Kentucky Power Company

Below is a table containing the contemporaneous correlation measures for both cooling and heating degree-days for each of the retail classes estimated for the 2016 portion of the test year. Following the table is the model output featuring the full autocorrelation and crosscorrelation plots for reference. The values in red indicate those that are statistically significant.

KPC Use/Weather Correlations
(2016 Models):

	CDD	HDD
Res	0.29367	0.87465
Com	0.4211	0.71644
Ind	0.09594	-0.02958
Mining	-0.14771	0.04955
Oth	0.17707	-0.026

The corresponding table from the models estimated for the 2017 portion of the test year can be found after the full plots (on page 31).

Residential

The ARIMA Procedure

Name of Variable = USAGE

Period(s) of Differencing	12
Mean of Working Series	-6.0061
Standard Deviation	173.5164
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	30107.932	1.00000	|********************|	0
1	9605.490	0.31904	|****** . |	0.095783
2	1834.687	0.06094	|* . |	0.105080
3	1683.751	0.05592	|* . |	0.105404
4	3844.506	0.12769	|***. |	0.105676
5	439.090	0.01458	| . |	0.107082
6	-708.818	-.02354	| . |	0.107100
7	-1716.708	-.05702	| *. |	0.107148
8	-3533.965	-.11738	| **. |	0.107426
9	965.340	0.03206	|* . |	0.108596
10	4154.650	0.13799	|***. |	0.108683
11	855.174	0.02840	|* . |	0.110279
12	-12049.092	-.40020	|******** . |	0.110346
13	-2538.354	-.08431	| .** . |	0.122942
14	-3297.142	-.10951	| .** . |	0.123472
15	-2722.956	-.09044	| .** . |	0.124360
16	-5328.680	-.17699	| .**** . |	0.124962
17	-1498.082	-.04976	| .* . |	0.127240
18	-2313.948	-.07686	| .** . |	0.127419
19	626.961	0.02082	| . . |	0.127843
20	310.037	0.01030	| . . |	0.127875
21	-2221.524	-.07379	| .* . |	0.127882
22	-2246.058	-.07460	| .* . |	0.128272
23	-4142.991	-.13760	| .*** . |	0.128670
24	-1799.555	-.05977	| .* . |	0.130013

"." marks two standard errors

Residential 2

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
1	-0.53836	| **********| . |
2	0.27297	| . |***** |
3	-0.24546	| *****| . |
4	0.26890	| . |***** |
5	-0.28703	| ******| . |
6	0.32369	| . |****** |
7	-0.25929	| *****| . |
8	0.24513	| . |***** |
9	-0.11880	| . **| . |
10	0.08922	| . |** . |
11	-0.30212	| ******| . |
12	0.50366	| . |********** |
13	-0.27535	| ******| . |
14	0.16546	| . |***. |
15	-0.13755	| .***| . |
16	0.16611	| . |***. |
17	-0.14713	| .***| . |
18	0.16543	| . |***. |
19	-0.13722	| .***| . |
20	0.09674	| . |** . |
21	-0.01350	| . | . |
22	-0.01360	| . | . |
23	-0.03696	| . *| . |
24	0.10554	| . |** . |

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	0.31904	| . |****** |
2	-0.04548	| . *| . |
3	0.05590	| . |* . |
4	0.10628	| . |** . |
5	-0.06735	| . *| . |
6	-0.00975	| . | . |
7	-0.05748	| . *| . |
8	-0.10826	| . **| . |
9	0.12666	| . |***. |
10	0.11217	| . |** . |
11	-0.04487	| . *| . |
12	-0.44324	| *********| . |
13	0.20431	| . |**** |
14	-0.22046	| ****| . |
15	0.05208	| . |* . |
16	-0.09264	| . **| . |
17	0.07594	| . |** . |

Residential 3

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
18	-0.09504	. **| . |
19	0.08636	. |** . |
20	-0.20124	****| . |
21	0.04211	. |* . |
22	0.02640	. |* . |
23	-0.15084	.***| . |
24	-0.23205	*****| . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	14.15	6	0.0280	0.319	0.061	0.056	0.128	0.015	-0.024
12	38.71	12	0.0001	-0.057	-0.117	0.032	0.138	0.028	-0.400
18	47.37	18	0.0002	-0.084	-0.110	-0.090	-0.177	-0.050	-0.077
24	52.14	24	0.0007	0.021	0.010	-0.074	-0.075	-0.138	-0.060

Variable bcdd65 has been differenced.

Correlation of USAGE and bcdd65

Period(s) of Differencing	12
Variance of input =	1563.587
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	103.620	0.01328	. | . |
-23	-142.467	-.01826	. | . |
-22	125.399	0.01607	. | . |
-21	452.596	0.05800	. |* . |
-20	600.733	0.07698	. |** . |
-19	418.122	0.05358	. |* . |
-18	178.628	0.02289	. | . |
-17	-214.916	-.02754	. *| . |
-16	-1347.506	-.17268	.***| . |
-15	-676.786	-.08673	. **| . |
-14	-736.159	-.09434	. **| . |
-13	-717.331	-.09192	. **| . |
-12	-746.640	-.09568	. **| . |

Residential 4

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-11	-144.232	-.01848	. | .
-10	-784.393	-.10052	. **| .
-9	-1907.707	-.24447	***** | .
-8	-767.281	-.09833	. **| .
-7	725.918	0.09302	. |** .
-6	-755.927	-.09687	. **| .
-5	74.127961	0.00950	. | .
-4	817.752	0.10479	. |** .
-3	307.325	0.03938	. |* .
-2	668.966	0.08573	. |** .
-1	1529.540	0.19601	. |****
0	2291.662	0.29367	. |******
1	685.463	0.08784	. |** .
2	823.190	0.10549	. |** .
3	1601.434	0.20522	. |****
4	552.588	0.07081	. |* .
5	-458.289	-.05873	. *| .
6	-106.703	-.01367	. | .
7	-1458.525	-.18691	**** | .
8	-1279.703	-.16399	.***| .
9	-25.368945	-.00325	. | .
10	-336.443	-.04311	. *| .
11	-1015.026	-.13007	.***| .
12	-916.907	-.11750	. **| .
13	34.452277	0.00441	. | .
14	372.123	0.04769	. |* .
15	-143.841	-.01843	. | .
16	-954.986	-.12238	. **| .
17	-1398.403	-.17920	**** | .
18	-1904.880	-.24411	***** | .
19	-131.222	-.01682	. | .
20	-106.735	-.01368	. | .
21	-1218.153	-.15610	.***| .
22	-626.032	-.08022	. **| .
23	-71.888171	-.00921	. | .
24	-124.013	-.01589	. | .

"." marks two standard errors

Variable bhdd55 has been differenced.

Correlation of USAGE and bhdd55

Period(s) of Differencing	12
Variance of input =	6170.376
Number of Observations	109

The ARIMA Procedure

Correlation of USAGE and bhdd55

Observation(s) eliminated by differencing 12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-194.399	-.01232	| . | . |
-23	-2044.424	-.12952	| .***| . |
-22	-647.714	-.04103	| . * | . |
-21	-806.988	-.05112	| . * | . |
-20	-926.567	-.05870	| . * | . |
-19	-314.765	-.01994	| . | . |
-18	-2097.170	-.13286	| .***| . |
-17	-1686.800	-.10686	| . ** | . |
-16	-2772.851	-.17566	| **** | . |
-15	-1062.736	-.06733	| . * | . |
-14	-1656.457	-.10494	| . ** | . |
-13	-816.993	-.05176	| . * | . |
-12	-5619.061	-.35597	| ******* | . |
-11	840.166	0.05323	| . |* . |
-10	2640.567	0.16728	| . |*** . |
-9	1750.796	0.11091	| . |** . |
-8	-503.119	-.03187	| . * | . |
-7	-1243.823	-.07880	| . ** | . |
-6	26.935121	0.00171	| . | . |
-5	-4.659753	-.00030	| . | . |
-4	1670.329	0.10582	| . |** . |
-3	1559.648	0.09881	| . |** . |
-2	914.438	0.05793	| . |* . |
-1	3505.371	0.22207	| . |**** |
0	13806.357	0.87465	| . |***************** |
1	5098.501	0.32300	| . |****** |
2	805.089	0.05100	| . |* . |
3	-77.805900	-.00493	| . | . |
4	1378.110	0.08730	| . |** . |
5	44.328127	0.00281	| . | . |
6	-520.254	-.03296	| . * | . |
7	301.939	0.01913	| . | . |
8	-1187.655	-.07524	| . ** | . |
9	-1436.227	-.09099	| . ** | . |
10	1366.888	0.08659	| . |** . |
11	1581.778	0.10021	| . |** . |
12	-5408.826	-.34266	| ******* | . |
13	-2138.155	-.13545	| .***| . |
14	-2242.900	-.14209	| .***| . |
15	-1420.797	-.09001	| . **| . |
16	-2204.964	-.13969	| .***| . |
17	986.968	0.06253	| . |* . |

