

# Chapter 3 – Appendix B

## Weather Normalized Energy Models<sup>1</sup>

### Residential Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	72,580,601	687,396	105.588	0.00%
DOWBinary.Monday	-1,710,313	304,504	-5.617	0.00%
DOWBinary.Tuesday	-2,020,681	302,218	-6.686	0.00%
DOWBinary.Wednesday	-2,605,676	304,216	-8.565	0.00%
DOWBinary.Thursday	-2,271,423	303,043	-7.495	0.00%
DOWBinary.Friday	-2,180,707	300,934	-7.246	0.00%
DOWBinary.Saturday	-932,182	299,393	-3.114	0.19%
MonthBinary.Jan	746,759	421,038	1.774	7.66%
MonthBinary.Feb	-1,584,906	431,288	-3.675	0.03%
MonthBinary.Apr	-4,025,399	464,264	-8.671	0.00%
MonthBinary.May	-3,311,578	557,227	-5.943	0.00%
MonthBinary.Jun	-2,086,436	729,220	-2.861	0.44%
MonthBinary.Jul	-2,081,711	764,073	-2.724	0.66%
MonthBinary.Aug	-3,705,554	755,994	-4.902	0.00%
MonthBinary.Sep	-5,678,686	655,878	-8.658	0.00%
MonthBinary.Oct	-4,194,238	459,826	-9.121	0.00%
MonthBinary.Nov	-2,014,244	405,000	-4.973	0.00%
ResSplines.AvgT	-824,071	17,945	-45.923	0.00%
ResSplines.CoolAvgT	303,437	45,928	6.607	0.00%
ResSplines.MILDAvgT	574,185	93,973	6.11	0.00%
ResSplines.WarmAvgT	579,856	155,519	3.729	0.02%
ResSplines.HotAvgT	1,125,361	186,078	6.048	0.00%
ResSplines.SummerWarm	485,954	122,839	3.956	0.01%
ResSplines.SummerHot	-597,431	201,568	-2.964	0.32%
ResSplines.WinterAvgT	72,139	11,246	6.414	0.00%
ResSplines.WinterCool	-243,219	63,345	-3.84	0.01%

Note: One of the explanatory variables was retained in the model despite being only marginally statistically significant ( $p\text{-value} > .05$ ). The direction and magnitude of the coefficient are reasonable, the standard error is consistent with other variables, and the interpretation of all of the weather variables is cleaner with the inclusion of this variable.

<sup>1</sup> 4 CSR 240-22.030(2)(C)3

**Residential Weather Normalization Energy Models Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	703
Deg. of Freedom for Error	677
R-Squared	0.966
Adjusted R-Squared	0.965
F-Statistic	765.892
Prob (F-Statistic)	0.000
Mean Abs. % Err. (MAPE)	4.33%
Durbin-Watson Statistic	1.253

### Commercial SGS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	12,757,078	127,651	99.937	0.00%
DOWBinary.TWT	1,484,807	101,324	14.654	0.00%
DOWBinary.MonFri	1,259,203	102,320	12.307	0.00%
DOWBinary.Saturday	393,376	52,175	7.54	0.00%
MonthBinary.Mar	-315,476	58,794	-5.366	0.00%
MonthBinary.Apr	-809,710	75,936	-10.663	0.00%
MonthBinary.May	-703,131	93,198	-7.545	0.00%
MonthBinary.Jun	-928,611	116,537	-7.968	0.00%
MonthBinary.Jul	-779,515	124,975	-6.237	0.00%
MonthBinary.Aug	-858,558	120,605	-7.119	0.00%
MonthBinary.Sep	-894,878	105,106	-8.514	0.00%
MonthBinary.Oct	-906,985	75,256	-12.052	0.00%
MonthBinary.Nov	-524,594	63,202	-8.3	0.00%
COMSGSSplines.AvgT	-106,673	2,827	-37.732	0.00%
COMSGSSplines.CoolAvgT	37,177	9,189	4.046	0.01%
COMSGSSplines.MildAvgT	126,662	15,066	8.407	0.00%
COMSGSSplines.WarmAvgT	45,334	18,102	2.504	1.25%
COMSGSSplines.HotAvgT	76,225	15,162	5.027	0.00%
COMSGSSplines.WkndAvgT	-11,561	1,601	-7.222	0.00%
COMSGSSplines.WinterMildAvgT	-116,486	21,530	-5.41	0.00%
COMSGSSplines.SummerWarmAvgT	36,826	9,388	3.923	0.01%

### ComSGS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	706
Deg. of Freedom for Error	685
R-Squared	0.957
Adjusted R-Squared	0.956
F-Statistic	760.315
Prob (F-Statistic)	0.000
Mean Abs. % Err. (MAPE)	3.13%
Durbin-Watson Statistic	1.674

### ComLGS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	23,480,393	223,772	104.93	0.00%
DOWBinary.Monday	2,159,903	229,926	9.394	0.00%
DOWBinary.TWT	2,470,858	222,288	11.116	0.00%
DOWBinary.Friday	2,109,683	228,190	9.245	0.00%
DOWBinary.Saturday	922,189	89,069	10.354	0.00%
MonthBinary.Apr	570,310	116,127	4.911	0.00%
MonthBinary.May	865,586	146,938	5.891	0.00%
MonthBinary.Jun	-3,939,801	963,702	-4.088	0.01%
MonthBinary.Jul	-3,674,776	978,915	-3.754	0.02%
MonthBinary.Aug	-3,674,237	971,545	-3.782	0.02%
MonthBinary.Sep	-2,831,121	941,473	-3.007	0.27%
MonthBinary.Oct	556,580	114,745	4.851	0.00%
COMLGSSplines.AvgT	-148,620	3,554	-41.812	0.00%
COMLGSSplines.WarmAvgT	292,406	11,716	24.959	0.00%
COMLGSSplines.HotAvgT	64,742	19,675	3.291	0.11%
COMLGSSplines.WkndAvgT	-31,539	4,258	-7.407	0.00%
COMLGSSplines.WkndHotAvg	30,789	13,135	2.344	1.93%
COMLGSSplines.WinterAvgT	-10,820	2,026	-5.341	0.00%
COMLGSSplines.SummerAvgT	66,905	13,523	4.948	0.00%

