Part 1 - Appendix B
MPS End-Use Forecast Models

Aquila Networks: Missouri Public Service (MPS)

A. Residential Model

MPS residential model is based on Itron MetrixND statistically-adjusted end-use (SAE) forecast of use per customer multiplied by a forecast of residential customers. Explanatory variables include monthly intercepts, XHeat, XCool, and XOther, which are based on end-use efficiency trends, market saturation, real prices, and weather.

Model: **ResUPC** **Residential Kwh Per Customer**

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	58.09	46.57	1.25	21.42%
Res.XResHeat	2.72	0.13	20.85	0.00%
Res.XResCool	1.13	0.10	11.61	0.00%
Res.XResOther	0.55	0.05	12.04	0.00%
Monthly.Apr	-69.20	19.04	-3.63	0.04%
Monthly.Jun	85.93	30.20	2.85	0.50%
Monthly.Jul	333.34	46.45	7.18	0.00%
Monthly.Aug	345.22	41.40	8.34	0.00%
Monthly.Sep	163.74	23.79	6.88	0.00%
Monthly.Nov	-107.26	18.02	-5.95	0.00%
Regression Statistics	**Jan96:Dec09**			
Iterations	1			
Adjusted Observations	168			
Deg. of Freedom for Error	158			
R-Squared	94.98%			
Adjusted R-Squared	94.69%			
Durbin-Watson Statistic	1.63			
Mean Abs. % Err. (MAPE)	4.58%			

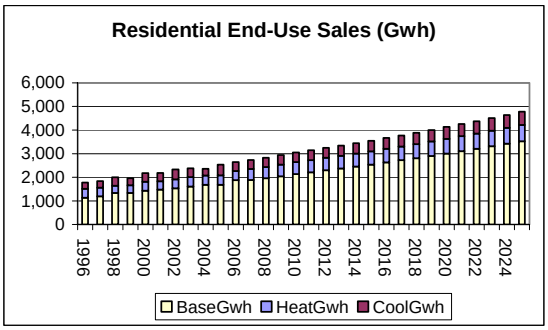
Model: **ResCust** **Residential Customers**

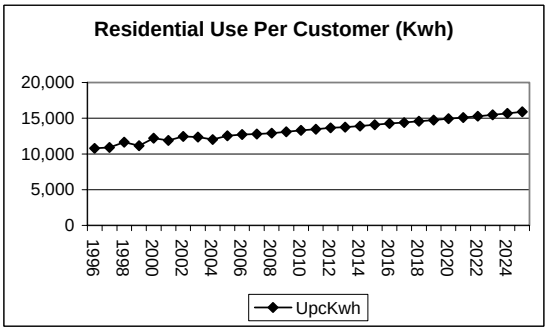
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	146,220.71	23,871.04	6.13	0.00%
Econ.Population	8.42	18.26	0.46	64.54%
Monthly.TimeTrend	39,991.30	2,106.51	18.98	0.00%
AR(1)	0.94	0.03	34.46	0.00%
Regression Statistics	**Jan96:Dec09**			
Iterations	6			
Adjusted Observations	167			
Deg. of Freedom for Error	163			
R-Squared	99.90%			
Adjusted R-Squared	99.90%			
Durbin-Watson Statistic	2.59			
Mean Abs. % Err. (MAPE)	0.16%			

Plot B-1 MPS Residential End-Use Forecast:

Residential End-Use Forecast

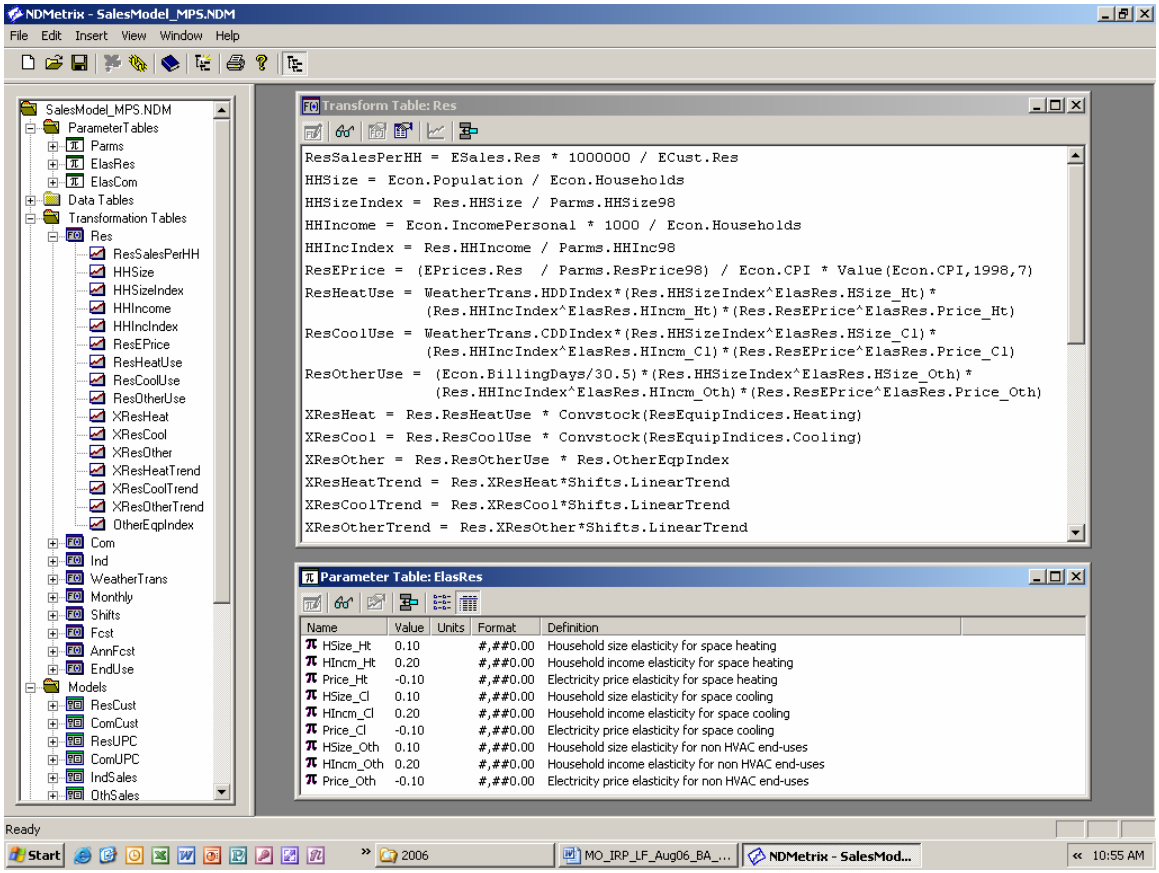
Year	HeatGwh	CoolGwh	BaseGwh	TotalGwh	UpcKwh	Customers
1996	385.95	254.61	1130.17	1770.73	10,778	164,298
1997	363.85	272.57	1197.38	1833.80	10,912	168,051
1998	308.92	359.41	1332.07	2000.40	11,652	171,680
1999	324.85	298.96	1333.01	1956.82	11,170	175,192
2000	381.17	369.60	1427.46	2178.22	12,190	178,695
2001	357.72	348.89	1474.14	2180.75	11,893	183,357
2002	385.34	423.84	1525.95	2335.14	12,449	187,581
2003	403.98	372.42	1604.42	2380.83	12,368	192,504
2004	391.87	298.07	1675.48	2365.42	12,004	197,051
2005	401.42	455.01	1680.00	2536.44	12,530	202,425
2006	394.12	373.16	1877.34	2644.63	12,714	208,012
2007	464.11	381.56	1885.42	2731.08	12,796	213,425
2008	479.96	390.15	1958.20	2828.31	12,921	218,889
2009	490.79	399.07	2046.73	2936.59	13,089	224,353
2010	502.60	406.53	2140.66	3049.80	13,318	229,001
2011	513.23	413.86	2214.14	3141.24	13,465	233,295
2012	527.34	421.66	2296.36	3245.36	13,642	237,901
2013	536.01	429.82	2372.13	3337.96	13,757	242,646
2014	547.99	438.52	2455.40	3441.91	13,909	247,452
2015	560.07	447.68	2541.83	3549.58	14,070	252,285
2016	575.02	457.13	2635.57	3667.72	14,264	257,129
2017	583.87	467.06	2720.37	3771.30	14,396	261,977
2018	596.19	477.50	2811.66	3885.34	14,561	266,826
2019	608.35	488.09	2905.33	4001.77	14,730	271,674
2020	624.07	498.26	3007.40	4129.74	14,935	276,521
2021	636.59	509.03	3106.62	4252.24	15,113	281,367
2022	649.44	520.42	3207.49	4377.34	15,294	286,213
2023	662.41	532.33	3312.30	4507.04	15,485	291,058
2024	675.53	544.79	3420.13	4640.44	15,682	295,902
2025	688.82	557.85	3531.05	4777.72	15,886	300,746
2026	709.19	574.35	3635.49	4919.04	16,084	305,840
2027	730.17	591.34	3743.03	5064.53	16,284	311,021
2028	751.77	608.83	3853.74	5214.34	16,486	316,289
2029	774.00	626.84	3967.73	5368.57	16,691	321,646
2030	796.90	645.38	4085.09	5527.37	16,898	327,094
2031	820.47	664.47	4205.92	5690.86	17,108	332,635
2032	844.74	684.12	4330.33	5859.19	17,321	338,269
2033	869.72	704.36	4458.41	6032.49	17,536	343,999
2034	895.45	725.19	4590.29	6210.93	17,754	349,825
2035	921.94	746.64	4726.06	6394.64	17,975	355,751
2006-25	**3.0%**	**2.1%**	**3.4%**	**3.2%**	**1.2%**	**2.0%**
2026-35	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**1.2%**	**1.7%**