Residential 6

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
18	1134.020	0.07184	| . |* . |
19	854.177	0.05411	| . |* . |
20	246.865	0.01564	| . | . |
21	562.380	0.03563	| . |* . |
22	-161.411	-.01023	| . | . |
23	-2229.311	-.14123	| .***| . |
24	-1056.253	-.06691	| . *| . |

"." marks two standard errors

Commercial 7

The ARIMA Procedure

Name of Variable = USAGE

Period(s) of Differencing	12
Mean of Working Series	-42.0177
Standard Deviation	196.5365
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	38626.610	1.00000	|**********|	0
1	15986.510	0.41387	|******** . |	0.095783
2	6191.322	0.16029	|***. . |	0.110983
3	3622.105	0.09377	|** . |	0.113087
4	5260.088	0.13618	|*** . |	0.113798
5	3181.073	0.08235	|** . |	0.115283
6	805.587	0.02086	| . |	0.115822
7	-1783.910	-.04618	| . |	0.115856
8	-5162.784	-.13366	| . |	0.116025
9	1459.491	0.03778	|* . |	0.117429
10	2970.723	0.07691	|** . |	0.117541
11	-1394.120	-.03609	| . |	0.118002
12	-13792.108	-.35706	|******* . |	0.118103
13	-3299.252	-.08541	| . |	0.127623
14	-2414.883	-.06252	| . |	0.128146
15	-637.930	-.01652	| . |	0.128426
16	-94.082943	-.00244	| . |	0.128445
17	-211.539	-.00548	| . |	0.128446
18	-732.290	-.01896	| . |	0.128448
19	2068.501	0.05355	|* . |	0.128473
20	3379.633	0.08749	|** . |	0.128678
21	-3690.891	-.09555	| . |	0.129223
22	-3560.948	-.09219	| . |	0.129869
23	-3412.115	-.08834	| . |	0.130468
24	-3106.970	-.08044	| . |	0.131016

"." marks two standard errors

Commercial 8

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
1	-0.47929	**********| . |
2	0.10443	. |** . |
3	-0.08937	. **| . |
4	0.12316	. |** . |
5	-0.19676	****| . |
6	0.21513	. |**** |
7	-0.19202	****| . |
8	0.15456	. |***. |
9	-0.06663	. * | . |
10	0.05061	. |* . |
11	-0.30810	******| . |
12	0.49651	. |********** |
13	-0.22532	*****| . |
14	0.08059	. |** . |
15	-0.05261	. * | . |
16	0.03964	. |* . |
17	-0.07249	. * | . |
18	0.09935	. |** . |
19	-0.09103	. **| . |
20	0.02042	. | . |
21	0.03280	. |* . |
22	-0.00390	. | . |
23	-0.09308	. **| . |
24	0.12735	. |***. |

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	0.41387	. |******** |
2	-0.01328	. | . |
3	0.03868	. |* . |
4	0.10337	. |** . |
5	-0.01689	. | . |
6	-0.02462	. | . |
7	-0.06267	. * | . |
8	-0.12588	.***| . |
9	0.16965	. |***. |
10	0.02490	. | . |
11	-0.10018	. **| . |
12	-0.36812	*******| . |
13	0.26229	. |***** |
14	-0.11909	. **| . |
15	0.06772	. |* . |
16	0.04686	. |* . |
17	0.02618	. |* . |

Commercial 9

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
18	-0.04170	| . *| . |
19	0.05788	| . |* . |
20	-0.10503	| . **| . |
21	-0.04030	| . *| . |
22	0.02506	| . |* . |
23	-0.07642	| . **| . |
24	-0.24589	| *****| . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	26.08	6	0.0002	0.414	0.160	0.094	0.136	0.082	0.021
12	45.43	12	<.0001	-0.046	-0.134	0.038	0.077	-0.036	-0.357
18	46.93	18	0.0002	-0.085	-0.063	-0.017	-0.002	-0.005	-0.019
24	52.81	24	0.0006	0.054	0.087	-0.096	-0.092	-0.088	-0.080

Variable bcdd65 has been differenced.

Correlation of USAGE and bcdd65

Period(s) of Differencing	12
Variance of input =	1563.587
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	959.275	0.10853	| . |** . |
-23	581.353	0.06577	| . |* . |
-22	668.043	0.07558	| . |** . |
-21	668.301	0.07561	| . |** . |
-20	1213.400	0.13728	| . |***. |
-19	818.686	0.09262	| . |** . |
-18	515.600	0.05833	| . |* . |
-17	107.152	0.01212	| . | . |
-16	-978.381	-.11069	| . **| . |
-15	-1035.450	-.11715	| . **| . |
-14	-763.516	-.08638	| . **| . |
-13	-1241.759	-.14049	| .***| . |
-12	-1788.881	-.20239	| ****| . |

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-11	-1187.549	-.13436	.***| .
-10	-1642.190	-.18579	****| .
-9	-2445.457	-.27667	******| .
-8	-1449.838	-.16403	.***| .
-7	353.916	0.04004	. |* .
-6	-480.709	-.05439	. * | .
-5	406.911	0.04604	. |* .
-4	1245.193	0.14088	. |***.
-3	946.160	0.10705	. |** .
-2	940.594	0.10642	. |** .
-1	2208.005	0.24981	. |*****
0	3722.032	0.42110	. |********
1	1680.371	0.19011	. |****
2	1315.872	0.14888	. |***.
3	1621.575	0.18346	. |****
4	598.133	0.06767	. |* .
5	-707.638	-.08006	. ** | .
6	-894.080	-.10115	. ** | .
7	-2356.579	-.26662	***** | .
8	-2322.156	-.26272	***** | .
9	-802.563	-.09080	. ** | .
10	-804.248	-.09099	. ** | .
11	-1476.399	-.16704	.***| .
12	-1775.537	-.20088	****| .
13	-231.817	-.02623	. * | .
14	133.947	0.01515	. | .
15	144.085	0.01630	. | .
16	-808.719	-.09150	. ** | .
17	-1431.104	-.16191	.***| .
18	-1709.170	-.19337	****| .
19	285.636	0.03232	. |* .
20	557.218	0.06304	. |* .
21	-1340.859	-.15170	.***| .
22	-1050.586	-.11886	. ** | .
23	-620.216	-.07017	. * | .
24	-616.650	-.06977	. * | .

"." marks two standard errors

Variable bhdd55 has been differenced.

Correlation of USAGE and bhdd55

Period(s) of Differencing	12
Variance of input =	6170.376
Number of Observations	109

The ARIMA Procedure

Correlation of USAGE and bhdd55

Observation(s) eliminated by differencing 12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-1163.541	-.06508	. *| .
-23	-1966.970	-.11001	. **| .
-22	-1674.615	-.09366	. **| .
-21	-2390.966	-.13373	.***| .
-20	-893.299	-.04996	. *| .
-19	-432.604	-.02420	. | .
-18	-2931.892	-.16398	.***| .
-17	-3362.643	-.18808	****| .
-16	-3107.982	-.17383	.***| .
-15	-1276.970	-.07142	. *| .
-14	-1413.717	-.07907	. **| .
-13	-236.527	-.01323	. | .
-12	-4584.946	-.25644	*****| .
-11	-199.977	-.01118	. | .
-10	2480.124	0.13872	. |***.
-9	2602.323	0.14555	. |***.
-8	-890.815	-.04982	. *| .
-7	-2191.146	-.12255	. **| .
-6	-186.930	-.01046	. | .
-5	375.054	0.02098	. | .
-4	1111.735	0.06218	. |* .
-3	1680.895	0.09401	. |** .
-2	1112.965	0.06225	. |* .
-1	3645.327	0.20389	. |****
0	12809.348	0.71644	. |**********
1	6069.937	0.33950	. |*******
2	1512.974	0.08462	. |** .
3	-282.831	-.01582	. | .
4	1146.551	0.06413	. |* .
5	500.103	0.02797	. |* .
6	519.769	0.02907	. |* .
7	1314.624	0.07353	. |* .
8	292.861	0.01638	. | .
9	-1178.284	-.06590	. *| .
10	1717.532	0.09606	. |** .
11	1826.520	0.10216	. |** .
12	-4178.463	-.23371	*****| .
13	-1926.050	-.10773	. **| .
14	-2278.421	-.12743	.***| .
15	-1255.088	-.07020	. *| .
16	-818.111	-.04576	. *| .
17	2950.954	0.16505	. |***.