### ComLGS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	687
Deg. of Freedom for Error	668
R-Squared	0.953
Adjusted R-Squared	0.952
F-Statistic	758.786
Prob (F-Statistic)	0.000
Mean Abs. % Err. (MAPE)	2.31%
Durbin-Watson Statistic	1.285

### ComSPS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	7,330,916	54,485	134.55	0.00%
DOWBinary.Friday	-36,200	16,783	-2.157	3.14%
DOWBinary.Saturday	-432,672	50,895	-8.501	0.00%
DOWBinary.Sunday	-601,973	51,056	-11.79	0.00%
MonthBinary.Jan	171,252	30,146	5.681	0.00%
MonthBinary.Feb	164,851	30,472	5.41	0.00%
MonthBinary.Mar	97,237	28,905	3.364	0.08%
MonthBinary.Apr	80,277	32,612	2.462	1.41%
MonthBinary.May	169,994	38,364	4.431	0.00%
MonthBinary.Jun	-779,435	234,102	-3.329	0.09%
MonthBinary.Jul	-438,784	236,911	-1.852	6.45%
MonthBinary.Aug	-479,632	236,182	-2.031	4.27%
MonthBinary.Sep	-552,735	227,725	-2.427	1.55%
MonthBinary.Oct	149,723	32,473	4.611	0.00%
MonthBinary.Nov	53,949	30,006	1.798	7.27%
COMSPSSplines.AvgT	-28,080	1,531	-18.346	0.00%
COMSPSSplines.CoolAvgT	15,179	2,806	5.409	0.00%
COMSPSSplines.MildAvgT	46,030	3,344	13.766	0.00%
COMSPSSplines.WarmAvgT	35,195	4,576	7.692	0.00%
COMSPSSplines.HotAvgT	-27,564	7,150	-3.855	0.01%
COMSPSSplines.SummerAvgT	12,096	3,274	3.695	0.03%
COMSPSSplines.WkndAvgT	-3,785	968	-3.908	0.01%
COMSPSSplines.WkndWarmAvgT	-6,083	3,180	-1.913	5.62%

Note: Some of the explanatory variables were retained in the model despite being only marginally statistically significant ( $p\text{-value} > .05$ ). The direction and magnitude of the coefficient are reasonable, the standard error is consistent with other variables, and the interpretation of all of the weather variables is cleaner with the inclusion of this variable.

### Com SPS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	683
Deg. of Freedom for Error	660
R-Squared	0.962
Adjusted R-Squared	0.961
F-Statistic	764.859
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	1.73%
Durbin-Watson Statistic	1.121

## Com LPS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	4,566,479	28,483	160.321	0.00%
DOWBinary.Thursday	59,465	23,607	2.519	1.20%
DOWBinary.Saturday	-268,608	28,827	-9.318	0.00%
DOWBinary.Sunday	-342,665	28,849	-11.878	0.00%
MonthBinary.Jan	-298,801	38,339	-7.794	0.00%
MonthBinary.Feb	-419,364	38,652	-10.85	0.00%
MonthBinary.Mar	-240,323	36,879	-6.517	0.00%
MonthBinary.Apr	-107,867	34,866	-3.094	0.21%
MonthBinary.May	-265,255	34,077	-7.784	0.00%
MonthBinary.Jun	-115,844	32,209	-3.597	0.04%
MonthBinary.Sep	238,229	34,260	6.953	0.00%
MonthBinary.Oct	-159,154	34,362	-4.632	0.00%
MonthBinary.Nov	-82,139	38,018	-2.161	3.11%
COMLPSSplines.MildAvgT	20,862	2,115	9.863	0.00%
COMLPSSplines.HotAvgT	13,658	3,290	4.152	0.00%
COMLPSSplines.WkndMildAvgT	-3,193	1,241	-2.573	1.03%

## Com LPS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	691
Deg. of Freedom for Error	675
R-Squared	0.863
Adjusted R-Squared	0.860
F-Statistic	284.129
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	3.52%
Durbin-Watson Statistic	0.532

### Ind SGS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	524,078	13,438	39	0.00%
DOWBinary.Monday	35,868	14,914	2.405	1.64%
DOWBinary.Tuesday	40,226	14,895	2.701	0.71%
DOWBinary.Wednesday	46,948	14,826	3.167	0.16%
DOWBinary.Thursday	47,713	14,844	3.214	0.14%
DOWBinary.Friday	38,985	14,901	2.616	0.91%
DOWBinary.Saturday	34,330	5,061	6.784	0.00%
MonthBinary.Mar	31,969	5,640	5.668	0.00%
MonthBinary.Apr	45,195	6,960	6.493	0.00%
MonthBinary.May	51,356	8,260	6.217	0.00%
MonthBinary.Jun	56,924	9,155	6.218	0.00%
MonthBinary.Jul	65,107	9,826	6.626	0.00%
MonthBinary.Aug	57,604	9,376	6.144	0.00%
MonthBinary.Sep	70,202	8,538	8.222	0.00%
MonthBinary.Oct	109,749	6,866	15.983	0.00%
MonthBinary.Nov	97,223	6,092	15.958	0.00%
INDSGSSplines.AvgT	-5,852	213	-27.416	0.00%
INDSGSSplines.MILDavgT	9,273	738	12.561	0.00%
INDSGSSplines.WarmAvgT	3,015	857	3.519	0.05%
INDSGSSplines.WkndAvgT	-1,713	310	-5.529	0.00%
INDSGSSplines.WkndMildAvgT	1,321	645	2.048	4.09%

