Kentucky Power Company
Residential

The ARIMA Procedure

Conditional Least Squares Estimation

Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag	Variable	Shift
MU	-6.97871	3.79535	-1.84	0.0689	0	USAGE	0
MA1,1	-0.32122	0.09726	-3.30	0.0013	1	USAGE	0
AR1,1	-0.49880	0.10476	-4.76	<.0001	12	USAGE	0
AR1,2	-0.24245	0.11528	-2.10	0.0379	24	USAGE	0
NUM1	1.29031	0.12854	10.04	<.0001	0	bcdd65	0
NUM2	1.65544	0.06481	25.54	<.0001	0	bhdd55	0
NUM3	41.59664	10.81728	3.85	0.0002	0	MET_DAYS	0

Constant Estimate	-12.1517
Variance Estimate	2404.465
Std Error Estimate	49.03535
AIC	1164.668
SBC	1183.507
Number of Residuals	109

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates

Variable	Parameter	USAGE MU	USAGE MA1,1	USAGE AR1,1	USAGE AR1,2	bcdd65 NUM1	bhdd55 NUM2	MET_DAYS NUM3
USAGE	MU	1.000	0.006	-0.051	-0.031	0.124	-0.056	-0.030
USAGE	MA1,1	0.006	1.000	0.048	0.186	-0.067	-0.118	-0.008
USAGE	AR1,1	-0.051	0.048	1.000	0.342	-0.007	0.120	0.163
USAGE	AR1,2	-0.031	0.186	0.342	1.000	-0.015	-0.091	0.155
bcdd65	NUM1	0.124	-0.067	-0.007	-0.015	1.000	0.032	0.028
bhdd55	NUM2	-0.056	-0.118	0.120	-0.091	0.032	1.000	0.047
MET_DAYS	NUM3	-0.030	-0.008	0.163	0.155	0.028	0.047	1.000

Autocorrelation Check of Residuals

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	3.57	3	0.3116	0.042	0.098	-0.088	0.068	0.087	-0.001
12	4.74	9	0.8566	-0.042	-0.000	0.026	0.053	0.059	-0.026
18	6.54	15	0.9692	0.037	0.033	-0.006	0.077	0.071	-0.020
24	13.05	21	0.9069	0.077	0.032	0.100	-0.144	0.058	-0.077

Kentucky Power Company
Residential

The ARIMA Procedure

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	2404.465	1.00000	|********************|	0
1	100.514	0.04180	|* . |	0.095783
2	235.302	0.09786	|** . |	0.095950
3	-210.910	-.08772	| **| . |	0.096861
4	164.189	0.06829	|* . |	0.097587
5	208.801	0.08684	|** . |	0.098025
6	-3.127391	-.00130	| . |	0.098728
7	-101.721	-.04230	| * | . |	0.098728
8	-0.119491	-.00005	| . |	0.098894
9	63.091278	0.02624	|* . |	0.098894
10	127.964	0.05322	|* . |	0.098958
11	142.945	0.05945	|* . |	0.099220
12	-63.630081	-.02646	| * | . |	0.099547
13	88.222875	0.03669	|* . |	0.099611
14	78.537847	0.03266	|* . |	0.099735
15	-13.576136	-.00565	| . |	0.099833
16	184.399	0.07669	|** . |	0.099836
17	171.645	0.07139	|* . |	0.100375
18	-49.021429	-.02039	| . |	0.100840
19	184.991	0.07694	|** . |	0.100878
20	76.452133	0.03180	|* . |	0.101414
21	241.001	0.10023	|** . |	0.101506
22	-345.744	-.14379	|***| . |	0.102410
23	139.817	0.05815	|* . |	0.104246
24	-185.523	-.07716	| **| . |	0.104543

"." marks two standard errors

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.10493	| **| . |
2	-0.12351	| **| . |
3	0.15434	|***. |
4	-0.03301	| * | . |
5	-0.14427	|***| . |
6	0.07405	|* . |
7	0.04738	|* . |
8	-0.04989	| * | . |
9	0.03393	|* . |
10	-0.03667	| * | . |
11	-0.08013	| **| . |
12	0.08738	|** . |
13	-0.06301	| * | . |

Kentucky Power Company
Residential

The ARIMA Procedure

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
14	-0.06000	. *| .
15	0.10712	. |** .
16	-0.06473	. *| .
17	-0.11354	. **| .
18	0.07031	. |* .
19	-0.02261	. | .
20	-0.09209	. **| .
21	-0.02776	. *| .
22	0.14110	. |***.
23	-0.08167	. **| .
24	0.05690	. |* .

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	0.04180	. |* .
2	0.09628	. |** .
3	-0.09650	. **| .
4	0.06804	. |* .
5	0.10075	. |** .
6	-0.03348	. *| .
7	-0.04822	. *| .
8	0.02286	. | .
9	0.01983	. | .
10	0.03382	. |* .
11	0.06363	. |* .
12	-0.03098	. *| .
13	0.03023	. |* .
14	0.03839	. |* .
15	-0.03823	. *| .
16	0.07744	. |** .
17	0.08785	. |** .
18	-0.06081	. *| .
19	0.07735	. |** .
20	0.04927	. |* .
21	0.04611	. |* .
22	-0.16390	.***| .
23	0.08392	. |** .
24	-0.06516	. *| .

Kentucky Power Company
Residential

The ARIMA Procedure

Model for variable USAGE

Estimated Intercept	-6.97871
Period(s) of Differencing	12

Autoregressive Factors

Factor 1: 1 + 0.4988 B**(12) + 0.24245 B**(24)

Moving Average Factors

Factor 1: 1 + 0.32122 B**(1)

Input Number 1

Input Variable	bcdd65
Period(s) of Differencing	12
Overall Regression Factor	1.290311

Input Number 2

Input Variable	bhdd55
Period(s) of Differencing	12
Overall Regression Factor	1.655438

Input Number 3

Input Variable	MET_DAYS
Period(s) of Differencing	12
Overall Regression Factor	41.59664

Outlier Detection Summary

Maximum number searched	3
Number found	3
Significance used	0.05

Kentucky Power Company
Residential

The ARIMA Procedure

Outlier Details

Obs	Time ID	Type	Estimate	Chi-Square	Approx Prob> ChiSq
24	DEC2006	Additive	147.92610	17.47	<.0001
74	FEB2011	Additive	-110.03880	14.29	0.0002
120	DEC2014	Shift	-111.65042	14.01	0.0002