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
18	1849.339	0.10344	| . |** . |
19	1124.855	0.06291	| . |* . |
20	-335.706	-.01878	| . | . |
21	642.293	0.03592	| . |* . |
22	-495.680	-.02772	| . *| . |
23	-2078.729	-.11627	| . **| . |
24	-1501.483	-.08398	| . **| . |

"." marks two standard errors

The ARIMA Procedure

Name of Variable = KWH

Mean of Working Series	29257619
Standard Deviation	7618601
Number of Observations	121

Autocorrelations

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	5.80431E13	1.00000	|********************|	0
1	-2.6333E12	-.04537	| . *| . |	0.090909
2	3.33766E12	0.05750	| . |* . |	0.091096
3	1.21239E13	0.20888	| . |**** |	0.091396
4	9.37733E12	0.16156	| . |***. |	0.095259
5	5.22305E12	0.08999	| . |** . |	0.097497
6	1.04627E13	0.18026	| . |**** |	0.098181
7	2.15109E12	0.03706	| . |* . |	0.100879
8	9.75662E12	0.16809	| . |***. |	0.100992
9	1.62797E13	0.28048	| . |****** |	0.103278
10	2.05091E12	0.03533	| . |* . |	0.109392
11	6.10437E12	0.10517	| . |** . |	0.109486
12	7.59333E12	0.13082	| . |***. |	0.110318
13	4.76922E12	0.08217	| . |** . |	0.111593
14	1.81203E12	0.03122	| . |* . |	0.112092
15	3.65984E12	0.06305	| . |* . |	0.112164
16	8.92601E12	0.15378	| . |***. |	0.112456
17	4.90705E11	0.00845	| . | . |	0.114181
18	1.36717E12	0.02355	| . | . |	0.114186
19	2.77706E12	0.04784	| . |* . |	0.114226
20	1.07201E13	0.18469	| . |****. |	0.114392
21	4.53839E12	0.07819	| . |** . |	0.116830
22	-3.8587E12	-.06648	| . *| . |	0.117262
23	2.6999E12	0.04652	| . |* . |	0.117573
24	1.38354E13	0.23836	| . |***** |	0.117725

"." 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	0.20161	| . |**** |
2	-0.02929	| . *| . |
3	-0.05388	| . *| . |
4	-0.02232	| . | . |
5	-0.03313	| . *| . |
6	-0.14849	| .***| . |
7	-0.03588	| . *| . |

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
8	-0.16630	| .***| . |
9	-0.31592	| ******| . |
10	-0.07440	| . *| . |
11	-0.00561	| . | . |
12	0.01802	| . | . |
13	-0.01181	| . | . |
14	0.06221	| . |* . |
15	0.12330	| . |** . |
16	-0.00491	| . | . |
17	0.12263	| . |** . |
18	0.12598	| . |*** . |
19	-0.00445	| . | . |
20	-0.09414	| . **| . |
21	-0.01231	| . | . |
22	0.08213	| . |** . |
23	-0.03991	| . *| . |
24	-0.15448	| .***| . |

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	-0.04537	| . *| . |
2	0.05556	| . |* . |
3	0.21497	| . |**** |
4	0.18867	| . |**** |
5	0.09837	| . |** . |
6	0.14642	| . |*** . |
7	-0.01207	| . | . |
8	0.10218	| . |** . |
9	0.24267	| . |***** |
10	0.03407	| . |* . |
11	0.03356	| . |* . |
12	-0.00861	| . | . |
13	-0.01758	| . | . |
14	-0.07585	| . **| . |
15	-0.07127	| . *| . |
16	0.09744	| . |** . |
17	-0.07311	| . *| . |
18	-0.09330	| . **| . |
19	-0.04960	| . *| . |
20	0.14300	| . |*** . |
21	0.11292	| . |** . |
22	-0.09916	| . **| . |
23	-0.01314	| . | . |
24	0.20442	| . |**** |

The ARIMA Procedure

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	14.74	6	0.0224	-0.045	0.058	0.209	0.162	0.090	0.180
12	33.09	12	0.0009	0.037	0.168	0.280	0.035	0.105	0.131
18	38.16	18	0.0037	0.082	0.031	0.063	0.154	0.008	0.024
24	54.14	24	0.0004	0.048	0.185	0.078	-0.066	0.047	0.238

Correlation of KWH and bcdd65

Variance of input = 15594.46
Number of Observations 121

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	19173112	0.01989	| . | . |
-23	98367817	0.10203	| . |** . |
-22	96522651	0.10011	| . |** . |
-21	82825408	0.08591	| . |** . |
-20	100193452	0.10392	| . |** . |
-19	105165473	0.10908	| . |** . |
-18	32228934	0.03343	| . |* . |
-17	-78929373	-.08186	| . **| . |
-16	-163201753	-.16927	| .***| . |
-15	-108038943	-.11206	| . **| . |
-14	-66744863	-.06923	| . *| . |
-13	-44415914	-.04607	| . *| . |
-12	39998204	0.04149	| . |* . |
-11	81137961	0.08415	| . |** . |
-10	92084994	0.09551	| . |** . |
-9	95402318	0.09895	| . |** . |
-8	82853187	0.08593	| . |** . |
-7	83916462	0.08704	| . |** . |
-6	47595004	0.04936	| . |* . |
-5	-100185681	-.10391	| . **| . |
-4	-166717517	-.17292	| .***| . |
-3	-104830324	-.10873	| . **| . |
-2	-40863190	-.04238	| . *| . |
-1	-3680364	-.00382	| . | . |
0	92497616	0.09594	| . |** . |
1	142668709	0.14797	| . |***. |
2	102162627	0.10596	| . |** . |
3	69516894	0.07210	| . |* . |
4	91621255	0.09503	| . |** . |
5	73287538	0.07601	| . |** . |

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
6	-5800764	-.00602	| . | . |
7	-101911920	-.10570	| . **| . |
8	-141938841	-.14722	| .***| . |
9	-101214054	-.10498	| . **| . |
10	-54574558	-.05660	| . *| . |
11	-36718370	-.03808	| . *| . |
12	22235328	0.02306	| . | . |
13	125671429	0.13034	| . |***. |
14	121112558	0.12562	| . |***. |
15	26164331	0.02714	| . |* . |
16	20179194	0.02093	| . | . |
17	23263415	0.02413	| . | . |
18	-35052448	-.03636	| . *| . |
19	-118431357	-.12283	| . **| . |
20	-134673067	-.13968	| .***| . |
21	-97197361	-.10081	| . **| . |
22	-63764234	-.06614	| . *| . |
23	-29312193	-.03040	| . *| . |
24	64722846	0.06713	| . |* . |

"." marks two standard errors

Correlation of KWH and bhdd55

Variance of input = 56803.79
Number of Observations 121

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-855741	-.00046	| . | . |
-23	-172736592	-.09326	| . **| . |
-22	-278868871	-.15056	| .***| . |
-21	-274224295	-.14805	| .***| . |
-20	-242939809	-.13116	| .***| . |
-19	-133296455	-.07196	| . *| . |
-18	-3945781	-.00213	| . | . |
-17	105655556	0.05704	| . |* . |
-16	213087192	0.11504	| . |** . |
-15	188107606	0.10156	| . |** . |
-14	219619885	0.11857	| . |** . |
-13	68652161	0.03706	| . |* . |
-12	-26111811	-.01410	| . | . |
-11	-118035750	-.06373	| . *| . |