### Ind SGS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	705
Deg. of Freedom for Error	684
R-Squared	0.836
Adjusted R-Squared	0.831
F-Statistic	174.091
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	8.41%
Durbin-Watson Statistic	1.546

### IndLGS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	1,640,972	36,043	45.528	0.00%
DOWBinary.TWT	1,152,528	37,112	31.055	0.00%
DOWBinary.MonFri	910,534	39,208	23.223	0.00%
DOWBinary.Saturday	256,630	45,419	5.65	0.00%
MonthBinary.Jan	123,074	47,815	2.574	1.03%
MonthBinary.Feb	103,022	48,495	2.124	3.40%
MonthBinary.May	133,345	46,929	2.841	0.46%
MonthBinary.Jun	251,351	49,683	5.059	0.00%
MonthBinary.Jul	434,398	58,763	7.392	0.00%
MonthBinary.Aug	344,276	50,679	6.793	0.00%
MonthBinary.Sep	124,532	47,715	2.61	0.92%
MonthBinary.Nov	192,271	49,983	3.847	0.01%
INDLGSSplines.WarmAvgT	7,414	4,217	1.758	7.92%

Note: One of the explanatory variables was retained in the model despite being only marginally statistically significant ( $p\text{-value} > .05$ ). The direction and magnitude of the coefficient are reasonable, the standard error is consistent with other variables, and the interpretation of all of the weather variables is cleaner with the inclusion of this variable.

### IndLGS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	711
Deg. of Freedom for Error	698
R-Squared	0.678
Adjusted R-Squared	0.672
F-Statistic	122.362
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	9.32%
Durbin-Watson Statistic	0.540



### IndSPS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	2,625,300	45,230	58.044	0.00%
DOWBinary.MonFri	977,581	36,639	26.681	0.00%
DOWBinary.TWT	1,144,815	36,376	31.472	0.00%
DOWBinary.Saturday	310,941	18,645	16.677	0.00%
MonthBinary.Feb	80,144	20,944	3.827	0.02%
MonthBinary.Mar	41,498	19,407	2.138	3.28%
MonthBinary.May	57,826	19,106	3.027	0.26%
MonthBinary.Aug	85,620	19,439	4.404	0.00%
INDSPSSplines.AvgT	-3,325	872	-3.814	0.02%
INDSPSSplines.MildAvgT	7,465	2,404	3.105	0.20%
INDSPSSplines.WarmAvgT	10,086	3,049	3.308	0.10%
INDSPSSplines.HotAvgT	10,642	2,759	3.858	0.01%
INDSPSSplines.WkndAvgT	-2,211	571	-3.871	0.01%

### IndSPS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	687
Deg. of Freedom for Error	674
R-Squared	0.943
Adjusted R-Squared	0.942
F-Statistic	925.247
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	2.95%
Durbin-Watson Statistic	1.073

### Ind LPS Weather Normalization Energy Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	5,440,004	25,454	213.72	0.00%
DOWBinary.Monday	643,581	29,399	21.891	0.00%
DOWBinary.Tuesday	733,294	28,947	25.333	0.00%
DOWBinary.Wednesday	763,701	28,955	26.375	0.00%
DOWBinary.Thursday	809,175	29,054	27.851	0.00%
DOWBinary.Friday	722,577	28,970	24.942	0.00%
DOWBinary.Saturday	227,929	28,945	7.875	0.00%
MonthBinary.Jan	-265,078	32,030	-8.276	0.00%
MonthBinary.Feb	-504,585	32,538	-15.508	0.00%
MonthBinary.Mar	-256,342	31,166	-8.225	0.00%
MonthBinary.Apr	-160,413	29,430	-5.451	0.00%
MonthBinary.Aug	76,715	30,212	2.539	1.13%
INDLPSSplines.MildAvgT	14,034	2,120	6.621	0.00%
INDLPSSplines.WarmAvgT	15,284	3,667	4.168	0.00%
INDLPSSplines.HotAvgT	-31,857	10,660	-2.989	0.29%

### Ind LPS Weather Normalization Energy Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	696
Deg. of Freedom for Error	681
R-Squared	0.845
Adjusted R-Squared	0.842
F-Statistic	265.918
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	2.63%
Durbin-Watson Statistic	0.642

## Weather Normalized Peak Demand Models<sup>2</sup>

### Residential Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	3,427,014	42,634	80.382	0.00%
DOWBinary.Monday	42,899	21,548	1.991	4.69%
DOWBinary.Tuesday	54,581	21,185	2.576	1.02%
DOWBinary.Saturday	-115,122	24,990	-4.607	0.00%
MonthBinary.Feb	-103,851	30,652	-3.388	0.08%
MonthBinary.Mar	-123,894	30,246	-4.096	0.01%
MonthBinary.Apr	-318,549	36,131	-8.817	0.00%
MonthBinary.May	-281,996	44,468	-6.342	0.00%
MonthBinary.Jun	-139,581	57,328	-2.435	1.51%
MonthBinary.Jul	-198,220	61,427	-3.227	0.13%
MonthBinary.Aug	-247,559	59,665	-4.149	0.00%
MonthBinary.Sep	-364,583	51,184	-7.123	0.00%
MonthBinary.Oct	-351,525	36,002	-9.764	0.00%
MonthBinary.Nov	-246,120	32,305	-7.619	0.00%
ResSplines.AvgT	-33,133	1,111	-29.816	0.00%
ResSplines.MildAvgT	31,160	4,792	6.502	0.00%
ResSplines.WarmAvgT	51,300	8,263	6.209	0.00%
ResSplines.HotAvgT	43,311	7,450	5.814	0.00%
ResSplines.XHotAvgT	-31,556	8,418	-3.749	0.02%
ResSplines.SummerWarmAvgT	9,995	4,482	2.23	2.61%
ResSplines.WkndAvgT	1,817	335	5.427	0.00%