Forecasts for variable USAGE

Obs	Forecast	Std Error	95% Confidence Limits	
122	1941.9567	49.0353	1845.8492	2038.0642
123	1624.2970	51.5031	1523.3528	1725.2412
124	1215.3028	51.5031	1114.3586	1316.2470
125	946.1479	51.5031	845.2037	1047.0921
126	1044.7504	51.5031	943.8062	1145.6947
127	1250.4125	51.5031	1149.4683	1351.3567
128	1278.7018	51.5031	1177.7576	1379.6460
129	1186.7344	51.5031	1085.7902	1287.6786
130	926.8202	51.5031	825.8760	1027.7644
131	1056.9235	51.5031	955.9792	1157.8677
132	1637.1038	51.5031	1536.1596	1738.0480
133	2097.9776	51.5031	1997.0334	2198.9218
134	1950.8047	57.0663	1838.9568	2062.6526
135	1625.8180	57.6098	1512.9049	1738.7310
136	1216.2321	57.6098	1103.3190	1329.1452
137	938.9936	57.6098	826.0805	1051.9066
138	1031.4439	57.6098	918.5309	1144.3570
139	1241.2035	57.6098	1128.2904	1354.1166
140	1268.3055	57.6098	1155.3924	1381.2185
141	1178.9143	57.6098	1066.0012	1291.8274
142	917.7217	57.6098	804.8087	1030.6348
143	1050.6928	57.6098	937.7798	1163.6059
144	1623.5381	57.6098	1510.6250	1736.4511
145	2107.2210	57.6098	1994.3080	2220.1341
146	1955.5362	62.7558	1832.5371	2078.5353
147	1615.9482	63.2630	1491.9551	1739.9414
148	1204.5345	63.2630	1080.5414	1328.5277
149	933.3372	63.2630	809.3441	1057.3304
150	1032.3548	63.2630	908.3617	1156.3480
151	1238.3166	63.2630	1114.3235	1362.3097
152	1260.9376	63.2630	1136.9445	1384.9308
153	1174.8484	63.2630	1050.8553	1298.8416
154	913.0448	63.2630	789.0516	1037.0379
155	1039.6627	63.2630	915.6696	1163.6558
156	1606.3260	63.2630	1482.3329	1730.3192
157	2077.4408	63.2630	1953.4477	2201.4339

Kentucky Power Company
Commercial

The ARIMA Procedure

Conditional Least Squares Estimation

Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag	Variable	Shift
MU	-36.82142	9.60139	-3.84	0.0002	0	USAGE	0
MA1,1	0.69434	0.10498	6.61	<.0001	24	USAGE	0
AR1,1	0.54606	0.09790	5.58	<.0001	1	USAGE	0
AR1,2	0.29310	0.09745	3.01	0.0033	2	USAGE	0
AR2,1	-0.72067	0.09532	-7.56	<.0001	12	USAGE	0
NUM1	2.06260	0.13941	14.79	<.0001	0	bcdd65	0
NUM2	1.55183	0.07177	21.62	<.0001	0	bhdd55	0
NUM3	132.70438	11.37468	11.67	<.0001	0	MET_DAYS	0

Constant Estimate	-10.1907
Variance Estimate	3246.994
Std Error Estimate	56.9824
AIC	1198.338
SBC	1219.868
Number of Residuals	109

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates

Variable	Parameter	USAGE MU	USAGE MA1,1	USAGE AR1,1	USAGE AR1,2	USAGE AR2,1	bcdd65 NUM1	bhdd55 NUM2	MET_DAYS NUM3
USAGE	MU	1.000	0.259	0.020	-0.056	-0.154	0.019	-0.071	-0.056
USAGE	MA1,1	0.259	1.000	0.144	-0.072	-0.527	-0.008	-0.002	-0.070
USAGE	AR1,1	0.020	0.144	1.000	-0.745	-0.094	0.102	0.081	-0.011
USAGE	AR1,2	-0.056	-0.072	-0.745	1.000	0.024	-0.026	-0.070	0.039
USAGE	AR2,1	-0.154	-0.527	-0.094	0.024	1.000	0.161	0.107	0.071
bcdd65	NUM1	0.019	-0.008	0.102	-0.026	0.161	1.000	0.088	0.165
bhdd55	NUM2	-0.071	-0.002	0.081	-0.070	0.107	0.088	1.000	0.134
MET_DAYS	NUM3	-0.056	-0.070	-0.011	0.039	0.071	0.165	0.134	1.000

Autocorrelation Check of Residuals

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	2.38	2	0.3036	-0.044	-0.119	0.044	0.031	0.040	-0.022
12	8.82	8	0.3574	-0.015	-0.041	-0.075	0.157	0.143	0.007
18	10.78	14	0.7030	-0.007	0.072	0.026	0.047	0.035	-0.075
24	14.07	20	0.8271	0.050	0.056	0.043	-0.041	0.098	0.069

Kentucky Power Company
Commercial

The ARIMA Procedure

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	3246.994	1.00000	|********************|	0
1	-142.421	-.04386	| . *| . |	0.095783
2	-385.410	-.11870	| . **| . |	0.095967
3	143.362	0.04415	| . |* . |	0.097304
4	99.103667	0.03052	| . |* . |	0.097488
5	130.570	0.04021	| . |* . |	0.097576
6	-71.691587	-.02208	| . | . |	0.097727
7	-47.238773	-.01455	| . | . |	0.097773
8	-131.734	-.04057	| . *| . |	0.097793
9	-243.840	-.07510	| . **| . |	0.097947
10	510.222	0.15714	| . |***. |	0.098474
11	463.124	0.14263	| . |***. |	0.100748
12	22.099285	0.00681	| . | . |	0.102584
13	-23.570545	-.00726	| . | . |	0.102588
14	234.523	0.07223	| . |* . |	0.102593
15	85.638184	0.02637	| . |* . |	0.103059
16	151.961	0.04680	| . |* . |	0.103120
17	113.992	0.03511	| . |* . |	0.103315
18	-244.201	-.07521	| . **| . |	0.103424
19	162.061	0.04991	| . |* . |	0.103925
20	181.926	0.05603	| . |* . |	0.104145
21	139.009	0.04281	| . |* . |	0.104421
22	-131.546	-.04051	| . *| . |	0.104582
23	318.698	0.09815	| . |** . |	0.104726
24	225.316	0.06939	| . |* . |	0.105566

"." marks two standard errors

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	0.09726	| . |** . |
2	0.11413	| . |** . |
3	-0.02609	| . *| . |
4	0.00770	| . | . |
5	-0.02262	| . | . |
6	0.05738	| . |* . |
7	0.06738	| . |* . |
8	0.04033	| . |* . |
9	0.09049	| . |** . |
10	-0.14017	| .***| . |
11	-0.13805	| .***| . |
12	-0.06137	| . *| . |
13	0.00508	| . | . |