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-10	-233970796	-.12632	| .***| . |
-9	-301087802	-.16255	| .***| . |
-8	-166404517	-.08984	| . **| . |
-7	-82235100	-.04440	| . *| . |
-6	80412687	0.04341	| . |* . |
-5	228322198	0.12327	| . |** . |
-4	157629034	0.08510	| . |** . |
-3	144209827	0.07786	| . |** . |
-2	217958881	0.11767	| . |** . |
-1	96990704	0.05236	| . |* . |
0	-54796388	-.02958	| . *| . |
1	-136679427	-.07379	| . *| . |
2	-292187914	-.15775	| .***| . |
3	-262493997	-.14172	| .***| . |
4	-132564702	-.07157	| . *| . |
5	-7641300	-.00413	| . | . |
6	73048264	0.03944	| . |* . |
7	241592876	0.13043	| . |***. |
8	191895825	0.10360	| . |** . |
9	121500378	0.06560	| . |* . |
10	227096011	0.12261	| . |** . |
11	110340291	0.05957	| . |* . |
12	-1910234	-.00103	| . | . |
13	-95579534	-.05160	| . *| . |
14	-250586941	-.13529	| .***| . |
15	-156601213	-.08455	| . **| . |
16	-66085110	-.03568	| . *| . |
17	331784	0.00018	| . | . |
18	168557738	0.09100	| . |** . |
19	211173792	0.11401	| . |** . |
20	156443163	0.08446	| . |** . |
21	199367476	0.10764	| . |** . |
22	163955497	0.08852	| . |** . |
23	28394595	0.01533	| . | . |
24	-47053862	-.02540	| . *| . |

"." marks two standard errors

The ARIMA Procedure

Name of Variable = KWH

Period(s) of Differencing	12
Mean of Working Series	-4922592
Standard Deviation	6552583
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	4.29363E13	1.00000	|********************|	0
1	3.28653E13	0.76544	|*************** . |	0.095783
2	2.8626E13	0.66671	|************* . |	0.141155
3	2.42169E13	0.56402	|*********** . |	0.167573
4	1.74041E13	0.40535	|******** . |	0.184168
5	1.52998E13	0.35634	|******* . |	0.192179
6	1.19427E13	0.27815	|****** . |	0.198148
7	6.96378E12	0.16219	|*** . |	0.201698
8	2.8657E12	0.06674	|* . |	0.202891
9	-2.6043E12	-.06066	| .* |	0.203092
10	-7.0726E12	-.16472	| .*** |	0.203258
11	-8.3664E12	-.19486	| .**** |	0.204479
12	-1.2003E13	-.27955	| .****** |	0.206176
13	-9.7571E12	-.22725	| .***** |	0.209624
14	-6.3597E12	-.14812	| .*** |	0.211872
15	-5.5544E12	-.12936	| .*** . |	0.212820
16	-5.4078E12	-.12595	| .*** . |	0.213541
17	-5.4485E12	-.12690	| .*** . |	0.214221
18	-5.0678E12	-.11803	| .** . |	0.214910
19	-4.5185E12	-.10524	| .** . |	0.215503
20	-3.3375E12	-.07773	| .** . |	0.215974
21	-1.9451E12	-.04530	| .* . |	0.216231
22	-3.4909E12	-.08130	| .** . |	0.216318
23	-3.8873E12	-.09054	| .** . |	0.216598
24	-4.5684E12	-.10640	| .** . |	0.216945

"." marks two standard errors

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
1	-0.23936	| *****| . |
2	-0.26046	| *****| . |
3	-0.12532	| .***| . |
4	0.28615	| . |****** |
5	-0.04060	| . *| . |
6	-0.17056	| .***| . |
7	-0.10867	| . **| . |
8	0.13663	| . |***. |
9	0.04431	| . |* . |
10	0.01107	| . | . |
11	-0.21737	| ****| . |
12	0.29927	| . |****** |
13	0.09513	| . |** . |
14	-0.14118	| .***| . |
15	-0.14929	| .***| . |
16	0.09333	| . |** . |
17	0.04496	| . |* . |
18	-0.02889	| . *| . |
19	-0.04617	| . *| . |
20	0.03738	| . |* . |
21	-0.06067	| . *| . |
22	0.09826	| . |** . |
23	-0.03452	| . *| . |
24	0.00485	| . | . |

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	0.76544	| . |*************** |
2	0.19514	| . |**** |
3	0.00982	| . | . |
4	-0.18738	| ****| . |
5	0.10452	| . |** . |
6	-0.00897	| . | . |
7	-0.14887	| .***| . |
8	-0.13485	| .***| . |
9	-0.13638	| .***| . |
10	-0.07873	| . **| . |
11	0.06188	| . |* . |
12	-0.12785	| .***| . |
13	0.19994	| . |**** |
14	0.22183	| . |**** |
15	0.02902	| . |* . |
16	-0.20535	| ****| . |
17	-0.06926	| . *| . |

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
18	0.05674	| . |* . |
19	-0.07912	| . **| . |
20	-0.12187	| . **| . |
21	-0.01243	| . | . |
22	-0.12720	| .***| . |
23	0.05531	| . |* . |
24	-0.00924	| . | . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	195.00	6	<.0001	0.765	0.667	0.564	0.405	0.356	0.278
12	216.85	12	<.0001	0.162	0.067	-0.061	-0.165	-0.195	-0.280
18	234.34	18	<.0001	-0.227	-0.148	-0.129	-0.126	-0.127	-0.118
24	240.62	24	<.0001	-0.105	-0.078	-0.045	-0.081	-0.091	-0.106

Variable bcdd65 has been differenced.

Correlation of KWH and bcdd65

Period(s) of Differencing	12
Variance of input =	1563.587
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	62214645	0.21112	| . |**** |
-23	70287703	0.23852	| . |***** |
-22	80087653	0.27177	| . |***** |
-21	88812276	0.30138	| . |****** |
-20	94987267	0.32233	| . |****** |
-19	86394372	0.29317	| . |****** |
-18	65477522	0.22219	| . |**** |
-17	38112130	0.12933	| . |***. |
-16	21401410	0.07262	| . |* . |
-15	5041028	0.01711	| . | . |
-14	-19882355	-.06747	| . *| . |
-13	-11891683	-.04035	| . *| . |
-12	-11582854	-.03931	| . *| . |

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-11	-13442493	-.04562	. *| .
-10	-23042496	-.07819	. **| .
-9	-39860316	-.13526	.***| .
-8	-34173550	-.11597	. **| .
-7	-37751374	-.12811	.***| .
-6	-39759783	-.13492	.***| .
-5	-20435606	-.06935	. *| .
-4	-10208068	-.03464	. *| .
-3	-5280115	-.01792	. | .
-2	21236826	0.07207	. |* .
-1	-7839012	-.02660	. *| .
0	-43529232	-.14771	.***| .
1	-52769893	-.17907	****| .
2	-53239223	-.18066	****| .
3	-25337919	-.08598	. **| .
4	-17707673	-.06009	. *| .
5	-23738679	-.08056	. **| .
6	-11830936	-.04015	. *| .
7	-14280417	-.04846	. *| .
8	-1288996	-.00437	. | .
9	11105847	0.03769	. |* .
10	26000250	0.08823	. |** .
11	56520339	0.19180	. |****
12	94910118	0.32207	. |******
13	105151113	0.35682	. |*******
14	116176807	0.39424	. |********
15	92726261	0.31466	. |******
16	68708734	0.23316	. |*****
17	74520058	0.25288	. |*****
18	41971861	0.14243	. |***.
19	7652844	0.02597	. |* .
20	-29992308	-.10178	. **| .
21	-70470386	-.23914	*****| .
22	-101013488	-.34278	*******| .
23	-113844626	-.38632	********| .
24	-125877712	-.42716	*********| .

"." marks two standard errors

Variable bhdd55 has been differenced.