### Residential Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	703
Deg. of Freedom for Error	682
R-Squared	0.922
Adjusted R-Squared	0.920
F-Statistic	402.122
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	6.52%
Durbin-Watson Statistic	1.399

<sup>2</sup> 4 CSR 240-22.030(2)(C)3; 4 CSR 240-22.030(2)(D)1; 4 CSR 240-22.030(3)(B)

## Com SGS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	560,863	7,973	70.344	0.00%
DOWBinary.TWT	155,846	4,426	35.208	0.00%
DOWBinary.MonFri	141,559	4,577	30.931	0.00%
DOWBinary.Saturday	25,083	4,512	5.559	0.00%
MonthBinary.Apr	-33,493	6,222	-5.383	0.00%
MonthBinary.May	-22,156	7,861	-2.818	0.50%
MonthBinary.Jun	-150,718	51,308	-2.938	0.34%
MonthBinary.Jul	-139,431	51,873	-2.688	0.74%
MonthBinary.Aug	-131,077	51,738	-2.533	1.15%
MonthBinary.Sep	-130,285	49,808	-2.616	0.91%
MonthBinary.Oct	-29,670	6,191	-4.792	0.00%
MonthBinary.Nov	-20,291	5,180	-3.917	0.01%
COMSGSSplines.AvgT	-4,609	194	-23.793	0.00%
COMSGSSplines.MildAvgT	8,828	1,192	7.405	0.00%
COMSGSSplines.WarmAvgT	3,848	1,556	2.473	1.36%
COMSGSSplines.HotAvgT	3,425	1,010	3.39	0.08%
COMSGSSplines.WinterMildAvgT	-6,110	1,552	-3.936	0.01%
COMSGSSplines.SummerAvgT	1,716	715	2.399	1.67%
COMSGSSplines.WkndMildAvgT	-2,556	229	-11.153	0.00%

## Com SGS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	706
Deg. of Freedom for Error	687
R-Squared	0.934
Adjusted R-Squared	0.932
F-Statistic	536.579
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	4.83%
Durbin-Watson Statistic	1.970

## Com LGS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	968,912	10,973	88.3	0.00%
DOWBinary.TWT	281,576	5,818	48.4	0.00%
DOWBinary.MonFri	260,428	6,099	42.698	0.00%
DOWBinary.Saturday	53,569	6,562	8.163	0.00%
MonthBinary.Mar	25,737	6,867	3.748	0.02%
MonthBinary.Apr	51,723	8,343	6.2	0.00%
MonthBinary.May	54,390	10,355	5.253	0.00%
MonthBinary.Jun	42,439	11,602	3.658	0.03%
MonthBinary.Jul	53,787	12,460	4.317	0.00%
MonthBinary.Aug	56,517	11,928	4.738	0.00%
MonthBinary.Sep	103,733	10,741	9.658	0.00%
MonthBinary.Oct	39,386	8,211	4.797	0.00%
COMLGSSplines.AvgT	-6,562	257	-25.549	0.00%
COMLGSSplines.MildAvgT	18,531	700	26.478	0.00%
COMLGSSplines.HotAvgT	5,330	1,047	5.091	0.00%
COMLGSSplines.XHotAvgT	-17,953	2,983	-6.018	0.00%
COMLGSSplines.WkndHotAvgT	-5,470	996	-5.489	0.00%
COMLGSSplines.WkndXHotAvgT	19,318	5,994	3.223	0.13%
COMLGSSplines.WinterMildAvgT	-8,918	2,658	-3.355	0.09%

## Com LGS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	687
Deg. of Freedom for Error	668
R-Squared	0.940
Adjusted R-Squared	0.939
F-Statistic	584.321
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	3.37%
Durbin-Watson Statistic	1.536

## Com SPS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	295,410	3,642	81.102	0.00%
DOWBinary.Monday	39,841	2,504	15.911	0.00%
DOWBinary.TWT	39,974	2,385	16.763	0.00%
DOWBinary.Friday	36,725	2,488	14.76	0.00%
DOWBinary.Saturday	9,556	1,205	7.928	0.00%
MonthBinary.Jan	7,186	1,675	4.291	0.00%
MonthBinary.Feb	7,505	1,702	4.409	0.00%
MonthBinary.Mar	6,804	1,564	4.351	0.00%
MonthBinary.Apr	5,196	1,536	3.381	0.08%
MonthBinary.May	5,231	1,475	3.546	0.04%
MonthBinary.Jul	14,998	1,633	9.186	0.00%
MonthBinary.Aug	15,463	1,499	10.313	0.00%
MonthBinary.Sep	16,126	1,501	10.74	0.00%
MonthBinary.Oct	9,369	1,507	6.217	0.00%
MonthBinary.Nov	3,778	1,600	2.361	1.85%
COMSPSSplines.AvgT	-1,199	82	-14.627	0.00%
COMSPSSplines.CoolAvgT	1,015	160	6.352	0.00%
COMSPSSplines.MildAvgT	2,495	196	12.75	0.00%
COMSPSSplines.WarmAvgT	1,916	223	8.608	0.00%
COMSPSSplines.HotAvgT	-1,234	326	-3.781	0.02%
COMSPSSplines.WkndAvgT	-310	38	-8.26	0.00%

## Com SPS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	683
Deg. of Freedom for Error	662
R-Squared	0.960
Adjusted R-Squared	0.958
F-Statistic	787.226
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	2.15%
Durbin-Watson Statistic	1.340