Kentucky Power Company
Commercial

The ARIMA Procedure

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
14	-0.07061	| . *| . |
15	-0.03608	| . *| . |
16	-0.04368	| . *| . |
17	-0.06469	| . *| . |
18	0.02956	| . |* . |
19	-0.08348	| . **| . |
20	-0.03280	| . *| . |
21	-0.04372	| . *| . |
22	0.02615	| . |* . |
23	-0.10305	| . **| . |
24	-0.04123	| . *| . |

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.04386	| . *| . |
2	-0.12085	| . **| . |
3	0.03357	| . |* . |
4	0.02019	| . | . |
5	0.05269	| . |* . |
6	-0.01366	| . | . |
7	-0.00757	| . | . |
8	-0.05149	| . *| . |
9	-0.08482	| . **| . |
10	0.14290	| . |***. |
11	0.15167	| . |***. |
12	0.07116	| . |* . |
13	0.02454	| . | . |
14	0.06641	| . |* . |
15	0.00487	| . | . |
16	0.05321	| . |* . |
17	0.04694	| . |* . |
18	-0.05141	| . *| . |
19	0.08194	| . |** . |
20	0.05174	| . |* . |
21	0.03269	| . |* . |
22	-0.05750	| . *| . |
23	0.10954	| . |** . |
24	0.04649	| . |* . |

Kentucky Power Company
Commercial

The ARIMA Procedure

Model for variable USAGE

Estimated Intercept	-36.8214
Period(s) of Differencing	12

Autoregressive Factors

Factor 1: 1 - 0.54606 B**(1) - 0.2931 B**(2)
Factor 2: 1 + 0.72067 B**(12)

Moving Average Factors

Factor 1: 1 - 0.69434 B**(24)

Input Number 1

Input Variable	bcdd65
Period(s) of Differencing	12
Overall Regression Factor	2.062603

Input Number 2

Input Variable	bhdd55
Period(s) of Differencing	12
Overall Regression Factor	1.551828

Input Number 3

Input Variable	MET_DAYS
Period(s) of Differencing	12
Overall Regression Factor	132.7044

Outlier Detection Summary

Maximum number searched	3
Number found	3
Significance used	0.05

Kentucky Power Company
Commercial

The ARIMA Procedure

Outlier Details

Obs	Time ID	Type	Estimate	Chi-Square	Approx Prob> ChiSq
24	DEC2006	Additive	121.17657	7.92	0.0049
73	JAN2011	Additive	117.34379	9.51	0.0020
43	JUL2008	Additive	116.99117	9.45	0.0021

Forecasts for variable USAGE

Obs	Forecast	Std Error	95% Confidence Limits	
122	3945.6440	56.9824	3833.9606	4057.3275
123	3588.8394	64.9244	3461.5898	3716.0889
124	3325.0634	73.1462	3181.6995	3468.4272
125	3188.5813	78.1511	3035.4079	3341.7547
126	3516.7551	82.0225	3355.9940	3677.5162
127	3794.0959	84.8350	3627.8223	3960.3695
128	3825.6541	86.9647	3655.2064	3996.1017
129	3867.8352	88.5715	3694.2382	4041.4322
130	3357.2671	89.7957	3181.2707	3533.2635
131	3161.3013	90.7307	2983.4725	3339.1302
132	3805.6989	91.4472	3626.4656	3984.9321
133	4285.7467	91.9974	4105.4350	4466.0583
134	3954.5881	95.2689	3767.8644	4141.3118
135	3609.0173	96.6805	3419.5270	3798.5076
136	3337.2550	98.0355	3145.1090	3529.4009
137	3180.0383	98.9873	2986.0268	3374.0498
138	3493.9482	99.7410	3298.4595	3689.4369
139	3774.6962	100.3129	3578.0865	3971.3059
140	3808.0271	100.7550	3610.5509	4005.5033
141	3840.8938	101.0949	3642.7513	4039.0362
142	3350.2170	101.3572	3151.5605	3548.8735
143	3168.7478	101.5595	2969.6948	3367.8007
144	3800.3994	101.7157	3601.0404	3999.7585
145	4303.5041	101.8362	4103.9087	4503.0994
146	3962.1735	102.3561	3761.5592	4162.7879
147	3603.4584	102.6006	3402.3650	3804.5519
148	3327.2958	102.8313	3125.7501	3528.8415
149	3177.9966	102.9967	2976.1268	3379.8664
150	3495.3732	103.1281	3293.2459	3697.5005
151	3767.8864	103.2285	3565.5623	3970.2104
152	3794.7870	103.3063	3592.3103	3997.2637
153	3829.8587	103.3664	3627.2642	4032.4532
154	3320.8752	103.4129	3118.1896	3523.5607
155	3125.4688	103.4488	2922.7128	3328.2247
156	3763.2362	103.4766	3560.4259	3966.0466
157	4247.0253	103.4980	4044.1729	4449.8778

Kentucky Power Company
Industrial

The ARIMA Procedure

Conditional Least Squares Estimation

Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag	Variable	Shift
MU	31282127	5798845.8	5.39	<.0001	0	KWH	0
AR1,1	0.21149	0.08518	2.48	0.0145	1	KWH	0
AR1,2	0.45947	0.08636	5.32	<.0001	2	KWH	0
NUM1	16803030	2460655.3	6.83	<.0001	0	ind1	0
NUM2	18634169	2459377.9	7.58	<.0001	0	ind2	0
NUM3	33198944	2481225.6	13.38	<.0001	0	ind3	0
NUM4	19719863	2190182.9	9.00	<.0001	0	ind4	0
NUM5	14722156	2472343.1	5.95	<.0001	0	ind5	0
NUM6	-58842.9	189781.8	-0.31	0.7571	0	MET_DAYS	0

Constant Estimate	10293216
Variance Estimate	1.64E13
Std Error Estimate	4049544
AIC	4033.847
SBC	4059.009
Number of Residuals	121

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates

Variable	Parameter	KWH MU	KWH AR1,1	KWH AR1,2	ind1 NUM1	ind2 NUM2
KWH	MU	1.000	0.031	0.012	-0.026	0.087
KWH	AR1,1	0.031	1.000	-0.409	-0.053	-0.018
KWH	AR1,2	0.012	-0.409	1.000	0.075	0.053
ind1	NUM1	-0.026	-0.053	0.075	1.000	0.003
ind2	NUM2	0.087	-0.018	0.053	0.003	1.000
ind3	NUM3	-0.051	-0.108	0.151	0.013	0.003
ind4	NUM4	-0.023	-0.024	-0.035	-0.001	-0.004
ind5	NUM5	0.015	-0.108	0.131	0.011	0.008
MET_DAYS	NUM6	-0.983	-0.026	-0.007	0.013	-0.089