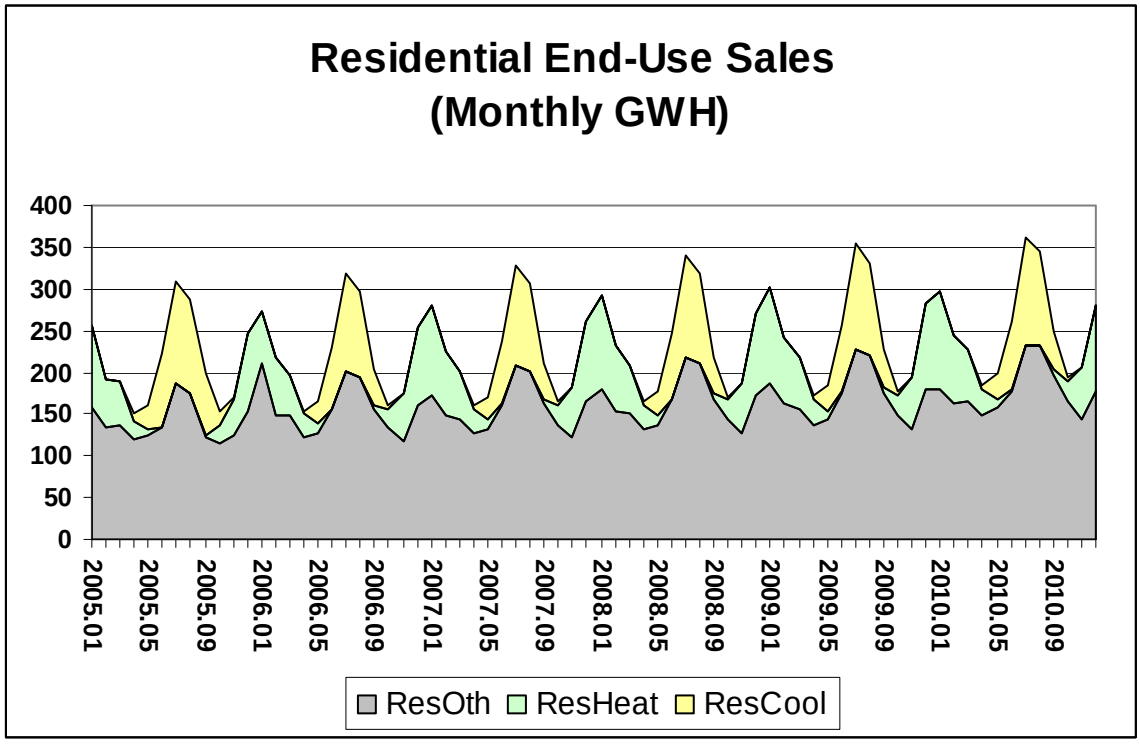


The regression period for the Residential SAE model includes 10-years of actual data from 1996 to 2006, and 3-years budget data through 2009 in order to calibrate short-term budget and long-term forecast to 2025. Real price elasticity of -0.1 is assumed along with declining real prices in variables XResHeat, XResCool, and XResOther.