## Com LPS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	179,414	1,365	131.45	0.00%
DOWBinary.Tuesday	22,127	1,611	13.734	0.00%
DOWBinary.Wednesday	20,724	1,606	12.906	0.00%
DOWBinary.Thursday	24,355	1,601	15.216	0.00%
DOWBinary.MonFri	21,663	1,457	14.868	0.00%
DOWBinary.Saturday	3,425	1,293	2.649	0.83%
MonthBinary.Jan	-10,266	1,487	-6.903	0.00%
MonthBinary.Feb	-15,706	1,501	-10.466	0.00%
MonthBinary.Mar	-6,806	1,415	-4.811	0.00%
MonthBinary.May	-9,726	1,433	-6.786	0.00%
MonthBinary.Jun	-4,301	1,409	-3.053	0.24%
MonthBinary.Sep	12,555	1,441	8.711	0.00%
MonthBinary.Oct	-4,701	1,357	-3.464	0.06%
COMLPSSplines.MildAvgT	1,170	92	12.743	0.00%
COMLPSSplines.WarmAvgT	629	184	3.415	0.07%
COMLPSSplines.HotAvgT	-1,107	272	-4.071	0.01%
COMLPSSplines.WkndMildAvgT	-435	128	-3.395	0.07%
COMLPSSplines.WkndWarmAvgT	531	248	2.139	3.28%

## Com LPS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	691
Deg. of Freedom for Error	673
R-Squared	0.887
Adjusted R-Squared	0.884
F-Statistic	310.126
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	3.53%
Durbin-Watson Statistic	0.679

### Ind SGS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	30,574	844	36.243	0.00%
DOWBinary.Sunday	-2,393	559	-4.278	0.00%
MonthBinary.Mar	2,129	634	3.359	0.08%
MonthBinary.Apr	3,893	779	5	0.00%
MonthBinary.May	5,177	933	5.551	0.00%
MonthBinary.Jun	4,512	1,031	4.376	0.00%
MonthBinary.Jul	5,035	1,104	4.561	0.00%
MonthBinary.Aug	4,864	1,055	4.612	0.00%
MonthBinary.Sep	5,802	963	6.022	0.00%
MonthBinary.Oct	9,696	769	12.608	0.00%
MonthBinary.Nov	7,212	685	10.531	0.00%
INDSGSSplines.AvgT	-256	23	-10.931	0.00%
INDSGSSplines.MildAvgT	410	72	5.653	0.00%
INDSGSSplines.WarmAvgT	198	87	2.294	2.21%
INDSGSSplines.WkndAvgT	-186	11	-16.386	0.00%
INDSGSSplines.WkndMildAvgT	156	46	3.393	0.07%

### Ind SGS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	705
Deg. of Freedom for Error	689
R-Squared	0.685
Adjusted R-Squared	0.678
F-Statistic	99.955
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	13.22%
Durbin-Watson Statistic	1.625



## Ind LGS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	74,389	1,883	39.506	0.00%
DOWBinary.Monday	51,582	2,232	23.111	0.00%
DOWBinary.TWT	57,877	1,829	31.639	0.00%
DOWBinary.Friday	47,789	2,239	21.344	0.00%
DOWBinary.Saturday	12,600	2,238	5.63	0.00%
MonthBinary.Jan	7,398	2,435	3.038	0.25%
MonthBinary.Feb	5,548	2,467	2.248	2.48%
MonthBinary.Mar	7,486	2,375	3.152	0.17%
MonthBinary.May	8,175	2,381	3.434	0.06%
MonthBinary.Jun	12,486	2,466	5.063	0.00%
MonthBinary.Jul	26,921	2,880	9.349	0.00%
MonthBinary.Aug	18,587	2,488	7.47	0.00%
MonthBinary.Sep	8,710	2,415	3.607	0.03%
MonthBinary.Nov	9,302	2,538	3.665	0.03%
INDLGSSplines.HotAvgT	1,038	261	3.977	0.01%

## Ind LGS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	771
Deg. of Freedom for Error	696
R-Squared	0.707
Adjusted R-Squared	0.701
F-Statistic	119.813
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	9.23%
Durbin-Watson Statistic	0.749

### Ind SPS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	115,973	1,591	72.871	0.00%
DOWBinary.Monday	47,888	1,716	27.914	0.00%
DOWBinary.TWT	51,490	1,651	31.186	0.00%
DOWBinary.Friday	43,375	1,719	25.24	0.00%
DOWBinary.Saturday	14,989	844	17.763	0.00%
MonthBinary.Jan	3,208	1,077	2.979	0.30%
MonthBinary.Feb	5,388	1,091	4.937	0.00%
MonthBinary.Mar	4,532	1,134	3.998	0.01%
MonthBinary.May	2,902	891	3.257	0.12%
MonthBinary.Aug	3,709	905	4.098	0.01%
MonthBinary.Sep	1,551	897	1.729	8.43%
INDSPSSplines.MildAvgT	290	40	7.253	0.00%
INDSPSSplines.WarmAvgT	515	133	3.872	0.01%
INDSPSSplines.HotAvgT	440	168	2.622	0.89%
INDSPSSplines.WkndAvgT	-234	26	-9.026	0.00%
INDSPSSplines.WinterAvgT	-44	21	-2.104	3.58%

Note: One of the explanatory variables was retained in the model despite being only marginally statistically significant (p-value>.05). The direction and magnitude of the coefficient are reasonable, the standard error is consistent with other variables, and the interpretation of all of the weather variables is cleaner with the inclusion of this variable.