Correlations of Parameter Estimates

Variable	Parameter	ind3 NUM3	ind4 NUM4	ind5 NUM5	MET_DAYS NUM6
KWH	MU	-0.051	-0.023	0.015	-0.983
KWH	AR1,1	-0.108	-0.024	-0.108	-0.026
KWH	AR1,2	0.151	-0.035	0.131	-0.007
ind1	NUM1	0.013	-0.001	0.011	0.013
ind2	NUM2	0.003	-0.004	0.008	-0.089

Kentucky Power Company
Industrial

The ARIMA Procedure

Correlations of Parameter Estimates

Variable		ind3	ind4	ind5	MET_DAYS
Parameter		NUM3	NUM4	NUM5	NUM6
ind3	NUM3	1.000	-0.002	0.022	0.052
ind4	NUM4	-0.002	1.000	-0.002	0.023
ind5	NUM5	0.022	-0.002	1.000	-0.015
MET_DAYS	NUM6	0.052	0.023	-0.015	1.000

Autocorrelation Check of Residuals

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	3.14	4	0.5346	-0.083	-0.078	0.069	-0.021	0.081	0.011
12	10.61	10	0.3888	0.106	0.071	0.037	0.138	0.028	0.136
18	13.43	16	0.6410	-0.012	-0.069	-0.027	0.076	0.070	-0.061
24	17.29	22	0.7473	0.087	0.063	-0.042	0.025	0.095	0.052

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	1.63988E13	1.00000	|********************|	0
1	-1.36E12	-.08293	. **| . |	0.090909
2	-1.2773E12	-.07789	. **| . |	0.091532
3	1.13697E12	0.06933	. |* . |	0.092078
4	-3.5103E11	-.02141	. | . |	0.092509
5	1.33326E12	0.08130	. |** . |	0.092550
6	1.82608E11	0.01114	. | . |	0.093138
7	1.73192E12	0.10561	. |** . |	0.093149
8	1.16187E12	0.07085	. |* . |	0.094134
9	6.03333E11	0.03679	. |* . |	0.094573
10	2.25672E12	0.13761	. |***. |	0.094691
11	4.63632E11	0.02827	. |* . |	0.096330
12	2.2296E12	0.13596	. |***. |	0.096399
13	-1.8881E11	-.01151	. | . |	0.097971
14	-1.1348E12	-.06920	. *| . |	0.097982
15	-4.5064E11	-.02748	. *| . |	0.098385
16	1.2395E12	0.07558	. |** . |	0.098448
17	1.13979E12	0.06950	. |* . |	0.098927
18	-9.9332E11	-.06057	. *| . |	0.099329
19	1.43108E12	0.08727	. |** . |	0.099634
20	1.03491E12	0.06311	. |* . |	0.100264
21	-6.9624E11	-.04246	. *| . |	0.100592
22	4.16019E11	0.02537	. |* . |	0.100740
23	1.55964E12	0.09511	. |** . |	0.100793

Kentucky Power Company
Industrial

The ARIMA Procedure

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
24	8.58011E11	0.05232	|. |* . |	0.101531

"." marks two standard errors

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	0.24333	|. |***** |
2	0.19574	|. |**** |
3	0.03321	|. |* . |
4	0.03759	|. |* . |
5	-0.11689	|. **| . |
6	-0.13854	|.***| . |
7	-0.18798	|****| . |
8	-0.22196	|****| . |
9	-0.18422	|****| . |
10	-0.21483	|****| . |
11	-0.07669	|. **| . |
12	-0.07925	|. **| . |
13	0.07917	|. |** . |
14	0.13543	|. |***. |
15	0.13594	|. |***. |
16	0.05923	|. |* . |
17	0.05539	|. |* . |
18	0.09362	|. |** . |
19	-0.00957	|. | . |
20	-0.01644	|. | . |
21	-0.00045	|. | . |
22	-0.03959	|. * | . |
23	-0.10882	|. **| . |
24	-0.06927	|. * | . |

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.08293	|. **| . |
2	-0.08536	|. **| . |
3	0.05603	|. |* . |
4	-0.01740	|. | . |
5	0.08954	|. |** . |
6	0.01885	|. | . |
7	0.12738	|. |***. |

Kentucky Power Company
Industrial

The ARIMA Procedure

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
8	0.08507	. |** .
9	0.07558	. |** .
10	0.14860	. |***.
11	0.06518	. |* .
12	0.16513	. |***.
13	0.00577	. | .
14	-0.06359	. *| .
15	-0.11184	. **| .
16	0.01491	. | .
17	-0.00136	. | .
18	-0.09744	. **| .
19	0.01919	. | .
20	0.02178	. | .
21	-0.03141	. *| .
22	-0.00818	. | .
23	0.11098	. |** .
24	0.08649	. |** .

Model for variable KWH

Estimated Intercept 31282127

Autoregressive Factors

Factor 1: 1 - 0.21149 B**(1) - 0.45947 B**(2)

Input Number 1

Input Variable	ind1
Overall Regression Factor	16803030

Input Number 2

Input Variable	ind2
Overall Regression Factor	18634169

Input Number 3

Input Variable	ind3
Overall Regression Factor	33198944

Kentucky Power Company
Industrial

The ARIMA Procedure

Input Number 4

Input Variable	ind4
Overall Regression Factor	19719863

Input Number 5

Input Variable	ind5
Overall Regression Factor	14722156

Input Number 6

Input Variable	MET_DAYS
Overall Regression Factor	-58842.9

Outlier Detection Summary

Maximum number searched	3
Number found	3
Significance used	0.05

Outlier Details

Obs	Time ID	Type	Estimate	Chi-Square	Approx Prob>ChiSq
68	AUG2010	Additive	11602642	16.30	<.0001
66	JUN2010	Additive	13516874	22.14	<.0001
95	NOV2012	Shift	-5015535.4	11.71	0.0006

Forecasts for variable KWH

Obs	Forecast	Std Error	95% Confidence Limits	
122	27788929.8	4049544	19851970.3	35725889.2
123	28947782.5	4139115	20835266.6	37060298.3
124	28558455.5	4615306	19512621.7	37604289.2
125	29046891.5	4688516	19857568.9	38236214.1
126	28956860.8	4818735	19512314.0	38401407.6
127	29150785.8	4857760	19629750.2	38671821.4
128	29181377.3	4899895	19577759.9	38784994.8
129	29346737.6	4917688	19708245.9	38985229.3
130	29371683.6	4932580	19704004.2	39039363.1
131	29423231.7	4940131	19740752.5	39105711.0
132	29369373.8	4945657	19676064.5	39062683.2