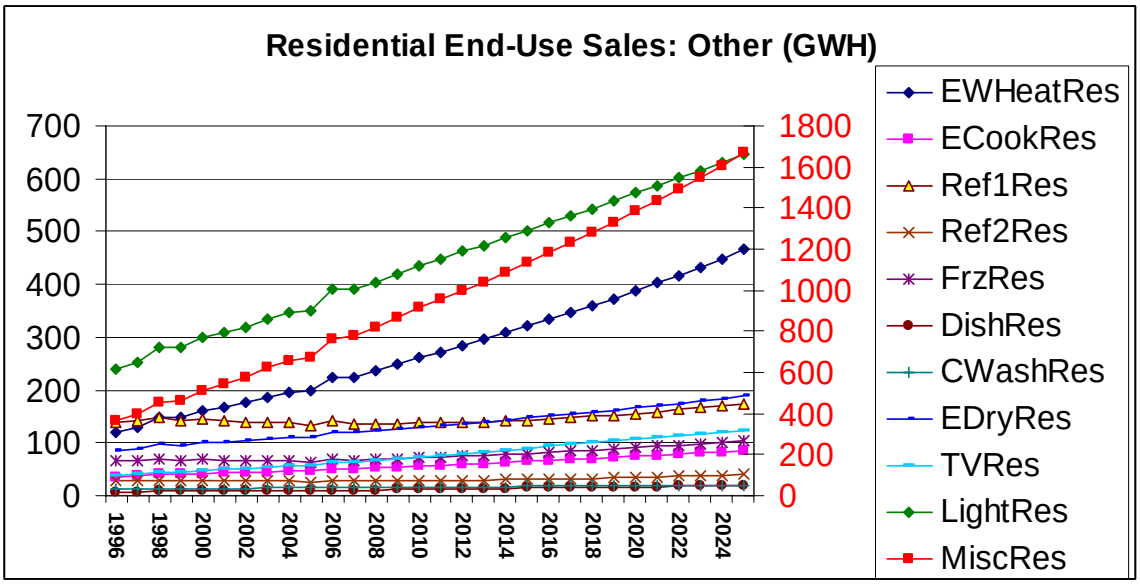
Plot B-2 MPS Residential SAE Model Variables:



Plot B-3 MPS Residential End-Use Sales (GWH):



MPS Residential End-Use Sales: Other (GWH)



B. Commercial Model

MPS commercial model is based on Itron MetrixND statistically-adjusted end-use (SAE) forecast of use per customer multiplied by a forecast of commercial customers. Explanatory variables include monthy intercepts, XHeat, XCool, and XOther, which are based on end-use efficiency trends, market saturation, real prices, and weather.

Model: **ComUPC** **Commercial Kwh Per Customer**

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	-1,644.93	1,217.64	-1.35	17.87%
Com.XComHeat	0.03	0.01	3.83	0.02%
Com.XComCool	0.05	0.00	18.82	0.00%
Com.XComOther	0.01	0.00	4.51	0.00%
Monthly.TimeTrend	137.25	95.36	1.44	15.20%
Monthly.Apr	-307.92	98.79	-3.12	0.22%
Monthly.May	342.35	98.33	3.48	0.06%
Monthly.Nov	204.95	91.88	2.23	2.71%

Regression Statistics	Jan96:Dec09
Iterations	1
Adjusted Observations	168
Deg. of Freedom for Error	160
R-Squared	82.03%
Adjusted R-Squared	81.24%
Durbin-Watson Statistic	2.04
Mean Abs. % Err. (MAPE)	4.17%

Model: **ComCust** **Commercial Customers**

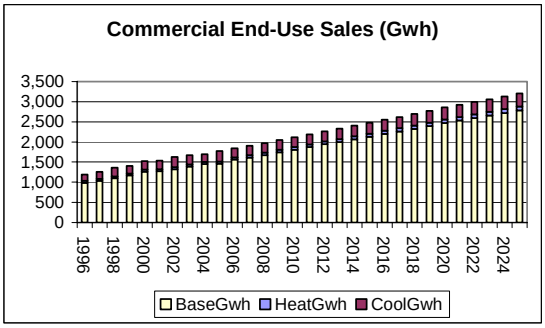
Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	27,843.42	5,479.29	5.08	0.00%
Econ.EmpCom	-12.53	9.70	-1.29	19.83%
Monthly.TimeTrend	6,249.60	244.98	25.51	0.00%
Monthly.Feb	-65.33	58.41	-1.12	26.51%
Monthly.Nov	-106.83	58.46	-1.83	6.95%
AR(1)	0.79	0.05	16.33	0.00%

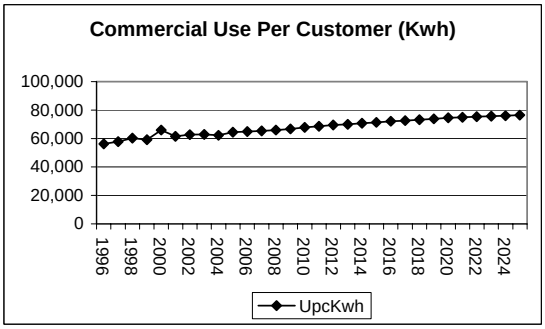
Regression Statistics	Jan96:Dec09
Iterations	4
Adjusted Observations	167
Deg. of Freedom for Error	161
R-Squared	99.16%
Adjusted R-Squared	99.14%
Durbin-Watson Statistic	2.10
Mean Abs. % Err. (MAPE)	0.76%

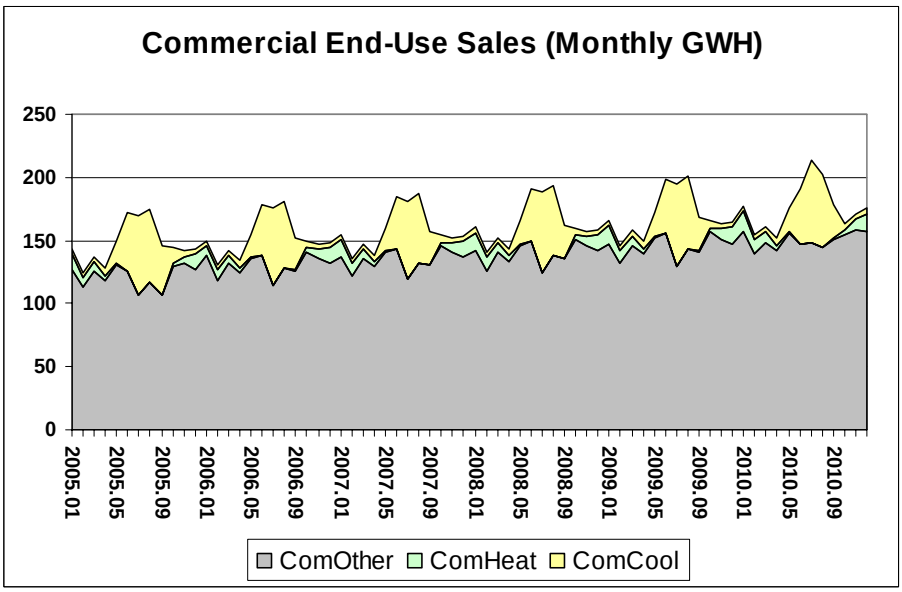
Plot B-4 MPS Commercial End-Use Forecast:

Commercial End-Use Forecast

Year	HeatGwh	CoolGwh	BaseGwh	TotalGwh	UpcKwh	Customers
1996	50.65	156.77	982.51	1189.94	56,258	21,151
1997	48.44	170.59	1035.82	1254.85	57,736	21,734
1998	41.10	217.21	1101.34	1359.65	60,180	22,593
1999	44.02	191.28	1169.25	1404.54	59,098	23,767
2000	49.58	210.55	1261.99	1522.12	65,901	23,097
2001	46.70	215.25	1273.41	1535.37	61,477	24,975
2002	51.47	253.50	1322.32	1627.30	62,692	25,957
2003	53.67	226.42	1389.26	1669.35	62,827	26,571
2004	51.57	191.62	1452.17	1695.35	62,260	27,230
2005	51.94	262.34	1459.39	1773.66	64,433	27,527
2006	51.33	226.12	1564.81	1842.26	64,904	28,384
2007	60.82	231.57	1612.06	1904.45	65,304	29,163
2008	63.02	237.05	1671.97	1972.04	65,916	29,917
2009	64.56	242.48	1740.01	2047.05	66,740	30,672
2010	66.18	245.49	1804.79	2116.46	67,822	31,206
2011	68.10	250.67	1870.87	2189.64	68,552	31,941
2012	70.32	255.68	1941.05	2267.06	69,489	32,625
2013	71.80	260.74	1998.88	2331.43	69,991	33,310
2014	73.71	265.87	2065.03	2404.61	70,717	34,003
2015	75.67	271.09	2128.61	2475.37	71,321	34,708
2016	78.11	276.37	2200.25	2554.72	72,117	35,425
2017	79.74	281.71	2258.29	2619.74	72,500	36,135
2018	81.86	287.08	2325.77	2694.70	73,142	36,842
2019	84.03	292.50	2394.30	2770.84	73,765	37,563
2020	86.67	297.49	2471.83	2855.99	74,615	38,276
2021	88.70	302.54	2531.94	2923.18	74,946	39,004
2022	90.76	307.76	2593.00	2991.52	75,288	39,734
2023	92.87	313.13	2655.47	3061.48	75,655	40,466
2024	95.01	318.63	2718.62	3132.27	76,021	41,203
2025	97.21	324.28	2783.18	3204.68	76,409	41,941
2026	99.48	331.84	2848.05	3279.37	76,773	42,715
2027	101.79	339.58	2914.43	3355.80	77,139	43,503
2028	104.17	347.49	2982.35	3434.01	77,507	44,306
2029	106.59	355.59	3051.86	3514.04	77,876	45,124
2030	109.08	363.88	3122.98	3595.94	78,247	45,956
2031	111.62	372.36	3195.77	3679.74	78,619	46,805
2032	114.22	381.03	3270.25	3765.50	78,994	47,668
2033	116.88	389.92	3346.46	3853.26	79,370	48,548
2034	119.61	399.00	3424.46	3943.07	79,748	49,444
2035	122.40	408.30	3504.27	4034.97	80,128	50,356
2006-25	**3.4%**	**1.9%**	**3.1%**	**3.0%**	**0.9%**	**2.1%**
2026-35	**2.3%**	**2.3%**	**2.3%**	**2.3%**	**0.5%**	**1.8%**

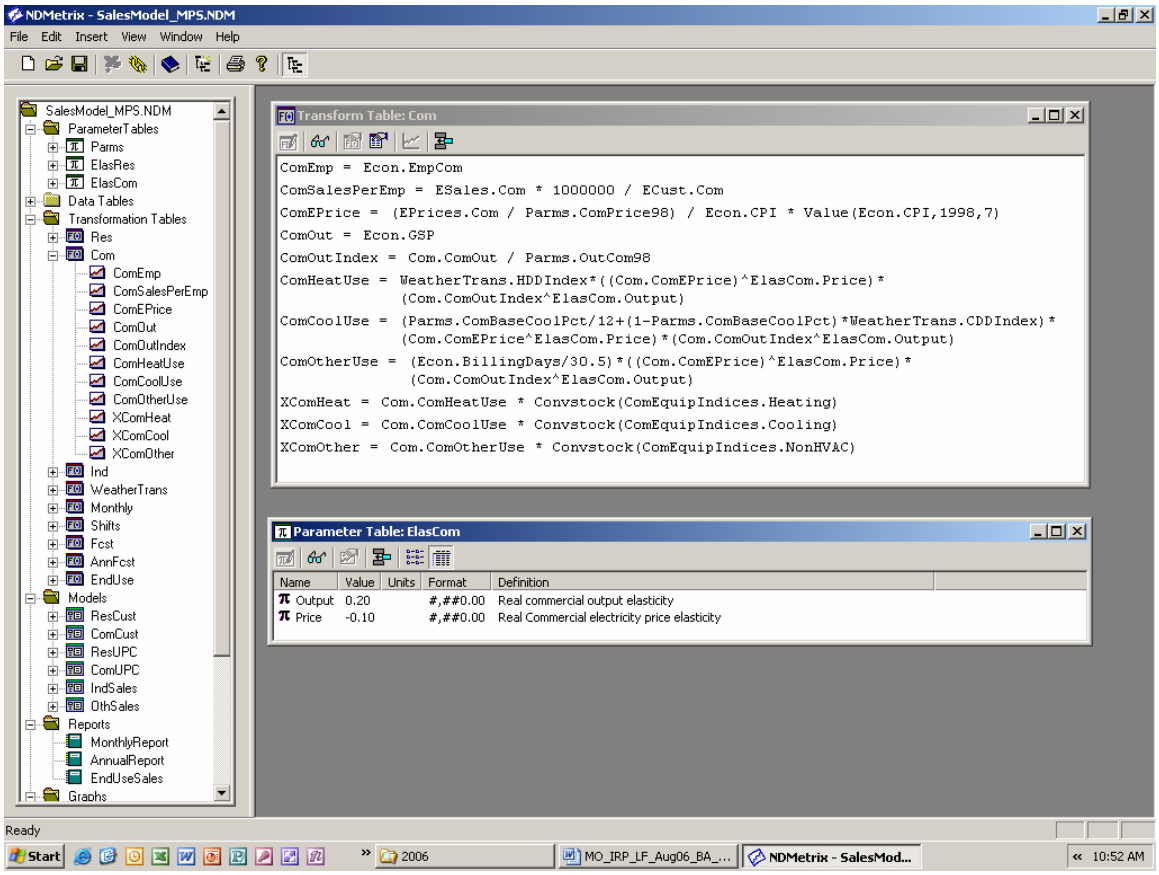






The regression period for the Commercial SAE model includes 10-years of actual data from 1996 to 2006, and 3-years budget data through 2009 in order to calibrate short-term budget and long-term forecast to 2025. Real price elasticity of -0.1 is assumed along with declining real prices in variables XComHeat, XComCool, and XComOther.