### Ind SPS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	687
Deg. of Freedom for Error	671
R-Squared	0.956
Adjusted R-Squared	0.955
F-Statistic	966.662
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	3.00%
Durbin-Watson Statistic	1.641

### Ind LPS Weather Normalization Peak Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	231,331	1,206	191.83	0.00%
DOWBinary.Monday	33,344	1,341	24.873	0.00%
DOWBinary.Tuesday	34,732	1,320	26.309	0.00%
DOWBinary.Wednesday	35,581	1,321	26.941	0.00%
DOWBinary.Thursday	39,091	1,325	29.502	0.00%
DOWBinary.Friday	35,641	1,321	26.982	0.00%
DOWBinary.Saturday	10,880	1,320	8.245	0.00%
MonthBinary.Jan	-10,516	1,501	-7.008	0.00%
MonthBinary.Feb	-19,748	1,524	-12.961	0.00%
MonthBinary.Mar	-8,627	1,462	-5.903	0.00%
MonthBinary.Apr	-5,822	1,377	-4.229	0.00%
MonthBinary.Aug	2,584	1,380	1.873	6.16%
MonthBinary.Oct	2,539	1,353	1.876	6.11%
INDLPSSplines.MildAvgT	718	105	6.82	0.00%
INDLPSSplines.WarmAvgT	607	173	3.513	0.05%
INDLPSSplines.HotAvgT	-1,540	483	-3.189	0.15%

Note: Some of the explanatory variables were retained in the model despite being only marginally statistically significant ( $p\text{-value} > .05$ ). The direction and magnitude of the coefficient are reasonable, the standard error is consistent with other variables, and the interpretation of all of the weather variables is cleaner with the inclusion of this variable.

### Ind LPS Weather Normalization Peak Models Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	696
Deg. of Freedom for Error	680
R-Squared	0.848
Adjusted R-Squared	0.844
F-Statistic	252.522
Prob (F-Statistic)	0
Mean Abs. % Err. (MAPE)	2.77%
Durbin-Watson Statistic	0.829

## Energy Sales and Customer Forecast Models<sup>3</sup>

Note: The F-Statistic and associated probability cannot be computed in a regression model, such as the usual SAE specification, that does not include an intercept. Therefore, F-Statistic and associated probability were not reported whenever an SAE model was developed for forecasting purpose or an intercept was not included in the model.

### Residential Energy Sales Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
ResidentialVars_Billed.XHeat	1.21	0.02	60.96	0.0%
ResidentialVars_Billed.XCool	1.25	0.02	67.43	0.0%
ResidentialVars_Billed.XOther	0.89	0.01	64.65	0.0%

### Residential Energy Sales Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	73
Deg. of Freedom for Error	70
R-Squared	0.987
Adjusted R-Squared	0.987
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	2.24%
Durbin-Watson Statistic	1.148

<sup>3</sup> 4 CSR 240-22.030(2)(C)3; 4 CSR 240-22.030(2)(D)1; 4 CSR 240-22.030(3)(B)

### Residential Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
BinaryVars.Jan	399,519.04	63,239.67	6.32	0.0%
BinaryVars.Feb	399,824.40	63,261.00	6.32	0.0%
BinaryVars.Mar	400,568.80	63,284.49	6.33	0.0%
BinaryVars.Apr	398,199.69	63,309.91	6.29	0.0%
BinaryVars.May	396,349.32	63,336.41	6.26	0.0%
BinaryVars.Jun	396,508.45	63,301.47	6.26	0.0%
BinaryVars.Jul	396,823.49	63,294.72	6.27	0.0%
BinaryVars.Aug	397,474.94	63,305.25	6.28	0.0%
BinaryVars.Sep	396,739.32	63,234.95	6.27	0.0%
BinaryVars.Oct	395,077.05	63,209.98	6.25	0.0%
BinaryVars.Nov	395,700.67	63,209.26	6.26	0.0%
BinaryVars.Dec	397,749.21	63,220.98	6.29	0.0%
UtilityData.Households	628.76	61.87	10.16	0.0%
AR(1)	0.53	0.12	4.58	0.0%

### Residential Customer Count Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	63
Deg. of Freedom for Error	49
R-Squared	0.919
Adjusted R-Squared	0.897
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	0.10%
Durbin-Watson Statistic	2.343

### Commercial SGS Energy Sales Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CommercialVars_Billing.SGS_XHeat	745.61	27.48	27.13	0.0%
CommercialVars_Billing.SGS_XCool	839.77	30.07	27.93	0.0%
CommercialVars_Billing.SGS_XOther	38.55	0.42	92.79	0.0%

### Commercial SGS Energy Sales Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	48
Deg. of Freedom for Error	45
R-Squared	0.957
Adjusted R-Squared	0.955
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	1.99%
Durbin-Watson Statistic	1.629

### Commercial SGS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
BinaryVars.Jan	110,869.95	14,763.33	7.51	0.0%
BinaryVars.Feb	110,793.92	14,760.29	7.51	0.0%
BinaryVars.Mar	110,832.89	14,756.10	7.51	0.0%
BinaryVars.Apr	110,693.42	14,751.83	7.50	0.0%
BinaryVars.May	110,730.16	14,754.31	7.51	0.0%
BinaryVars.Jun	110,748.66	14,756.16	7.51	0.0%
BinaryVars.Jul	110,777.55	14,759.62	7.51	0.0%
BinaryVars.Aug	110,674.02	14,764.47	7.50	0.0%
BinaryVars.Sep	110,735.74	14,765.30	7.50	0.0%
BinaryVars.Oct	110,647.73	14,765.75	7.49	0.0%
BinaryVars.Nov	110,648.59	14,765.68	7.49	0.0%
BinaryVars.Dec	110,683.98	14,764.91	7.50	0.0%
Econ_Data.GDP_RetailTrade	4.82	2.05	2.35	2.2%
AR(1)	0.96	0.03	35.73	0.0%

**Commercial SGS Customer Count Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	71
Deg. of Freedom for Error	57
R-Squared	0.987
Adjusted R-Squared	0.984
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	0.10%
Durbin-Watson Statistic	2.658