Kentucky Power Company
Industrial

The ARIMA Procedure

Forecasts for variable KWH

Obs	Forecast	Std Error	95% Confidence Limits	
133	29399576.8	4948748	19700209.3	39098944.4
134	29487065.6	4950853	19783571.4	39190559.7
135	29466254.3	4952095	19760326.6	39172181.9
136	29450851.1	4952909	19743328.2	39158373.9
137	29473843.1	4953403	19765352.6	39182333.6
138	29457182.8	4953720	19748070.9	39166294.7
139	29452768.2	4953915	19743273.5	39162262.8
140	29475124.7	4954039	19765387.0	39184862.5
141	29547612.7	4954116	19837724.0	39257501.4
142	29549133.7	4954164	19839149.7	39259117.6
143	29553055.9	4954195	19843012.5	39263099.3
144	29478362.6	4954214	19768281.8	39188443.4
145	29482276.6	4954226	19772172.4	39192380.8
146	29554632.4	4954233	19844513.5	39264751.2
147	29518541.7	4954238	19808413.7	39228669.8
148	29492954.0	4954241	19782820.2	39203087.8
149	29506771.7	4954243	19796634.3	39216909.2
150	29483491.7	4954244	19773352.0	39193631.4
151	29473461.8	4954245	19763320.7	39183603.0
152	29491589.3	4954245	19781447.3	39201731.3
153	29560602.8	4954245	19850460.3	39270745.4
154	29559445.9	4954246	19849302.9	39269588.8
155	29561205.3	4954246	19851062.2	39271348.5
156	29484824.3	4954246	19774681.0	39194967.5
157	29487387.6	4954246	19777244.2	39197530.9

Kentucky Power Company
Industrial Mine Power

The ARIMA Procedure

Conditional Least Squares Estimation

Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag	Variable	Shift
MU	-2530071.0	762488.5	-3.32	0.0013	0	KWH	0
MA1,1	0.48274	0.09033	5.34	<.0001	12	KWH	0
AR1,1	0.57887	0.08600	6.73	<.0001	1	KWH	0
AR2,1	0.37652	0.09756	3.86	0.0002	5	KWH	0
NUM1	13690801	2351584.7	5.82	<.0001	0	min1	0
NUM2	-8522497.5	2391903.1	-3.56	0.0006	0	min2	0
NUM3	-10616223	2397207.9	-4.43	<.0001	0	min3	0
NUM4	148594.4	397876.2	0.37	0.7096	0	MET_DAYS	0

Constant Estimate	-664316
Variance Estimate	1.085E13
Std Error Estimate	3294599
AIC	3588.719
SBC	3610.25
Number of Residuals	109

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates

Variable	Parameter	KWH MU	KWH MA1,1	KWH AR1,1	KWH AR2,1	min1 NUM1	min2 NUM2	min3 NUM3	MET_DAYS NUM4
KWH	MU	1.000	0.024	-0.114	0.090	-0.035	-0.387	-0.381	-0.008
KWH	MA1,1	0.024	1.000	0.033	0.031	-0.035	0.076	0.035	0.082
KWH	AR1,1	-0.114	0.033	1.000	-0.144	0.022	0.019	0.289	-0.044
KWH	AR2,1	0.090	0.031	-0.144	1.000	0.087	-0.263	-0.036	-0.072
min1	NUM1	-0.035	-0.035	0.022	0.087	1.000	-0.026	0.020	-0.027
min2	NUM2	-0.387	0.076	0.019	-0.263	-0.026	1.000	0.102	0.042
min3	NUM3	-0.381	0.035	0.289	-0.036	0.020	0.102	1.000	0.036
MET_DAYS	NUM4	-0.008	0.082	-0.044	-0.072	-0.027	0.042	0.036	1.000

Autocorrelation Check of Residuals

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	5.59	3	0.1331	-0.111	0.142	0.101	-0.071	0.003	0.041
12	8.58	9	0.4765	0.056	0.105	0.090	-0.038	0.028	0.015
18	13.57	15	0.5581	-0.101	0.103	0.079	0.069	0.077	0.036
24	20.49	21	0.4907	-0.049	-0.050	0.119	-0.154	0.082	0.009

Kentucky Power Company
Industrial Mine Power

The ARIMA Procedure

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	1.08544E13	1.00000	|********************|	0
1	-1.2029E12	-.11082	. **| . |	0.095783
2	1.54294E12	0.14215	. |***. |	0.096952
3	1.095E12	0.10088	. |** . |	0.098845
4	-7.659E11	-.07056	. *| . |	0.099786
5	3.76047E10	0.00346	. | . |	0.100242
6	4.43841E11	0.04089	. |* . |	0.100243
7	6.0908E11	0.05611	. |* . |	0.100396
8	1.14203E12	0.10521	. |** . |	0.100684
9	9.79252E11	0.09022	. |** . |	0.101687
10	-4.1789E11	-.03850	. *| . |	0.102419
11	3.04887E11	0.02809	. |* . |	0.102552
12	1.60608E11	0.01480	. | . |	0.102622
13	-1.0929E12	-.10069	. **| . |	0.102642
14	1.11307E12	0.10255	. |** . |	0.103544
15	8.59019E11	0.07914	. |** . |	0.104472
16	7.44839E11	0.06862	. |* . |	0.105020
17	8.38943E11	0.07729	. |** . |	0.105431
18	3.8565E11	0.03553	. |* . |	0.105949
19	-5.3505E11	-.04929	. *| . |	0.106059
20	-5.4774E11	-.05046	. *| . |	0.106268
21	1.29686E12	0.11948	. |** . |	0.106488
22	-1.6742E12	-.15424	.***| . |	0.107711
23	8.9515E11	0.08247	. |** . |	0.109719
24	9.56539E10	0.00881	. | . |	0.110286

"." marks two standard errors

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	0.11015	. |** . |
2	-0.19267	****| . |
3	-0.12840	.***| . |
4	0.04859	. |* . |
5	0.05889	. |* . |
6	0.01939	. | . |
7	-0.07006	. *| . |
8	-0.12595	.***| . |
9	-0.00610	. | . |
10	0.03767	. |* . |
11	-0.04534	. *| . |
12	0.02534	. |* . |
13	0.11359	. |** . |

Kentucky Power Company
Industrial Mine Power

The ARIMA Procedure

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
14	-0.04858	. *| .
15	-0.10779	. **| .
16	-0.10038	. **| .
17	-0.05512	. *| .
18	0.03752	. |* .
19	0.07507	. |** .
20	-0.00924	. | .
21	-0.11358	. **| .
22	0.10446	. |** .
23	0.03719	. |* .
24	0.00814	. | .