Plot B-5 MPS Commercial SAE Model Variables:



C. Industrial Model

MPS industrial model is based on Itron MetrixND statistically-adjusted end-use (SAE) model of industrial sales. Explanatory variables include weather (CDDIndex), Industrial Output Price Index, and monthly intercepts.

Model: **IndSales** **Industrial Sales (Gwh)**

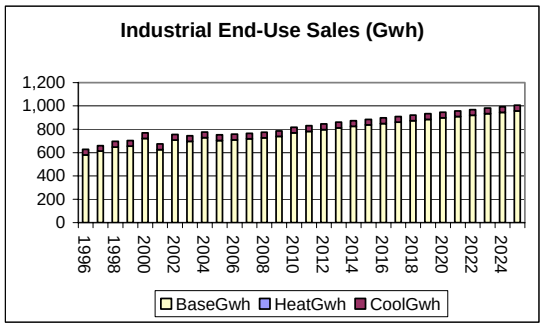
Variable	Coefficient	StdErr	T-Stat	P-Value
WeatherTrans.CDDIndex	48.14	9.19	5.24	0.00%
Ind.IndOutPriceIndex	39.25	6.03	6.51	0.00%
Shifts.Shift08I	16.32	6.88	2.37	1.89%
Monthly.Jan	-9.97	1.98	-5.03	0.00%
Monthly.Feb	-3.74	1.98	-1.89	6.08%
Monthly.Mar	-5.76	1.98	-2.91	0.42%
Monthly.Jul	-6.11	3.14	-1.94	5.38%
Monthly.Aug	-5.91	2.87	-2.06	4.14%
Monthly.Sep	-11.07	2.05	-5.41	0.00%

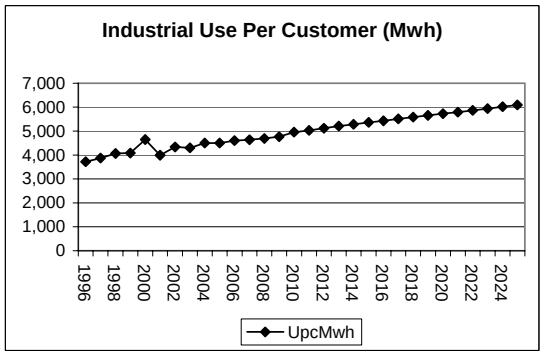
Regression Statistics	Jan96:Dec09
Iterations	1
Adjusted Observations	168
Deg. of Freedom for Error	159
R-Squared	50.61%
Adjusted R-Squared	48.12%
Durbin-Watson Statistic	2.27
Mean Abs. % Err. (MAPE)	8.43%

Plot B-6 MPS Industrial End-Use Forecast:

Industrial End-Use Forecast

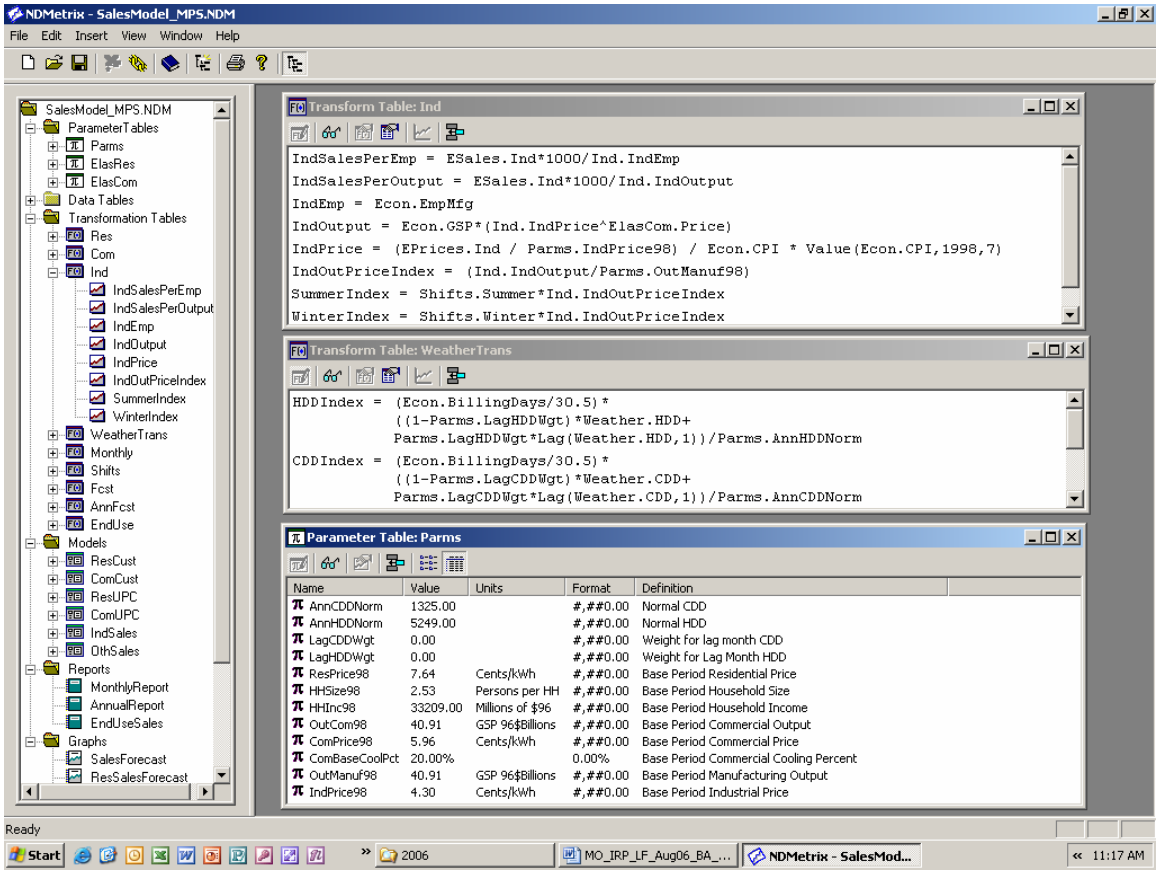
Year	HeatGwh	CoolGwh	BaseGwh	TotalGwh	UpcMwh	Customers
1996		48.14	579.68	627.82	3,717	169
1997		48.14	611.31	659.45	3,872	170
1998		48.14	648.05	696.18	4,061	171
1999		48.14	655.75	703.89	4,084	172
2000		48.14	720.44	768.57	4,646	165
2001		48.14	624.69	672.82	3,993	169
2002		48.14	707.09	755.23	4,332	174
2003		48.14	696.38	744.52	4,304	173
2004		48.14	727.52	775.66	4,501	172
2005		48.14	704.31	752.45	4,503	167
2006		48.14	709.42	757.56	4,602	165
2007		48.14	717.68	765.82	4,637	165
2008		48.14	726.38	774.51	4,689	165
2009		48.14	738.11	786.24	4,760	165
2010		48.14	769.47	817.61	4,950	165
2011		48.14	782.78	830.92	5,031	165
2012		48.14	797.46	845.59	5,120	165
2013		48.14	811.50	859.63	5,205	165
2014		48.14	824.73	872.87	5,285	165
2015		48.14	837.31	885.44	5,361	165
2016		48.14	848.72	896.85	5,430	165
2017		48.14	861.12	909.25	5,505	165
2018		48.14	873.63	921.76	5,581	165
2019		48.14	885.11	933.24	5,650	165
2020		48.14	897.44	945.58	5,725	165
2021		48.14	908.81	956.95	5,794	165
2022		48.14	920.48	968.62	5,864	165
2023		48.14	932.69	980.83	5,938	165
2024		48.14	945.17	993.31	6,014	165
2025		48.14	958.28	1006.42	6,093	165
2026		48.14	970.91	1019.05	6,170	165
2027		48.14	983.70	1031.84	6,247	165
2028		48.14	996.65	1044.78	6,326	165
2029		48.14	1009.76	1057.90	6,405	165
2030		48.14	1023.04	1071.17	6,485	165
2031		48.14	1036.48	1084.61	6,567	165
2032		48.14	1050.09	1098.23	6,649	165
2033		48.14	1063.87	1112.01	6,733	165
2034		48.14	1077.83	1125.96	6,817	165
2035		48.14	1091.96	1140.09	6,903	165
2006-25		**0.0%**	**1.6%**	**1.5%**	**1.5%**	**0.0%**
2026-35		**0.0%**	**1.3%**	**1.3%**	**1.3%**	**0.0%**