Correlation of KWH and bhdd55

Period(s) of Differencing	12
Variance of input =	6170.376
Number of Observations	109

The ARIMA Procedure

Correlation of KWH and bhdd55

Observation(s) eliminated by differencing 12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	100248590	0.16817	|. |***. |
-23	4408155	0.00740	|. | . |
-22	26395852	0.04428	|. |* . |
-21	-10843530	-.01819	|. | . |
-20	-58269814	-.09775	|. ** | . |
-19	-88278978	-.14809	|.*** | . |
-18	-103274915	-.17325	|.*** | . |
-17	-77936957	-.13075	|.*** | . |
-16	-66076928	-.11085	|. ** | . |
-15	-57740069	-.09686	|. ** | . |
-14	-99292444	-.16657	|.*** | . |
-13	-127216971	-.21342	|**** | . |
-12	-129612621	-.21744	|**** | . |
-11	-62573529	-.10497	|. ** | . |
-10	-109217636	-.18322	|**** | . |
-9	-90349575	-.15157	|.*** | . |
-8	-89511905	-.15016	|.*** | . |
-7	-52725827	-.08845	|. ** | . |
-6	-59030949	-.09903	|. ** | . |
-5	-78740612	-.13209	|.*** | . |
-4	-94980996	-.15934	|.*** | . |
-3	-123744707	-.20759	|**** | . |
-2	-121956180	-.20459	|**** | . |
-1	-48576382	-.08149	|. ** | . |
0	29538937	0.04955	|. |* . |
1	5334080	0.00895	|. | . |
2	45804304	0.07684	|. |** . |
3	68601846	0.11508	|. |** . |
4	90907336	0.15250	|. |***. |
5	52945060	0.08882	|. |** . |
6	76954237	0.12910	|. |***. |
7	75287065	0.12630	|. |***. |
8	83028293	0.13929	|. |***. |
9	94549946	0.15861	|. |***. |
10	121673014	0.20412	|. |**** |
11	128781711	0.21604	|. |**** |
12	30413583	0.05102	|. |* . |
13	3920668	0.00658	|. | . |
14	16055231	0.02693	|. |* . |
15	36206709	0.06074	|. |* . |
16	33318848	0.05589	|. |* . |
17	91057624	0.15276	|. |***. |

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
18	42267791	0.07091	| . |* . |
19	23431171	0.03931	| . |* . |
20	46507760	0.07802	| . |** . |
21	84146166	0.14116	| . |***. |
22	99002221	0.16608	| . |***. |
23	20561331	0.03449	| . |* . |
24	30640308	0.05140	| . |* . |

"." marks two standard errors

The ARIMA Procedure

Name of Variable = KWH

Period(s) of Differencing	12
Mean of Working Series	3362.862
Standard Deviation	121030.6
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	1.46484E10	1.00000	||********************|	0
1	-2.88704E9	-.19709	|****|. |	0.095783
2	-2.77251E9	-.18927	|****|. |	0.099434
3	-540441587	-.03689	|. *| . |	0.102686
4	-152908722	-.01044	|. | . |	0.102807
5	1934549270	0.13207	|. |***. |	0.102817
6	-317868324	-.02170	|. | . |	0.104362
7	-1.97275E9	-.13467	|.***| . |	0.104403
8	1164030920	0.07946	|. |** . |	0.105985
9	284769830	0.01944	|. | . |	0.106530
10	935975109	0.06390	|. |* . |	0.106563
11	2294104846	0.15661	|. |***. |	0.106913
12	-8.01373E9	-.54707	|**********| . |	0.108998
13	1435136096	0.09797	|. |** . |	0.131803
14	2420812595	0.16526	|. |*** . |	0.132469
15	827528847	0.05649	|. |* . |	0.134348
16	-245156279	-.01674	|. | . |	0.134565
17	-1.51366E9	-.10333	|. **| . |	0.134584
18	764640956	0.05220	|. |* . |	0.135310
19	1560679287	0.10654	|. |** . |	0.135495
20	-1.93031E9	-.13178	|. ***| . |	0.136261
21	345439495	0.02358	|. | . |	0.137426
22	-772657003	-.05275	|. * | . |	0.137463
23	-846398925	-.05778	|. * | . |	0.137648
24	2483670907	0.16955	|. |*** . |	0.137871

"." marks two standard errors

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
1	0.16767	|. |***. |
2	0.21190	|. |**** |
3	0.02467	|. | . |
4	0.00400	|. | . |
5	-0.03237	|. * | . |
6	-0.02676	|. * | . |
7	-0.00480	|. | . |
8	0.01352	|. | . |
9	-0.01170	|. | . |
10	0.16399	|. |***. |
11	0.02470	|. | . |
12	0.46275	|. |********* |
13	0.01296	|. | . |
14	-0.00296	|. | . |
15	-0.05586	|. * | . |
16	-0.03388	|. * | . |
17	-0.02162	|. | . |
18	-0.01871	|. | . |
19	0.00698	|. | . |
20	0.06822	|. |* . |
21	0.01540	|. | . |
22	0.10493	|. |** . |
23	0.02669	|. |* . |
24	0.12973	|. |***. |

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	-0.19709	| ****| . |
2	-0.23733	| *****| . |
3	-0.14314	| .***| . |
4	-0.11304	| . **| . |
5	0.07126	| . |* . |
6	0.00459	| . | . |
7	-0.10642	| . **| . |
8	0.03568	| . |* . |
9	0.00319	| . | . |
10	0.07549	| . |** . |
11	0.23526	| . |***** |
12	-0.47019	| *********| . |
13	-0.07869	| . **| . |
14	-0.02580	| . * | . |
15	0.04274	| . |* . |
16	0.00720	| . | . |
17	0.02728	| . |* . |

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
18	0.06187	. |* . |
19	0.00509	. | . |
20	-0.06508	. *| . |
21	0.04666	. |* . |
22	-0.07801	. **| . |
23	0.04473	. |* . |
24	-0.19952	****| . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	10.65	6	0.0997	-0.197	-0.189	-0.037	-0.010	0.132	-0.022
12	54.47	12	<.0001	-0.135	0.079	0.019	0.064	0.157	-0.547
18	61.37	18	<.0001	0.098	0.165	0.056	-0.017	-0.103	0.052
24	70.28	24	<.0001	0.107	-0.132	0.024	-0.053	-0.058	0.170

Variable bcdd65 has been differenced.

Correlation of KWH and bcdd65

Period(s) of Differencing	12
Variance of input =	1563.587
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	599125	0.11007	. |** . |
-23	-671568	-.12338	. **| . |
-22	-810053	-.14882	.***| . |
-21	-536173	-.09851	. **| . |
-20	59316.732	0.01090	. | . |
-19	-581195	-.10678	. **| . |
-18	-153727	-.02824	. *| . |
-17	-666116	-.12238	. **| . |
-16	290306	0.05334	. |* . |
-15	118336	0.02174	. | . |
-14	-373074	-.06854	. *| . |
-13	334838	0.06152	. |* . |
-12	-466035	-.08562	. **| . |

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-11	63988.282	0.01176	| . | . |
-10	347162	0.06378	| . |* . |
-9	493462	0.09066	| . |** . |
-8	-252821	-.04645	| . *| . |
-7	-58234.596	-.01070	| . | . |
-6	-81286.355	-.01493	| . | . |
-5	525758	0.09659	| . |** . |
-4	-75215.015	-.01382	| . | . |
-3	-698946	-.12841	| .***| . |
-2	-360237	-.06618	| . *| . |
-1	255084	0.04686	| . |* . |
0	963796	0.17707	| . |**** |
1	-342619	-.06295	| . *| . |
2	-431420	-.07926	| . **| . |
3	264526	0.04860	| . |* . |
4	450006	0.08268	| . |** . |
5	230715	0.04239	| . |* . |
6	-175029	-.03216	| . *| . |
7	41430.701	0.00761	| . | . |
8	410570	0.07543	| . |** . |
9	1278058	0.23481	| . |***** |
10	1038043	0.19071	| . |**** |
11	-985088	-.18098	|****| . |
12	-1119292	-.20564	|****| . |
13	563213	0.10347	| . |** . |
14	217246	0.03991	| . |* . |
15	-112859	-.02073	| . | . |
16	-113048	-.02077	| . | . |
17	281452	0.05171	| . |* . |
18	397272	0.07299	| . |* . |
19	-447310	-.08218	| . **| . |
20	-416580	-.07653	| . **| . |
21	-875916	-.16092	| .***| . |
22	-944946	-.17361	| .***| . |
23	739931	0.13594	| . |***. |
24	509840	0.09367	| . |** . |

"." marks two standard errors

Variable bhdd55 has been differenced.