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.11082	. **| .
2	0.13148	. |***.
3	0.13304	. |***.
4	-0.06802	. *| .
5	-0.04722	. *| .
6	0.04680	. |* .
7	0.09322	. |** .
8	0.11279	. |** .
9	0.08323	. |** .
10	-0.06845	. *| .
11	-0.02599	. *| .
12	0.03359	. |* .
13	-0.07594	. **| .
14	0.06280	. |* .
15	0.10714	. |** .
16	0.07367	. |* .
17	0.02328	. | .
18	0.01280	. | .
19	-0.05475	. *| .
20	-0.07555	. **| .
21	0.14561	. |***.
22	-0.11667	. **| .
23	-0.04156	. *| .
24	-0.00958	. | .

Kentucky Power Company
Industrial Mine Power

The ARIMA Procedure

Model for variable KWH

Estimated Intercept	-2530071
Period(s) of Differencing	12

Autoregressive Factors

Factor 1: 1 - 0.57887 B**(1)
Factor 2: 1 - 0.37652 B**(5)

Moving Average Factors

Factor 1: 1 - 0.48274 B**(12)

Input Number 1

Input Variable	min1
Period(s) of Differencing	12
Overall Regression Factor	13690801

Input Number 2

Input Variable	min2
Period(s) of Differencing	12
Overall Regression Factor	-8522498

Input Number 3

Input Variable	min3
Period(s) of Differencing	12
Overall Regression Factor	-1.062E7

Input Number 4

Input Variable	MET_DAYS
Period(s) of Differencing	12
Overall Regression Factor	148594.4

Outlier Detection Summary

Maximum number searched	3
Number found	3
Significance used	0.05

Kentucky Power Company
Industrial Mine Power

The ARIMA Procedure

Outlier Details

Obs	Time ID	Type	Estimate	Chi-Square	Approx Prob> ChiSq
65	MAY2010	Additive	8938919.1	18.86	<.0001
37	JAN2008	Shift	5964450.3	10.86	0.0010
3	MAR2005	Additive	7716086.3	10.03	0.0015

Forecasts for variable KWH

Obs	Forecast	Std Error	95% Confidence Limits	
122	47879914.7	3294599	41422619.1	54337210.3
123	46920815.5	3806775	39459673.5	54381957.4
124	44153908.6	3963622	36385353.2	51922464.0
125	41505087.2	4014808	33636207.8	49373966.6
126	39038029.5	4031815	31135817.7	46940241.2
127	34262652.8	4286194	25861866.8	42663438.7
128	36312508.2	4368121	27751149.1	44873867.3
129	37703676.5	4395231	29089181.1	46318171.9
130	35951815.5	4404279	27319588.0	44584043.0
131	39926443.9	4407306	31288282.8	48564605.0
132	45719132.5	4442945	37011120.9	54427144.0
133	45645680.8	4454823	36914388.4	54376973.2
134	45765575.8	4840082	36279189.5	55251962.2
135	44670750.0	4962491	34944446.0	54397054.0
136	41710860.8	5002839	31905476.7	51516244.9
137	38891761.4	5032212	29028807.2	48754715.6
138	36619264.5	5042016	26737094.4	46501434.6
139	31882464.9	5108835	21869331.6	41895598.1
140	33882769.0	5131031	23826133.3	43939404.7
141	35203421.6	5138447	25132250.8	45274592.3
142	33388689.7	5143413	23307785.8	43469593.6
143	37437293.4	5145076	27353130.2	47521456.7
144	43244923.4	5154851	33141600.6	53348246.1
145	43153055.6	5158123	33043320.9	53262790.3
146	43246539.4	5466631	32532139.6	53960939.2
147	42128122.1	5570932	31209295.4	53046948.8
148	39196133.0	5605448	28209656.5	50182609.4
149	36382686.3	5623522	25360786.3	47404586.4
150	34103271.1	5629565	23069526.5	45137015.6
151	29356536.1	5685088	18213969.0	40499103.2
152	31347962.8	5704334	20167672.7	42528252.9
153	32679123.4	5710769	21486221.2	43872025.5
154	30866521.7	5713967	19667352.1	42065691.2
155	34912521.5	5715038	23711252.5	46113790.4
156	40716411.2	5723205	29499135.1	51933687.2
157	40621201.2	5726050	29398350.3	51844052.1

Kentucky Power Company
Other Retail

The ARIMA Procedure

Conditional Least Squares Estimation

Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag	Variable	Shift
MU	8582.4	505.27464	16.99	<.0001	0	KWH	0
MA1,1	-0.26881	0.10658	-2.52	0.0134	1	KWH	0
MA1,2	0.36547	0.10110	3.61	0.0005	2	KWH	0
MA2,1	0.83146	0.07512	11.07	<.0001	12	KWH	0
AR1,1	-0.51061	0.09849	-5.18	<.0001	9	KWH	0
AR2,1	-0.30431	0.09752	-3.12	0.0024	11	KWH	0
AR2,2	-0.44271	0.09982	-4.44	<.0001	13	KWH	0
NUM1	-77986.0	5945.4	-13.12	<.0001	0	or1	0
NUM2	119324.5	18336.3	6.51	<.0001	0	or2	0
NUM3	397424.7	17802.9	22.32	<.0001	0	or3	0
NUM4	125237.7	17752.5	7.05	<.0001	0	or4	0
NUM5	137320.9	14486.1	9.48	<.0001	0	or5	0
NUM6	178032.6	15782.3	11.28	<.0001	0	or6	0
NUM7	148698.3	24411.7	6.09	<.0001	0	or7	0
NUM8	242394.2	33061.9	7.33	<.0001	0	or8	0
NUM9	243670.7	32358.9	7.53	<.0001	0	or9	0
NUM10	99789.2	23195.6	4.30	<.0001	0	or10	0
NUM11	-5406.4	3684.4	-1.47	0.1457	0	MET_DAYS	0

Constant Estimate	22649.4
Variance Estimate	1.3575E9
Std Error Estimate	36844.77
AIC	2617.81
SBC	2666.254
Number of Residuals	109