The regression period for the Industrial SAE model includes 10-years of actual data from 1996 to 2006, and 3-years budget data through 2009 in order to calibrate short-term budget and long-term forecast to 2025. Real price elasticity of -0.1 is assumed along with declining real prices in variable IndOutputPriceIndex.

Plot B-7 MPS Industrial SAE Model Variables:



D. Wholesale and Other Sales

MPS wholesale sales have declined historically through 2005 to a small peak load of about 7 to 8 MW. Other sales include various municipal and government customers and street lighting. Wholesale and other sales are assumed to not grow significantly during the 2006-2025 forecast period.

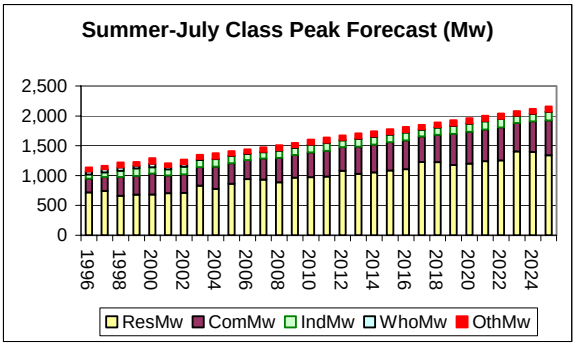
E. Class and System Peak Demand

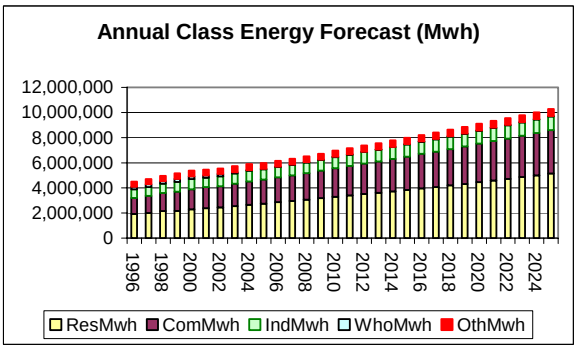
MPS class peak demands are based on 2005 load research profiles, which have been weather normalized and calibrated to the monthly system energy and peak demand forecast to 2025. Class peaks are reported on a coincident basis with system peak demand in table below.

Plot B-9 MPS Peak Demand Forecast (MW):

07 **Class Peak Forecast (Summer-July)**

Year	ResMw	ComMw	IndMw	WhoMw	OthMw	TotalMw
1996	719	231	70	51	64	1,134
1997	744	233	76	53	57	1,164
1998	661	314	104	56	86	1,221
1999	680	315	127	43	64	1,229
2000	684	351	104	57	95	1,292
2001	704	298	103	38	63	1,205
2002	711	313	123	43	75	1,266
2003	830	315	117	19	68	1,349
2004	779	373	125	7	94	1,377
2005	863	343	122	8	75	1,410
2006	942	319	103	8	67	1,439
2007	935	351	108	8	71	1,473
2008	886	413	122	8	81	1,509
2009	963	384	119	8	74	1,548
2010	973	416	123	7	83	1,602
2011	983	433	128	7	84	1,636
2012	1,082	397	110	8	75	1,671
2013	1,030	455	129	7	85	1,706
2014	1,052	467	130	7	85	1,742
2015	1,086	472	128	7	85	1,778
2016	1,108	483	131	7	85	1,815
2017	1,230	427	113	7	74	1,852
2018	1,226	459	119	7	78	1,889
2019	1,178	520	135	7	87	1,927
2020	1,201	533	136	7	87	1,965
2021	1,241	534	135	7	86	2,003
2022	1,255	551	140	7	88	2,041
2023	1,402	478	117	7	75	2,080
2024	1,396	513	124	7	79	2,119
2025	1,342	581	141	7	88	2,159
2026	1,372	591	141	7	89	2,201
2027	1,403	602	142	7	88	2,242
2028	1,435	612	143	7	88	2,285
2029	1,467	623	144	7	88	2,329
2030	1,500	634	145	7	88	2,373
2031	1,533	645	146	7	88	2,418
2032	1,568	656	147	7	87	2,464
2033	1,603	667	148	7	87	2,511
2034	1,639	679	149	7	86	2,559
2035	1,676	691	150	7	85	2,608
2006-25	**1.9%**	**3.2%**	**1.6%**	**-0.7%**	**113.7%**	**2.2%**
2026-35	**2.2%**	**1.7%**	**0.6%**	**-0.5%**	**-37.7%**	**1.9%**





Annual system load factor grows by about 0.3% annually from 48.8% in 2006 to 54.3% by 2025 primarily due to growth in residential class load factor. Residential sales are forecast to grow at 3.1% annually over 2006-2025 forecast period; slightly faster than commercial sales growth of 3.0% annually.