Correlation of KWH and bhdd55

Period(s) of Differencing	12
Variance of input =	6170.376
Number of Observations	109

The ARIMA Procedure

Correlation of KWH and bhdd55

Observation(s) eliminated by differencing 12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	967342	0.08786	| . |** . |
-23	-47666.253	-.00433	| . | . |
-22	105756	0.00961	| . | . |
-21	-1230419	-.11175	| . **| . |
-20	-156440	-.01421	| . | . |
-19	1107626	0.10060	| . |** . |
-18	-1097537	-.09968	| . **| . |
-17	-465558	-.04228	| . *| . |
-16	-1199429	-.10894	| . **| . |
-15	3163112	0.28729	| . |****** |
-14	1404243	0.12754	| . |***. |
-13	-665207	-.06042	| . *| . |
-12	-487543	-.04428	| . *| . |
-11	443018	0.04024	| . |* . |
-10	-120836	-.01097	| . | . |
-9	-223777	-.02032	| . | . |
-8	-1220358	-.11084	| . **| . |
-7	394669	0.03585	| . |* . |
-6	478758	0.04348	| . |* . |
-5	360907	0.03278	| . |* . |
-4	615090	0.05586	| . |* . |
-3	-2441459	-.22174	| **** | . |
-2	-1460272	-.13263	| .***| . |
-1	458562	0.04165	| . |* . |
0	-286246	-.02600	| . *| . |
1	-554194	-.05033	| . *| . |
2	-311041	-.02825	| . *| . |
3	530003	0.04814	| . |* . |
4	1633819	0.14839	| . |***. |
5	-1588326	-.14426	| .***| . |
6	732280	0.06651	| . |* . |
7	1366256	0.12409	| . |** . |
8	-978257	-.08885	| . **| . |
9	-37546.880	-.00341	| . | . |
10	1138583	0.10341	| . |** . |
11	-182364	-.01656	| . | . |
12	88256.399	0.00802	| . | . |
13	1652.455	0.00015	| . | . |
14	1471808	0.13368	| . |***. |
15	-131379	-.01193	| . | . |
16	-1982515	-.18006	| **** | . |
17	1965424	0.17851	| . |**** |

Other Retail 29

The ARIMA Procedure

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
18	-500871	-.04549	. *| .
19	-2273115	-.20645	**** | .
20	269789	0.02450	. | .
21	703140	0.06386	. |* .
22	-56594.653	-.00514	. | .
23	-698881	-.06348	. *| .
24	-1032916	-.09381	. **| .

"." marks two standard errors

Below is a table containing the contemporaneous correlation measures for both cooling and heating degree-days for each of the retail classes estimated for the 2017 portion of the test year. Following the table is the model output featuring the full autocorrelation and crosscorrelation plots for reference. The values in red indicate those that are statistically significant.

KPC Use/Weather Correlations
(2017 Models):

	CDD	HDD
Res	0.27986	0.90226
Com	0.38993	0.77663
Ind	0.03679	0.00902
Mining	-0.18927	0.14678
Oth	0.02223	-0.01950

Residential 1

The ARIMA Procedure

Name of Variable = USAGE

Period(s) of Differencing	12
Mean of Working Series	-18.7078
Standard Deviation	180.8992
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	32724.507	1.00000	||******************|	0	
1	12791.467	0.39088	|. |******** |	0.095783	
2	5881.330	0.17972	|. |**** |	0.109443	
3	2863.289	0.08750	|. |** . |	0.112118	
4	3834.514	0.11718	|. |** . |	0.112743	
5	749.871	0.02291	|. | . |	0.113855	
6	-2185.972	-.06680	|. * | . |	0.113897	
7	-5100.694	-.15587	|. *** | . |	0.114256	
8	-4082.383	-.12475	|. ** | . |	0.116190	
9	363.982	0.01112	|. | . |	0.117412	
10	3315.632	0.10132	|. |** . |	0.117422	
11	1507.968	0.04608	|. |* . |	0.118222	
12	-9337.146	-.28533	|****** | . |	0.118386	
13	-969.850	-.02964	|. * | . |	0.124535	
14	-2704.265	-.08264	|. ** | . |	0.124600	
15	-1212.984	-.03707	|. * | . |	0.125102	
16	-4857.533	-.14844	|. *** | . |	0.125203	
17	-1206.785	-.03688	|. * | . |	0.126807	
18	-783.288	-.02394	|. | . |	0.126905	
19	1927.138	0.05889	|. |* . |	0.126947	
20	-1067.830	-.03263	|. * | . |	0.127197	
21	-4499.657	-.13750	|. *** | . |	0.127274	
22	-6264.834	-.19144	|.**** | . |	0.128629	
23	-5639.512	-.17233	|. *** | . |	0.131217	
24	-5608.163	-.17138	|. *** | . |	0.133278	

"." 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	-0.43270	|********| . |
2	0.11616	|. |** . |
3	-0.11010	|. **| . |
4	0.08527	|. |** . |
5	-0.08820	|. **| . |
6	0.09220	|. |** . |
7	-0.01878	|. | . |
8	0.10471	|. |** . |
9	0.00416	|. | . |
10	0.01965	|. | . |
11	-0.31756	|****** | . |
12	0.45303	|. |******** |
13	-0.21908	|**** | . |
14	0.11197	|. |** . |
15	-0.07459	|. * | . |
16	0.11679	|. |** . |
17	-0.07006	|. * | . |
18	0.05297	|. |* . |
19	-0.05988	|. * | . |
20	0.02975	|. |* . |
21	0.03406	|. |* . |
22	0.03655	|. |* . |
23	-0.09522	|. **| . |
24	0.13841	|. |*** |

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	0.39088	|. |******** |
2	0.03179	|. |* . |
3	0.00833	|. | . |
4	0.08943	|. |** . |
5	-0.06429	|. * | . |
6	-0.08572	|. **| . |
7	-0.11973	|. **| . |
8	-0.02678	|. * | . |
9	0.11568	|. |** . |
10	0.11364	|. |** . |
11	-0.01243	|. | . |
12	-0.39282	|******** | . |
13	0.21109	|. |**** |
14	-0.16319	|.*** | . |
15	0.05076	|. |* . |
16	-0.06205	|. * | . |

```
17        0.11685    |                .   |** .                |
18       -0.03789    |                .  *|   .                |
```

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
19	-0.01267	| . | . |
20	-0.16629	| .***| . |
21	-0.13323	| .***| . |
22	-0.03797	| . *| . |
23	-0.05393	| . *| . |
24	-0.24817	| *****| . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	23.81	6	0.0006	0.391	0.180	0.087	0.117	0.023	-0.067
12	40.24	12	<.0001	-0.156	-0.125	0.011	0.101	0.046	-0.285
18	44.52	18	0.0005	-0.030	-0.083	-0.037	-0.148	-0.037	-0.024
24	61.19	24	<.0001	0.059	-0.033	-0.138	-0.191	-0.172	-0.171

Variable BCDD65 has been differenced.

Correlation of USAGE and BCDD65

Period(s) of Differencing	12
Variance of input =	1528.164
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-193.771	-.02438	| . | . |
-23	-254.193	-.03198	| . *| . |
-22	-145.861	-.01835	| . | . |
-21	-488.633	-.06148	| . *| . |
-20	55.266161	0.00695	| . | . |
-19	1017.384	0.12801	| . |***. |
-18	922.281	0.11604	| . |** . |
-17	464.327	0.05842	| . |* . |
-16	-512.980	-.06454	| . *| . |
-15	10.375698	0.00131	| . | . |
-14	-110.377	-.01389	| . | . |
-13	-0.124517	-.00002	| . | . |
-12	-236.359	-.02974	| . *| . |
-11	-244.270	-.03073	| . *| . |
-10	-1439.484	-.18111	| ****| . |
-9	-2199.052	-.27668	| ******| . |
-8	-2406.453	-.30278	| ******| . |
-7	-1850.855	-.23287	| *****| . |
-6	-2130.864	-.26810	| *****| . |
-5	-1005.532	-.12652	| .***| . |
-4	-640.695	-.08061	| . **| . |
-3	-46.885965	-.00590	| . | . |
-2	646.003	0.08128	| . |** . |
-1	1342.582	0.16892	| . |***. |
0	2224.281	0.27986	| . |****** |
1	1113.475	0.14010	| . |***. |
2	1106.258	0.13919	| . |***. |
3	875.551	0.11016	| . |** . |
4	710.707	0.08942	| . |** . |
5	2.969287	0.00037	| . | . |
6	-401.738	-.05055	| . *| . |
7	-1816.946	-.22861	| *****| . |
8	-555.208	-.06986	| . *| . |
9	-220.500	-.02774	| . *| . |
10	-517.898	-.06516	| . *| . |
11	-482.833	-.06075	| . *| . |
12	-449.144	-.05651	| . *| . |

13	-34.128851	-.00429	.	.	
14	149.589	0.01882	.	.	
15	55.052593	0.00693	.	.	
16	-741.286	-.09327	. **	.	
17	-1083.270	-.13630	.***	.	
18	-1129.305	-.14209	.***	.	
19	67.047160	0.00844	.	.	
20	-310.166	-.03902	. *	.	
21	-766.286	-.09641	. **	.	
22	-434.587	-.05468	. *	.	
23	-358.125	-.04506	. *	.	
24	-660.126	-.08306	. **	.	