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates

Variable	Parameter	KWH MU	KWH MA1,1	KWH MA1,2	KWH MA2,1	KWH AR1,1	KWH AR2,1
KWH	MU	1.000	0.081	0.061	0.234	-0.125	-0.110
KWH	MA1,1	0.081	1.000	0.428	0.095	-0.051	0.138
KWH	MA1,2	0.061	0.428	1.000	0.078	-0.095	0.072
KWH	MA2,1	0.234	0.095	0.078	1.000	-0.188	-0.296
KWH	AR1,1	-0.125	-0.051	-0.095	-0.188	1.000	0.077
KWH	AR2,1	-0.110	0.138	0.072	-0.296	0.077	1.000
KWH	AR2,2	-0.170	-0.132	-0.087	-0.251	0.096	-0.082
or1	NUM1	-0.632	-0.059	-0.033	-0.227	0.123	0.094
or2	NUM2	-0.096	-0.326	-0.083	-0.010	0.009	-0.162
or3	NUM3	0.053	0.095	-0.060	0.033	-0.207	-0.051
or4	NUM4	-0.077	-0.010	-0.055	-0.047	0.095	0.015

Kentucky Power Company
Other Retail

The ARIMA Procedure

Correlations of Parameter Estimates

Variable		KWH	KWH	KWH	KWH	KWH	KWH
Parameter		MU	MA1,1	MA1,2	MA2,1	AR1,1	AR2,1
or5	NUM5	-0.004	0.033	-0.001	-0.026	0.103	0.057
or6	NUM6	0.041	0.003	-0.058	0.053	-0.015	-0.075
or7	NUM7	0.063	0.133	0.065	-0.018	-0.004	0.072
or8	NUM8	-0.120	-0.077	-0.078	-0.031	-0.076	0.008
or9	NUM9	0.131	0.078	0.057	0.085	-0.014	-0.035
or10	NUM10	-0.107	-0.029	0.027	0.031	0.092	-0.002
MET_DAYS	NUM11	-0.155	-0.154	-0.132	-0.030	-0.001	-0.025

Correlations of Parameter Estimates

Variable		KWH	or1	or2	or3	or4	or5
Parameter		AR2,2	NUM1	NUM2	NUM3	NUM4	NUM5
KWH	MU	-0.170	-0.632	-0.096	0.053	-0.077	-0.004
KWH	MA1,1	-0.132	-0.059	-0.326	0.095	-0.010	0.033
KWH	MA1,2	-0.087	-0.033	-0.083	-0.060	-0.055	-0.001
KWH	MA2,1	-0.251	-0.227	-0.010	0.033	-0.047	-0.026
KWH	AR1,1	0.096	0.123	0.009	-0.207	0.095	0.103
KWH	AR2,1	-0.082	0.094	-0.162	-0.051	0.015	0.057
KWH	AR2,2	1.000	0.147	0.226	-0.161	0.210	0.040
or1	NUM1	0.147	1.000	0.134	-0.055	0.122	0.048
or2	NUM2	0.226	0.134	1.000	-0.135	-0.008	0.011
or3	NUM3	-0.161	-0.055	-0.135	1.000	-0.348	-0.088
or4	NUM4	0.210	0.122	-0.008	-0.348	1.000	0.172
or5	NUM5	0.040	0.048	0.011	-0.088	0.172	1.000
or6	NUM6	0.016	-0.057	0.042	-0.036	0.017	0.096
or7	NUM7	-0.127	-0.021	-0.130	0.059	-0.052	-0.093
or8	NUM8	0.073	-0.061	0.029	0.012	-0.033	-0.223
or9	NUM9	-0.190	-0.164	-0.002	0.138	-0.620	-0.123
or10	NUM10	0.030	0.056	0.021	-0.012	-0.034	-0.216
MET_DAYS	NUM11	0.194	0.013	0.136	-0.068	0.087	0.192

Correlations of Parameter Estimates

Variable		or6	or7	or8	or9	or10	MET_DAYS
Parameter		NUM6	NUM7	NUM8	NUM9	NUM10	NUM11
KWH	MU	0.041	0.063	-0.120	0.131	-0.107	-0.155
KWH	MA1,1	0.003	0.133	-0.077	0.078	-0.029	-0.154
KWH	MA1,2	-0.058	0.065	-0.078	0.057	0.027	-0.132
KWH	MA2,1	0.053	-0.018	-0.031	0.085	0.031	-0.030
KWH	AR1,1	-0.015	-0.004	-0.076	-0.014	0.092	-0.001
KWH	AR2,1	-0.075	0.072	0.008	-0.035	-0.002	-0.025
KWH	AR2,2	0.016	-0.127	0.073	-0.190	0.030	0.194
or1	NUM1	-0.057	-0.021	-0.061	-0.164	0.056	0.013

Kentucky Power Company
Other Retail

The ARIMA Procedure

Correlations of Parameter Estimates

Variable	Parameter	or6 NUM6	or7 NUM7	or8 NUM8	or9 NUM9	or10 NUM10	MET_DAYS NUM11
or2	NUM2	0.042	-0.130	0.029	-0.002	0.021	0.136
or3	NUM3	-0.036	0.059	0.012	0.138	-0.012	-0.068
or4	NUM4	0.017	-0.052	-0.033	-0.620	-0.034	0.087
or5	NUM5	0.096	-0.093	-0.223	-0.123	-0.216	0.192
or6	NUM6	1.000	-0.371	-0.099	0.313	0.001	0.038
or7	NUM7	-0.371	1.000	0.226	0.086	-0.141	-0.627
or8	NUM8	-0.099	0.226	1.000	-0.087	-0.157	0.343
or9	NUM9	0.313	0.086	-0.087	1.000	0.056	-0.295
or10	NUM10	0.001	-0.141	-0.157	0.056	1.000	-0.095
MET_DAYS	NUM11	0.038	-0.627	0.343	-0.295	-0.095	1.000

Autocorrelation Check of Residuals

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	.	0	.	-0.009	-0.001	0.068	-0.031	-0.080	0.046
12	4.65	6	0.5895	0.014	-0.019	-0.066	0.106	0.010	-0.091
18	12.67	12	0.3931	0.004	0.103	-0.145	-0.023	0.153	-0.078
24	20.96	18	0.2816	0.039	-0.086	-0.043	-0.198	-0.021	0.095