Plot B-10 MPS Class Energy Forecast (GWH), including losses:

12 **Class Energy Forecast (Annual)**

Year	ResMwh	ComMwh	IndMwh	WhoMwh	OthMwh	TotalMwh
1996	1,926,113	1,276,833	674,601	206,056	403,936	4,487,538
1997	2,001,063	1,357,477	715,912	214,850	408,860	4,698,163
1998	2,136,811	1,443,164	743,129	213,444	421,601	4,958,148
1999	2,155,795	1,546,363	781,333	235,627	432,691	5,151,810
2000	2,287,024	1,594,138	811,423	230,619	453,682	5,376,885
2001	2,388,465	1,675,576	739,489	191,695	465,986	5,461,211
2002	2,435,640	1,690,364	790,546	186,792	444,007	5,547,349
2003	2,546,066	1,786,685	803,612	117,585	472,859	5,726,808
2004	2,638,598	1,872,144	860,115	48,092	472,566	5,891,515
2005	2,741,810	1,911,765	816,928	34,490	467,394	5,972,386
2006	2,860,821	1,977,304	814,511	34,177	462,079	6,148,892
2007	2,955,509	2,043,805	822,513	34,175	462,828	6,318,831
2008	3,059,341	2,116,984	832,289	34,176	462,979	6,505,769
2009	3,174,637	2,197,383	846,610	34,180	463,211	6,716,022
2010	3,294,460	2,273,686	880,805	34,169	482,875	6,965,996
2011	3,393,761	2,352,021	894,898	34,169	487,385	7,162,234
2012	3,507,222	2,434,664	910,233	34,173	491,798	7,378,089
2013	3,604,706	2,505,121	926,264	34,168	496,635	7,566,894
2014	3,715,486	2,584,078	941,410	34,170	501,344	7,776,489
2015	3,830,546	2,659,996	956,109	34,175	506,047	7,986,874
2016	3,957,310	2,746,176	968,085	34,168	510,703	8,216,441
2017	4,070,683	2,815,125	980,936	34,170	515,120	8,416,034
2018	4,191,127	2,897,252	995,175	34,165	519,953	8,637,672
2019	4,315,439	2,979,737	1,008,054	34,165	524,617	8,862,012
2020	4,450,881	3,071,702	1,023,096	34,170	529,426	9,109,274
2021	4,582,759	3,144,425	1,035,127	34,171	534,059	9,330,541
2022	4,717,223	3,218,273	1,047,690	34,171	538,696	9,556,054
2023	4,857,261	3,293,437	1,060,738	34,168	543,241	9,788,845
2024	4,999,146	3,370,619	1,074,875	34,168	547,971	10,026,778
2025	5,143,871	3,449,944	1,090,470	34,172	552,833	10,271,289
2026	5,294,913	3,531,008	1,104,468	34,172	556,346	10,520,907
2027	5,450,391	3,613,976	1,118,646	34,173	559,406	10,776,592
2028	5,610,434	3,698,894	1,133,006	34,173	561,983	11,038,490
2029	5,775,177	3,785,807	1,147,550	34,174	564,046	11,306,753
2030	5,944,757	3,874,762	1,162,281	34,174	565,561	11,581,535
2031	6,119,317	3,965,808	1,177,201	34,174	566,496	11,862,996
2032	6,299,002	4,058,993	1,192,312	34,175	566,815	12,151,296
2033	6,483,964	4,154,367	1,207,618	34,175	566,480	12,446,603
2034	6,674,356	4,251,983	1,223,120	34,175	565,453	12,749,087
2035	6,870,340	4,351,892	1,238,821	34,176	563,694	13,058,922
2006-25	**3.1%**	**3.0%**	**1.5%**	**0.0%**	**0.9%**	**2.7%**
2026-35	**2.9%**	**2.3%**	**1.3%**	**0.0%**	**0.1%**	**2.4%**
LF-2006	**34.7%**	**70.8%**	**90.0%**	**48.3%**	**78.9%**	**48.8%**
LF-2025	**43.8%**	**67.7%**	**88.5%**	**55.8%**	**71.3%**	**54.3%**

MPS monthly peak forecast model explanatory variables include monthly system energy, timetrend, monthly intercepts, and weather variables on the day of monthly peaks (Hdd50, Cdd65, Cdd65 prior day, Cdd85).

Model: **MonthPeak** **System Monthly Peak (Mw)**

Variable	Coefficient	StdErr	T-Stat	P-Value
Monthly.Energy	0.0011	0.00	9.46	0.00%
Monthly.Timetrend	13.0264	2.06	6.31	0.00%
Monthly.Hdd50_Pk	3.2786	0.47	6.93	0.00%
Monthly.Cdd65_Pk	11.6753	1.73	6.75	0.00%
Monthly.Cdd65_Pk1	7.6605	1.66	4.62	0.00%
Monthly.Cdd85_Pk	-13.9523	4.86	-2.87	0.49%
Monthly.Shift04	164.6062	34.82	4.73	0.00%
Monthly.May	42.6099	16.78	2.54	1.25%
Monthly.Jun	58.6009	16.62	3.53	0.06%
Monthly.Sep	111.0476	16.63	6.68	0.00%

Regression Statistics	Jan96:Mar06
Iterations	1
Adjusted Observations	123
Deg. of Freedom for Error	113
R-Squared	96.65%
Adjusted R-Squared	96.38%
Durbin-Watson Statistic	2.07
Mean Abs. % Err. (MAPE)	3.62%

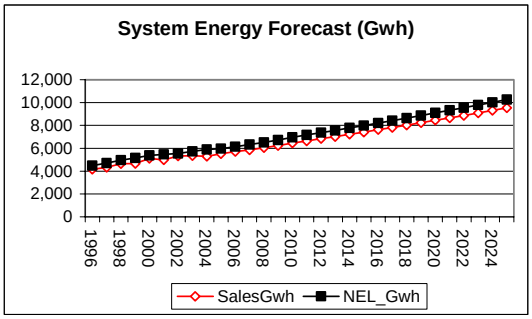
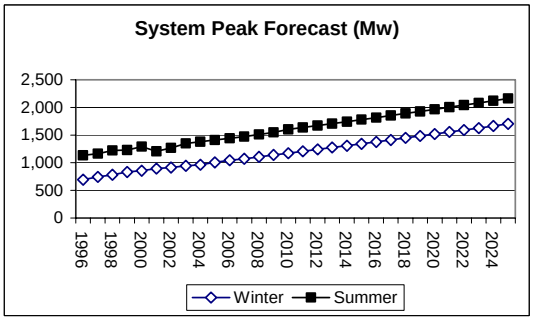
MPS weather normalized hourly load profiles are based on a Daily Energy model which drives 24 hourly models. Explanatory variables include days of the week, holidays, timetrend, monthly intercepts, and weather variables (prior day buildup daily temperature, and cubic average daily dry-bulb temperatures), with autoregressive AR1 term.