"." marks two standard errors

Variable BHDD55 has been differenced.

The ARIMA Procedure

Correlation of USAGE and BHDD55

Period(s) of Differencing	12
Variance of input =	6575.773
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-1840.638	-.10681	| . **| . |
-23	-2707.130	-.15709	| .***| . |
-22	-2904.997	-.16857	| .***| . |
-21	-1443.450	-.08376	| . **| . |
-20	-1289.389	-.07482	| . *| . |
-19	-301.501	-.01750	| . | . |
-18	-2138.518	-.12409	| . **| . |
-17	-1685.266	-.09779	| . **| . |
-16	-2914.395	-.16911	| .***| . |
-15	-424.282	-.02462	| . | . |
-14	-1378.793	-.08001	| . **| . |
-13	-114.818	-.00666	| . | . |
-12	-4226.689	-.24526	| *****| . |
-11	1652.803	0.09591	| . |** . |
-10	2107.913	0.12232	| . |** . |
-9	1281.344	0.07435	| . |* . |
-8	-5.501302	-.00032	| . | . |
-7	-1795.792	-.10420	| . **| . |
-6	238.915	0.01386	| . | . |
-5	574.461	0.03333	| . |* . |
-4	2453.220	0.14235	| . |***. |
-3	1870.069	0.10851	| . |** . |
-2	3014.295	0.17491	| . |***. |
-1	5956.435	0.34563	| . |******* |
0	15548.973	0.90226	| . |****************** |
1	5485.531	0.31831	| . |****** |
2	3386.026	0.19648	| . |**** |
3	1261.995	0.07323	| . |* . |
4	1233.626	0.07158	| . |* . |
5	270.963	0.01572	| . | . |
6	-1120.089	-.06500	| . *| . |
7	-1114.254	-.06466	| . *| . |
8	-2211.755	-.12834	| .***| . |
9	-1359.672	-.07890	| . **| . |
10	433.042	0.02513	| . |* . |
11	290.769	0.01687	| . | . |
12	-5221.874	-.30301	| ******| . |
13	-1138.547	-.06607	| . *| . |
14	-2868.837	-.16647	| .***| . |
15	-527.798	-.03063	| . *| . |
16	-1742.525	-.10111	| . **| . |
17	872.327	0.05062	| . |* . |
18	1664.042	0.09656	| . |** . |
19	1883.075	0.10927	| . |** . |
20	461.064	0.02675	| . |* . |
21	-849.192	-.04928	| . *| . |
22	-2418.851	-.14036	| .***| . |
23	-2567.028	-.14896	| .***| . |
24	-2506.466	-.14544	| .***| . |

"." marks two standard errors

Commercial 4

The ARIMA Procedure

Name of Variable = USAGE

Period(s) of Differencing	12
Mean of Working Series	-54.6284
Standard Deviation	196.4511
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	38593.017	1.00000	|********************|	0
1	16351.496	0.42369	|******** . |	0.095783
2	7286.440	0.18880	|**** . |	0.111661
3	4713.858	0.12214	|** . |	0.114552
4	5432.348	0.14076	|*** . |	0.115741
5	2038.855	0.05283	|* . |	0.117301
6	-1285.957	-.03332	| . |	0.117519
7	-5152.278	-.13350	| *** . |	0.117606
8	-7305.866	-.18931	|**** . |	0.118988
9	-2020.677	-.05236	| . |	0.121720
10	2396.079	0.06209	|* . |	0.121926
11	379.561	0.00983	| . |	0.122216
12	-10502.370	-.27213	|***** . |	0.122223
13	6.796308	0.00018	| . |	0.127661
14	-744.523	-.01929	| . |	0.127661
15	65.331829	0.00169	| . |	0.127688
16	-2327.229	-.06030	| . |	0.127688
17	-113.245	-.00293	| . |	0.127949
18	-786.397	-.02038	| . |	0.127949
19	1643.257	0.04258	|* . |	0.127979
20	-542.941	-.01407	| . |	0.128109
21	-6455.483	-.16727	| *** . |	0.128123
22	-8475.355	-.21961	|**** . |	0.130111
23	-6083.053	-.15762	| *** . |	0.133469
24	-5338.136	-.13832	| *** . |	0.135165

"." 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	-0.49142	|********** . |
2	0.14597	| .***. |
3	-0.13791	| .*** . |
4	0.16660	| . ***. |
5	-0.18691	| **** . |
6	0.17382	| . ***. |
7	-0.15682	| .*** . |
8	0.19305	| . **** |
9	-0.04931	| . * . |
10	0.08437	| . ** . |
11	-0.36319	| ******* . |
12	0.46335	| . ********* |
13	-0.24378	| ***** . |
14	0.11145	| . ** . |
15	-0.08180	| . ** . |
16	0.11865	| . ** . |
17	-0.08855	| . ** . |
18	0.08526	| . ** . |
19	-0.10778	| . ** . |
20	0.05083	| . * . |
21	0.01490	| . | . |
22	0.06708	| . * . |
23	-0.12079	| . ** . |
24	0.12391	| . ** . |

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	0.42369	|. |******** |
2	0.01132	|. | . |
3	0.04663	|. |* . |
4	0.08729	|. |** . |
5	-0.05350	|. * | . |
6	-0.06624	|. * | . |
7	-0.12588	|.*** | . |
8	-0.11685	|. ** | . |
9	0.10828	|. |** . |
10	0.11529	|. |** . |
11	-0.02544	|. * | . |
12	-0.32999	|******* | . |
13	0.27357	|. |***** |
14	-0.15135	|.*** | . |
15	0.03291	|. |* . |
16	-0.03604	|. * | . |
17	0.08605	|. |** . |
18	-0.03270	|. * | . |

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
19	0.02216	. | .
20	-0.19116	**** | .
21	-0.12418	. ** | .
22	-0.04734	. * | .
23	-0.00828	. | .
24	-0.23794	***** | .

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	28.58	6	<.0001	0.424	0.189	0.122	0.141	0.053	-0.033
12	45.04	12	<.0001	-0.134	-0.189	-0.052	0.062	0.010	-0.272
18	45.62	18	0.0003	0.000	-0.019	0.002	-0.060	-0.003	-0.020
24	62.66	24	<.0001	0.043	-0.014	-0.167	-0.220	-0.158	-0.138

Variable BCDD65 has been differenced.

Correlation of USAGE and BCDD65

Period(s) of Differencing	12
Variance of input =	1528.164
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	603.183	0.06988	. |* .
-23	91.140710	0.01056	. | .
-22	348.633	0.04039	. |* .
-21	-416.382	-.04824	. * | .
-20	701.872	0.08132	. |** .
-19	1583.131	0.18342	. |****
-18	1610.345	0.18657	. |****
-17	1145.308	0.13269	. |***.
-16	-78.713138	-.00912	. | .
-15	218.276	0.02529	. |* .
-14	156.679	0.01815	. | .
-13	-139.549	-.01617	. | .
-12	-658.198	-.07626	. ** | .
-11	-169.073	-.01959	. | .
-10	-1567.379	-.18159	**** | .
-9	-2193.388	-.25412	***** | .
-8	-2686.754	-.31128	****** | .
-7	-1972.653	-.22855	***** | .
-6	-2047.629	-.23724	***** | .
-5	-752.492	-.08718	. ** | .
-4	-87.744825	-.01017	. | .
-3	313.860	0.03636	. |* .
-2	1028.515	0.11916	. |** .
-1	2012.079	0.23312	. |*****
0	3365.588	0.38993	. |********
1	1565.664	0.18140	. |****
2	1316.402	0.15252	. |***.
3	570.492	0.06610	. |* .
4	294.839	0.03416	. |* .
5	-493.350	-.05716	. * | .
6	-858.050	-.09941	. ** | .
7	-2142.790	-.24826	***** | .
8	-1309.556	-.15172	.*** | .
9	-870.136	-.10081	. ** | .
10	-1090.332	-.12632	.*** | .
11	-745.236	-.08634	. ** | .
12	-909.826	-.10541	. ** | .