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	1357537302	1.00000	|********************|	0
1	-11977693	-.00882	| . | . |	0.095783
2	-1650868	-.00122	| . | . |	0.095790
3	92840980	0.06839	| . |* . |	0.095790
4	-42010555	-.03095	| . *| . |	0.096237
5	-108629940	-.08002	| . **| . |	0.096328
6	62953161	0.04637	| . |* . |	0.096936
7	19507870	0.01437	| . | . |	0.097140
8	-25523727	-.01880	| . | . |	0.097159
9	-89258521	-.06575	| . *| . |	0.097192
10	143290687	0.10555	| . |** . |	0.097600
11	13794941	0.01016	| . | . |	0.098641
12	-123624147	-.09107	| . **| . |	0.098651
13	5686493	0.00419	| . | . |	0.099419
14	139763821	0.10295	| . |** . |	0.099421
15	-197200084	-.14526	| .***| . |	0.100394
16	-31890808	-.02349	| . | . |	0.102304
17	207757864	0.15304	| . |***. |	0.102354

Kentucky Power Company
Other Retail

The ARIMA Procedure

Autocorrelation Plot of Residuals

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
18	-105673619	-.07784	. **| .	0.104432
19	52927912	0.03899	. |* .	0.104963
20	-117089186	-.08625	. **| .	0.105096
21	-57823311	-.04259	. *| .	0.105743
22	-269079073	-.19821	****| .	0.105900
23	-28953901	-.02133	. | .	0.109251
24	129140239	0.09513	. |** .	0.109289

"." marks two standard errors

Inverse Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.04966	. *| .
2	-0.01320	. | .
3	-0.06193	. *| .
4	0.04344	. |* .
5	0.02903	. |* .
6	-0.06515	. *| .
7	0.07172	. |* .
8	-0.00898	. | .
9	0.04875	. |* .
10	-0.09562	. **| .
11	0.02822	. |* .
12	0.01422	. | .
13	0.03113	. |* .
14	-0.07986	. **| .
15	0.10366	. |** .
16	0.03875	. |* .
17	-0.11500	. **| .
18	0.05992	. |* .
19	-0.07792	. **| .
20	0.11691	. |** .
21	0.02427	. | .
22	0.15613	. |***.
23	0.01023	. | .
24	-0.06357	. *| .

Kentucky Power Company
Other Retail

The ARIMA Procedure

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.00882	. .
2	-0.00129	. .
3	0.06837	. .
4	-0.02989	. .
5	-0.08082	. .
6	0.04088	. .
7	0.01977	. .
8	-0.00917	. .
9	-0.07804	. .
10	0.10084	. .
11	0.02271	. .
12	-0.08635	. .
13	-0.01974	. .
14	0.10554	. .
15	-0.11463	. .
16	-0.04256	. .
17	0.13666	. .
18	-0.05166	. .
19	0.05553	. .
20	-0.15139	. .
21	-0.02802	. .
22	-0.17600	. .
23	-0.00847	. .
24	0.07218	. .

Model for variable KWH

Estimated Intercept	8582.402
Period(s) of Differencing	12

Autoregressive Factors

Factor 1: 1 + 0.51061 B**(9)
Factor 2: 1 + 0.30431 B**(11) + 0.44271 B**(13)

Moving Average Factors

Factor 1: 1 + 0.26881 B**(1) - 0.36547 B**(2)
Factor 2: 1 - 0.83146 B**(12)

Kentucky Power Company
Other Retail

The ARIMA Procedure

Input Number 1

Input Variable	or1
Period(s) of Differencing	12
Overall Regression Factor	-77986

Input Number 2

Input Variable	or2
Period(s) of Differencing	12
Overall Regression Factor	119324.5

Input Number 3

Input Variable	or3
Period(s) of Differencing	12
Overall Regression Factor	397424.7

Input Number 4

Input Variable	or4
Period(s) of Differencing	12
Overall Regression Factor	125237.7

Input Number 5

Input Variable	or5
Period(s) of Differencing	12
Overall Regression Factor	137320.9

Input Number 6

Input Variable	or6
Period(s) of Differencing	12
Overall Regression Factor	178032.6

Input Number 7

Input Variable	or7
Period(s) of Differencing	12
Overall Regression Factor	148698.3

Kentucky Power Company
Other Retail

The ARIMA Procedure

Input Number 8

Input Variable	or8
Period(s) of Differencing	12
Overall Regression Factor	242394.2

Input Number 9

Input Variable	or9
Period(s) of Differencing	12
Overall Regression Factor	243670.7

Input Number 10

Input Variable	or10
Period(s) of Differencing	12
Overall Regression Factor	99789.17

Input Number 11

Input Variable	MET_DAYS
Period(s) of Differencing	12
Overall Regression Factor	-5406.44

Forecasts for variable KWH

Obs	Forecast	Std Error	95% Confidence Limits	
122	955660.3	36844.77	883445.9	1027874.7
123	982925.5	38152.72	908147.5	1057703.5
124	838947.6	40459.24	759649.0	918246.3
125	751934.6	40459.24	672636.0	831233.3
126	715164.6	40459.24	635866.0	794463.3
127	732489.9	40459.24	653191.2	811788.6
128	814458.0	40459.24	735159.4	893756.7
129	874459.9	40459.24	795161.3	953758.6
130	998136.2	40459.24	918837.5	1077434.8
131	1054657.7	44619.37	967205.4	1142110.1
132	1133015.1	44905.04	1045002.8	1221027.3
133	1119004.1	45113.95	1030582.4	1207425.8
134	958851.6	45227.00	870208.3	1047494.8
135	952397.3	46439.95	861376.7	1043417.9
136	803365.7	46914.23	711415.5	895315.9
137	715388.2	47291.46	622698.7	808077.8
138	678536.8	47291.46	585847.2	771226.3
139	695546.3	47291.46	602856.7	788235.8

Kentucky Power Company
Other Retail

The ARIMA Procedure

Forecasts for variable KWH

Obs	Forecast	Std Error	95% Confidence Limits	
140	778320.5	48257.24	683738.1	872902.9
141	857459.1	48326.27	762741.4	952176.9
142	981518.9	48376.97	886701.7	1076336.0
143	1047238.8	48404.49	952367.8	1142109.9
144	1144468.4	49197.20	1048043.7	1240893.2
145	1138630.0	49256.94	1042088.2	1235171.8
146	989372.6	50545.05	890306.1	1088439.0
147	987724.4	50596.42	888557.2	1086891.6
148	846818.1	50599.80	747644.3	945991.8
149	761880.8	50637.71	662632.7	861128.9
150	718220.8	50792.13	618670.0	817771.5
151	734498.5	50804.71	634923.1	834073.9
152	815110.7	50811.54	715521.9	914699.5
153	886650.7	51009.66	786673.6	986627.8
154	1001460.3	51024.68	901453.7	1101466.8
155	1062793.3	51479.47	961895.4	1163691.2
156	1151199.0	51486.78	1050286.8	1252111.2
157	1137313.6	51857.02	1035675.7	1238951.4