**Commercial LGS Energy Sales Forecast Model Coefficients**

<b>Variable</b>	<b>Coefficient</b>	<b>StdErr</b>	<b>T-Stat</b>	<b>P-Value</b>
CommercialVars_Billing.LGS_XCool	1,994.33	66.92	29.80	0.0%
CommercialVars_Billing.LGS_XHeat	952.88	56.25	16.94	0.0%
CommercialVars_Billing.LGS_XOther	85.40	0.87	97.78	0.0%

**Commercial LGS Energy Sales Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	48
Deg. of Freedom for Error	45
R-Squared	0.948
Adjusted R-Squared	0.946
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	1.52%
Durbin-Watson Statistic	1.747

### Commercial LGS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
Econ_Data.Emp_RetailTrade	70.67	1.88	37.543	0.00%
AR(1)	0.978	0.007	141.232	0.00%

### Commercial LGS Customer Count Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	135
Deg. of Freedom for Error	133
R-Squared	0.982
Adjusted R-Squared	0.981
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	0.36%
Durbin-Watson Statistic	2.372

### Commercial SPS Energy Sales Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
SPS_XHeat	298.60	55.65	5.37	0.0%
SPS_XCool	216.75	20.51	10.57	0.0%
SPS_XOther	29.12	0.89	32.74	0.0%

### Commercial SPS Energy Sales Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	48
Deg. of Freedom for Error	45
R-Squared	0.796
Adjusted R-Squared	0.787
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	2.77%
Durbin-Watson Statistic	2.099



### Commercial SPS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
Econ_Trans.Non_Mfg_Emp	0.18	0.03	5.59	0.0%
BinaryVars.Jan	261.75	38.07	6.88	0.0%
BinaryVars.Feb	260.21	38.10	6.83	0.0%
BinaryVars.Mar	256.19	38.13	6.72	0.0%
BinaryVars.Apr	256.15	38.17	6.71	0.0%
BinaryVars.May	251.70	37.98	6.63	0.0%
BinaryVars.Jun	253.65	38.07	6.66	0.0%
BinaryVars.Jul	252.59	38.08	6.63	0.0%
BinaryVars.Aug	252.20	38.13	6.61	0.0%
BinaryVars.Sep	261.08	38.17	6.84	0.0%
BinaryVars.Oct	253.40	37.85	6.70	0.0%
BinaryVars.Nov	260.42	38.02	6.85	0.0%
BinaryVars.Dec	252.24	38.01	6.64	0.0%
AR(1)	(0.35)	0.12	(2.97)	0.4%

### Commercial SPS Customer Count Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	77
Deg. of Freedom for Error	63
R-Squared	0.372
Adjusted R-Squared	0.243
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	1.50%
Durbin-Watson Statistic	2.135

### Commercial LPS Energy Sales Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CommercialVars_Billing.LPS_XCool	304.22	18.72	16.252	0.00%
CommercialVars_Billing.LPS_XOther	22.868	0.241	95.036	0.00%

### Commercial LPS Energy Sales Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	56
Deg. of Freedom for Error	54
R-Squared	0.817
Adjusted R-Squared	0.814
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	3.67%
Durbin-Watson Statistic	1.709

### Commercial LPS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
Simple Smoothing	0.443	0.090	4.935	0.000

### Commercial LPS Customer Count Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	90
Deg. of Freedom for Error	89
R-Squared	0.682
Adjusted R-Squared	0.682
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	2.12%
Durbin-Watson Statistic	2.221

### Industrial SGS Energy Sales Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	4,244.23	964.20	4.40	0.0%
Econ_Trans.SGS_Index	85.88	33.33	2.58	1.3%
Weather_Trans.Billed_CDD	7.33	0.41	17.88	0.0%
Weather_Trans.Billed_HDD	4.18	0.21	20.13	0.0%
Binary_Vars.October	1,215.45	156.63	7.76	0.0%
Binary_Vars.November	1,995.77	171.81	11.62	0.0%
Binary_Vars.December	879.89	133.29	6.60	0.0%
AR(1)	0.62	0.11	5.88	0.0%

### Industrial SGS Energy Sales Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	64
Deg. of Freedom for Error	56
R-Squared	0.940
Adjusted R-Squared	0.932
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	2.23%
Durbin-Watson Statistic	1.866

### Industrial SGS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
Binary_Vars.January	2,752.72	831.67	3.31	0.2%
Binary_Vars.February	2,746.97	831.57	3.30	0.2%
Binary_Vars.March	2,751.52	831.42	3.31	0.2%
Binary_Vars.April	2,743.38	831.21	3.30	0.2%
Binary_Vars.May	2,744.72	830.95	3.30	0.2%
Binary_Vars.June	2,744.45	831.02	3.30	0.2%
Binary_Vars.July	2,744.36	831.04	3.30	0.2%
Binary_Vars.August	2,746.10	831.29	3.30	0.2%
Binary_Vars.September	2,749.81	831.49	3.31	0.2%
Binary_Vars.October	2,745.33	831.62	3.30	0.2%
Binary_Vars.November	2,749.32	831.70	3.31	0.2%
Binary_Vars.December	2,744.12	831.71	3.30	0.2%
AR(1)	0.99	0.02	53.44	0.0%

**Industrial SGS Customer Count Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	70
Deg. of Freedom for Error	57
R-Squared	0.980
Adjusted R-Squared	0.976
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	0.23%
Durbin-Watson Statistic	2.668