Model: **DayEnergy** **System Daily Energy (Mwh)**

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	13816.15	287.17	48.11	0.00%
Calendar.Monday	1279.18	44.01	29.06	0.00%
Calendar.Tuesday	1383.57	54.53	25.37	0.00%
Calendar.Wednesday	1317.67	58.87	22.38	0.00%
Calendar.Thursday	1138.73	59.04	19.29	0.00%
Calendar.Friday	915.80	54.98	16.66	0.00%
Calendar.Saturday	151.45	43.44	3.49	0.05%
Daily.BuildUp	2.39	2.28	1.05	29.51%
Daily.AvgDB	34.65	15.84	2.19	2.88%
Daily.AverageDBSquared	-5.85	0.35	-16.91	0.00%
Daily.AverageDBCubed	0.07	0.00	28.87	0.00%
Daily.TimeTrend	392.28	20.16	19.46	0.00%
Daily.Jun	1504.59	152.50	9.87	0.00%
Daily.Jul	2638.29	168.49	15.66	0.00%
Daily.Aug	2427.08	165.32	14.68	0.00%
Daily.Sep	965.25	148.57	6.50	0.00%
Calendar.MLK	-106.25	250.35	-0.42	67.13%
Calendar.PresDay	311.51	250.61	1.24	21.40%
Calendar.GoodFri	-471.17	248.08	-1.90	5.76%
Calendar.MemDay	-1225.87	269.13	-4.55	0.00%
Calendar.July4th	-1887.56	324.34	-5.82	0.00%
Calendar.LaborDay	-1073.06	269.11	-3.99	0.01%
Calendar.Thanks	-1979.02	284.81	-6.95	0.00%
Calendar.FriAThanks	-1125.14	307.42	-3.66	0.03%
Calendar.XMasWkB4	-692.13	394.97	-1.75	7.98%
Calendar.XMasEve	-571.46	388.62	-1.47	14.15%
Calendar.XMasDay	-1329.83	377.82	-3.52	0.04%
Calendar.XMasWk	-238.23	349.26	-0.68	49.52%
Calendar.NYEve	-1077.18	376.27	-2.86	0.42%
Calendar.NYDay	-1485.39	342.80	-4.33	0.00%
Calendar.XMasLights	46.64	10.06	4.63	0.00%
AR(1)	0.64	0.02	41.50	0.00%

Regression Statistics	Jan96:Mar06
Iterations	22
Adjusted Observations	2646
Deg. of Freedom for Error	2614
R-Squared	94.32%
Adjusted R-Squared	94.25%
Durbin-Watson Statistic	1.93
Mean Abs. % Err. (MAPE)	3.63%

Annual energy (GWH), including losses of about 7.2%, is forecast to grow 2.7% annually, and summer peak demand (MW) is forecast to grow 2.2% annually over the 2006-2025 forecast period. Winter peak demand grows by 2.6% annually over the 2006-25 forecast period.

Plot B-11 MPS System Peak Forecast: Summer and Winter:

	System Peak Forecast		Summer	Winter		
Year	SalesGwh	NEL_Gwh	PeakMw.07	PeakMw.01	LF%	TotalCust
1996	4,155.07	4,487.54	1,134	695	45.2%	188,608
1997	4,323.37	4,698.16	1,164	743	46.1%	192,935
1998	4,651.18	4,958.15	1,221	780	46.4%	197,404
1999	4,668.57	5,151.81	1,229	833	47.8%	202,082
2000	5,118.78	5,376.89	1,292	855	47.5%	204,901
2001	4,988.63	5,461.21	1,205	892	51.7%	211,479
2002	5,324.06	5,547.35	1,266	913	50.0%	216,451
2003	5,347.98	5,726.81	1,349	944	48.5%	221,918
2004	5,308.20	5,891.51	1,377	962	48.8%	227,177
2005	5,527.58	5,972.39	1,410	1,004	48.3%	232,870
2006	5,706.67	6,148.89	1,439	1,042	48.8%	239,305
2007	5,864.42	6,318.83	1,473	1,073	49.0%	245,504
2008	6,037.97	6,505.77	1,509	1,105	49.2%	251,723
2009	6,232.98	6,716.02	1,548	1,140	49.5%	257,942
2010	6,464.90	6,966.00	1,602	1,173	49.6%	263,123
2011	6,647.08	7,162.23	1,636	1,206	50.0%	268,153
2012	6,847.55	7,378.09	1,671	1,239	50.4%	273,442
2013	7,022.81	7,566.89	1,706	1,273	50.6%	278,872
2014	7,217.42	7,776.49	1,742	1,308	51.0%	284,372
2015	7,412.68	7,986.87	1,778	1,342	51.3%	289,909
2016	7,625.82	8,216.44	1,815	1,376	51.7%	295,470
2017	7,811.06	8,416.03	1,852	1,412	51.9%	301,028
2018	8,016.83	8,637.67	1,889	1,447	52.2%	306,584
2019	8,225.12	8,862.01	1,927	1,483	52.5%	312,153
2020	8,454.82	9,109.27	1,965	1,519	52.9%	317,713
2021	8,660.13	9,330.54	2,003	1,554	53.2%	323,287
2022	8,869.49	9,556.05	2,041	1,590	53.5%	328,863
2023	9,085.60	9,788.84	2,080	1,627	53.7%	334,441
2024	9,306.52	10,026.78	2,119	1,664	54.0%	340,021
2025	9,533.56	10,271.29	2,159	1,702	54.3%	345,604
2026	9,765.30	10,520.91	2,201	1,741	54.6%	351,469
2027	10,002.66	10,776.59	2,242	1,781	54.9%	357,434
2028	10,245.80	11,038.49	2,285	1,822	55.1%	363,500
2029	10,494.84	11,306.75	2,329	1,863	55.4%	369,668
2030	10,749.94	11,581.54	2,373	1,906	55.7%	375,942
2031	11,011.24	11,863.00	2,418	1,950	56.0%	382,322
2032	11,278.89	12,151.30	2,464	1,995	56.3%	388,811
2033	11,553.05	12,446.60	2,511	2,041	56.6%	395,409
2034	11,833.87	12,749.09	2,559	2,087	56.9%	402,120
2035	12,121.51	13,058.92	2,608	2,135	57.2%	408,944
2006-25	**2.7%**	**2.7%**	**2.2%**	**2.6%**	**0.3%**	**2.0%**
2026-35	**2.4%**	**2.4%**	**1.9%**	**2.3%**	**0.3%**	**1.7%**