11	93	114	4,587	1,817	62	179	53	173	
10/1/11	251	26	4,587	1,817	248	28	253	28	
11/1/11	513	-	4,587	1,817	578	1	571	2	
12/1/11	820	-	4,587	1,817	899	-	931	-	
1/1/12	828	-	3,656	1,766	1,034	-	1,003	-	
2/1/12	702	-	3,656	1,766	790	-	803	-	
3/1/12	239	34	3,656	1,766	581	3	581	3	
4/1/12	195	44	3,656	1,766	300	20	300	22	
5/1/12	31	182	3,656	1,766	100	83	95	90	
6/1/12	8	344	3,656	1,766	8	258	9	263	
7/1/12	-	607	3,656	1,766	1	415	-	410	

Empire District Electric Company
 Response to EW-2013-0519
 Weather Data for Normalization Regressions

Source [..\\Weather\\Weather Analysis - 2016.xls](#)

Rows 128

Tab - Degree Days Table SGF

[WeatherTable](#)

1	2	3	4	5	6	7	8	9	10
Date	Monthly HDD	Monthly CDD	Annual HDD	Annual CDD	'71-80 Normal HDD	'71-80 Normal CDD	'81-10 Normal HDD	'81-10 Normal CDD	Month
8/1/12	-	379	3,656	1,766	1	379	2	398	
9/1/12	41	153	3,656	1,766	62	179	53	173	
10/1/12	355	20	3,656	1,766	248	28	253	28	
11/1/12	521	1	3,656	1,766	578	1	571	2	
12/1/12	736	2	3,656	1,766	899	-	931	-	
1/1/13	869	-	4,806	1,418	1,034	-	1,003	-	
2/1/13	782	-	4,806	1,418	790	-	780	-	
3/1/13	717	-	4,806	1,418	581	3	581	3	
4/1/13	337	17	4,806	1,418	300	20	300	22	
5/1/13	142	111	4,806	1,418	100	83	95	90	
6/1/13	14	284	4,806	1,418	8	258	9	263	
7/1/13	-	373	4,806	1,418	1	415	-	410	
8/1/13	-	359	4,806	1,418	1	379	2	398	
9/1/13	14	230	4,806	1,418	62	179	53	173	
10/1/13	290	44	4,806	1,418	248	28	253	28	
11/1/13	633	-	4,806	1,418	578	1	571	2	
12/1/13	1,008	-	4,806	1,418	899	-	931	-	
1/1/14	1,106	-	4,867	1,470	1,034	-	1,003	-	
2/1/14	926	-	4,867	1,470	790	-	780	-	
3/1/14	681	-	4,867	1,470	581	3	581	3	
4/1/14	272	14	4,867	1,470	300	20	300	22	
5/1/14	112	179	4,867	1,470	100	83	95	90	
6/1/14	-	294	4,867	1,470	8	258	9	263	
7/1/14	-	292	4,867	1,470	1	415	-	410	
8/1/14	-	467	4,867	1,470	1	379	2	398	
9/1/14	31	179	4,867	1,470	62	179	53	173	
10/1/14	201	45	4,867	1,470	248	28	253	28	
11/1/14	718	-	4,867	1,470	578	1	571	2	
12/1/14	820	-	4,867	1,470	899	-	931	-	
1/1/15	938	-	4,060	1,555	1,034	-	1,003	-	
2/1/15	999	-	4,060	1,555	790	-	780	-	
3/1/15	547	-	4,060	1,555	581	3	581	3	
4/1/15	218	22	4,060	1,555	300	20	300	22	
5/1/15	63	120	4,060	1,555	100	83	95	90	
6/1/15	1	350	4,060	1,555	8	258	9	263	
7/1/15	-	463	4,060	1,555	1	415	-	410	
8/1/15	3	314	4,060	1,555	1	379	2	398	
9/1/15	10	256	4,060	1,555	62	179	53	173	
10/1/15	188	30	4,060	1,555	248	28	253	28	
11/1/15	444	-	4,060	1,555	578	1	571	2	
12/1/15	649	-	4,060	1,555	899	-	931	-	
1/1/16	945	-	1,619	-	1,034	-	1,003	-	1
2/1/16	674	-	1,619	-	790	-	803	-	2
3/1/16	-	-	1,619	-	581	3	581	3	3
4/1/16	-	-	1,619	-	300	20	300	22	4
5/1/16	-	-	1,619	-	100	83	95	90	5
6/1/16	-	-	1,619	-	8	258	9	263	6
7/1/16	-	-	1,619	-	1	415	-	410	7
8/1/16	-	-	1,619	-	1	379	2	398	8
9/1/16	-	-	1,619	-	62	179	53	173	9
10/1/16	-	-	1,619	-	248	28	253	28	10
11/1/16	-	-	1,619	-	578	1	571	2	11
12/1/16	-	-	1,619	-	899	-	931	-	12
Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	Last Row	

Season	Starts	Ends
Heating	10	3
Cooling	6	9
Shoulder	4	5