**Industrial LGS Energy Sales Forecast Model Coefficients**

<b>Variable</b>	<b>Coefficient</b>	<b>StdErr</b>	<b>T-Stat</b>	<b>P-Value</b>
Weather_Trans.Billed_CDD	28.80	4.19	6.88	0.0%
Binary_Vars.January	50,217.37	9,383.24	5.35	0.0%
Binary_Vars.February	52,149.09	8,345.52	6.25	0.0%
Binary_Vars.March	52,217.13	8,186.29	6.38	0.0%
Binary_Vars.August	55,404.70	7,767.84	7.13	0.0%
Binary_Vars.September	56,009.55	7,966.83	7.03	0.0%
Binary_Vars.October	55,209.07	7,929.35	6.96	0.0%
Binary_Vars.November	54,554.73	8,185.73	6.67	0.0%
Binary_Vars.April	53,059.68	8,167.96	6.50	0.0%
Binary_Vars.May	52,097.33	8,075.96	6.45	0.0%
Binary_Vars.June	53,057.57	8,104.28	6.55	0.0%
Binary_Vars.July	53,428.69	7,990.01	6.69	0.0%
Binary_Vars.December	51,151.69	8,819.06	5.80	0.0%
Econ_Trans.LGS_Index	675.98	282.09	2.40	2.0%
Binary_Vars.Yrs_2010_2011	2,352.10	369.73	6.36	0.0%
Weather_Trans.Billed_HDD	6.27	1.73	3.63	0.1%

**Industrial LGS Energy Sales Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	72
Deg. of Freedom for Error	56
R-Squared	0.953
Adjusted R-Squared	0.940
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	1.22%
Durbin-Watson Statistic	2.031

**Industrial LGS Customer Count Forecast Model Coefficients**

<b>Variable</b>	<b>Coefficient</b>	<b>StdErr</b>	<b>T-Stat</b>	<b>P-Value</b>
Simple	0.51	0.09	5.84	0.0%

**Industrial LGS Customer Count Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	101
Deg. of Freedom for Error	100
R-Squared	0.950
Adjusted R-Squared	0.950
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	0.57%
Durbin-Watson Statistic	1.980

### Industrial SPS Energy Sales Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
Econ_Trans.SPS_Index	3,642	43.33	84.062	0.00%
Weather_Trans.Billed_CDD	26.837	3.958	6.781	0.00%
Binary_Vars.January	-9,349	1,453	-6.436	0.00%
AR(1)	0.56	0.084	6.708	0.00%

### Industrial SPS Energy Sales Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	88
Deg. of Freedom for Error	84
R-Squared	0.590
Adjusted R-Squared	0.575
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	3.12%
Durbin-Watson Statistic	2.338

### Industrial SPS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
Binary_Vars.January	185.00	1.30	142.77	0.0%
Binary_Vars.February	185.80	1.30	143.39	0.0%
Binary_Vars.March	183.80	1.30	141.85	0.0%
Binary_Vars.April	184.80	1.30	142.62	0.0%
Binary_Vars.May	185.20	1.30	142.93	0.0%
Binary_Vars.June	181.75	1.45	125.46	0.0%
Binary_Vars.July	187.00	1.45	129.08	0.0%
Binary_Vars.August	183.25	1.45	126.49	0.0%
Binary_Vars.September	183.75	1.45	126.84	0.0%
Binary_Vars.October	183.75	1.45	126.84	0.0%
Binary_Vars.November	185.00	1.45	127.70	0.0%
Binary_Vars.December	187.00	1.45	129.08	0.0%

**Industrial SPS Customer Count Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	53
Deg. of Freedom for Error	41
R-Squared	0.234
Adjusted R-Squared	0.028
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	1.08%
Durbin-Watson Statistic	2.303

**Industrial LPS Energy Sales Forecast Model Coefficients**

<b>Variable</b>	<b>Coefficient</b>	<b>StdErr</b>	<b>T-Stat</b>	<b>P-Value</b>
Econ_Trans.LPS_Index	6,175.3	53.8	114.9	0.0%
Binary_Vars.February	10,051.5	2,947.1	3.4	0.1%
Binary_Vars.April	11,563.4	2,956.8	3.9	0.0%
Binary_Vars.May	10,948.8	2,960.5	3.7	0.0%
Binary_Vars.June	22,482.1	3,155.2	7.1	0.0%
Binary_Vars.July	27,745.4	3,151.5	8.8	0.0%
Binary_Vars.August	37,017.2	3,133.1	11.8	0.0%
Binary_Vars.September	35,825.3	3,149.3	11.4	0.0%
Binary_Vars.October	25,188.4	3,133.6	8.0	0.0%
Binary_Vars.November	20,349.5	3,141.0	6.5	0.0%

**Industrial LPS Energy Sales Forecast Model Statistics**

<b>Model Statistic</b>	<b>Value of the Statistic</b>
Adjusted Observations	77
Deg. of Freedom for Error	67
R-Squared	0.767
Adjusted R-Squared	0.735
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err. (MAPE)	2.75%
Durbin-Watson Statistic	2.041

### Industrial LPS Customer Count Forecast Model Coefficients

Variable	Coefficient	StdErr	T-Stat	P-Value
MA(1)	(0.65)	0.11	(6.13)	0.0%

### Industrial LPS Customer Count Forecast Model Statistics

Model Statistic	Value of the Statistic
Adjusted Observations	52
Deg. of Freedom for Error	51
R-Squared	0.502
Adjusted R-Squared	0.502
F-Statistic	#NA
Prob (F-Statistic)	#NA
Mean Abs. % Err (MAPE)	2.50%
Durbin-Watson Statistic	2.303

### Abbreviations

Res:	Residential
Com :	Commercial
Ind:	Industrial
SGS:	Small General Service
LGS:	Large General Service
SPS:	Small Primary Service
LPS:	Large Primary Service
WN:	Weather Normalized
LTS:	Large Transmission Service



**Compliance References**

4 CSR 240-22.030(2)(C)3 ..... 1, 11, 20  
4 CSR 240-22.030(2)(D)1 ..... 11, 20  
4 CSR 240-22.030(3)(B) ..... 11, 20