13	176.034	0.02040	.	.	
14	116.171	0.01346	.	.	
15	463.189	0.05366	.	*.	
16	-499.144	-.05783	. *	.	
17	-974.142	-.11286	. **	.	
18	-1082.817	-.12545	.***	.	
19	-154.328	-.01788	.	.	
20	-270.066	-.03129	. *	.	
21	-924.629	-.10713	. **	.	
22	-554.789	-.06428	. *	.	
23	-798.672	-.09253	. **	.	
24	-1004.636	-.11640	. **	.	

"." marks two standard errors

Variable BHDD55 has been differenced.

Commercial 6

The ARIMA Procedure

Correlation of USAGE and BHDD55

Period(s) of Differencing	12
Variance of input =	6575.773
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-2357.256	-.12596	.***|. |
-23	-2821.487	-.15076	.***|. |
-22	-4397.072	-.23495	*****|. |
-21	-3107.990	-.16607	.***|. |
-20	-2735.529	-.14617	.***|. |
-19	-1083.663	-.05790	. *|. |
-18	-3850.308	-.20573	****|. |
-17	-2919.627	-.15601	.***|. |
-16	-3874.237	-.20701	****|. |
-15	-1200.054	-.06412	. *|. |
-14	-1432.364	-.07654	. **|. |
-13	-56.329027	-.00301	.|. |
-12	-3899.634	-.20837	****|. |
-11	463.066	0.02474	.|. |
-10	2391.516	0.12779	.|***. |
-9	982.901	0.05252	.|* . |
-8	-276.809	-.01479	.|. |
-7	-2169.147	-.11590	. **|. |
-6	579.114	0.03094	.|* . |
-5	948.056	0.05066	.|* . |
-4	2719.945	0.14534	.|***. |
-3	2395.841	0.12802	.|***. |
-2	2650.975	0.14165	.|***. |
-1	5578.921	0.29810	.|****** |
0	14534.507	0.77663	.|********** |
1	6225.272	0.33264	.|******* |
2	3077.823	0.16446	.|***. |
3	1478.551	0.07900	.|** . |
4	1083.534	0.05790	.|* . |
5	217.855	0.01164	.|. |
6	-1048.125	-.05600	. *|. |
7	-1066.086	-.05696	. *|. |
8	-2336.799	-.12486	. **|. |
9	-2062.741	-.11022	. **|. |
10	573.691	0.03065	.|* . |
11	642.271	0.03432	.|* . |
12	-4084.626	-.21825	****|. |
13	-553.395	-.02957	. *|. |
14	-1788.710	-.09558	. **|. |
15	190.197	0.01016	.|. |
16	-460.098	-.02458	.|. |
17	2056.688	0.10990	.|** . |
18	2382.138	0.12729	.|***. |
19	2561.122	0.13685	.|***. |
20	680.356	0.03635	.|* . |
21	-398.885	-.02131	.|. |
22	-2922.727	-.15617	.***|. |
23	-2797.260	-.14947	.***|. |
24	-2756.285	-.14728	.***|. |

"." marks two standard errors

Industrial 7

The ARIMA Procedure

Name of Variable = KWH

Period(s) of Differencing	1
Mean of Working Series	-300890
Standard Deviation	12021602
Number of Observations	120
Observation(s) eliminated by differencing	1

Autocorrelations

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	1.44519E14	1.00000	||********************|	0
1	-7.1821E13	-.49697	|**********| . |	0.091287
2	-7.4539E12	-.05158	| . *| . |	0.111578
3	1.25074E13	0.08655	| . |** . |	0.111776
4	-3.7432E12	-.02590	| . *| . |	0.112333
5	-1.0051E12	-.00695	| . | . |	0.112383
6	7.97591E12	0.05519	| . |* . |	0.112387
7	-1.3271E13	-.09183	| . **| . |	0.112612
8	-6.0702E12	-.04200	| . *| . |	0.113235
9	2.26505E13	0.15673	| . |*** . |	0.113364
10	-1.0014E13	-.06929	| . *| . |	0.115156
11	-1.67E12	-.01156	| . | . |	0.115503
12	-4.9707E11	-.00344	| . | . |	0.115513
13	1.99972E12	0.01384	| . | . |	0.115513
14	-9.6629E10	-.00067	| . | . |	0.115527
15	-7.8992E12	-.05466	| . *| . |	0.115527
16	1.45499E13	0.10068	| . |** . |	0.115742
17	-7.8565E12	-.05436	| . *| . |	0.116470
18	-1.752E12	-.01212	| . | . |	0.116681
19	5.70199E10	0.00039	| . | . |	0.116692
20	-6.6094E11	-.00457	| . | . |	0.116692
21	1.16585E13	0.08067	| . |** . |	0.116693
22	-8.4399E12	-.05840	| . *| . |	0.117157
23	-1.6195E13	-.11206	| . **| . |	0.117399
24	1.99497E13	0.13804	| . |*** . |	0.118287

"." 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	0.83335	| . |**********|
2	0.67713	| . |********** |
3	0.56178	| . |********** |
4	0.49309	| . |********** |
5	0.44064	| . |********* |
6	0.39407	| . |******** |
7	0.35876	| . |******* |
8	0.29199	| . |****** |
9	0.22036	| . |**** |
10	0.21625	| . |**** |
11	0.22063	| . |**** |
12	0.21271	| . |**** |
13	0.19048	| . |**** |
14	0.17789	| . |**** |
15	0.17206	| . |***. |
16	0.14437	| . |***. |
17	0.14378	| . |***. |
18	0.14207	| . |***. |
19	0.12240	| . |** . |
20	0.09944	| . |** . |
21	0.08897	| . |** . |
22	0.09247	| . |** . |
23	0.06549	| . |* . |
24	0.01330	| . | . |

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	-0.49697	**********| .
2	-0.39648	********| .
3	-0.23050	*****| .
4	-0.16837	.***| .
5	-0.12746	.***| .
6	-0.01325	. | .
7	-0.08862	. **| .
8	-0.21676	****| .
9	-0.05443	. *| .
10	-0.02233	. | .
11	0.00346	. | .
12	-0.02994	. *| .
13	-0.01534	. | .
14	-0.01520	. | .
15	-0.13214	.***| .
16	0.01013	. | .
17	0.03215	. |* .
18	-0.00265	. | .

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
19	-0.05597	. *| .
20	-0.08878	. **| .
21	0.06047	. |* .
22	0.04242	. |* .
23	-0.15163	.***| .
24	-0.04796	. *| .

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	32.13	6	<.0001	-0.497	-0.052	0.087	-0.026	-0.007	0.055
12	37.36	12	0.0002	-0.092	-0.042	0.157	-0.069	-0.012	-0.003
18	39.67	18	0.0023	0.014	-0.001	-0.055	0.101	-0.054	-0.012
24	45.94	24	0.0045	0.000	-0.005	0.081	-0.058	-0.112	0.138

Variable BCDD65 has been differenced.

Correlation of KWH and BCDD65

Period(s) of Differencing	1
Variance of input =	6612.275
Number of Observations	120
Observation(s) eliminated by differencing	1

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-53484131	-.05460	. *| .
-23	75818236	0.07739	. |** .
-22	32314755	0.03299	. |* .
-21	20534631	0.02096	. | .
-20	35955656	0.03670	. |* .
-19	30407492	0.03104	. |* .
-18	-5264787	-.00537	. | .
-17	-710454	-.00073	. | .
-16	-114291731	-.11667	. **| .
-15	-8835748	-.00902	. | .
-14	4009512	0.00409	. | .
-13	-61647501	-.06293	. *| .
-12	35003170	0.03573	. |* .
-11	38182591	0.03898	. |* .
-10	24650268	0.02516	. |* .
-9	75285881	0.07685	. |** .
-8	-14157976	-.01445	. | .
-7	805564	0.00082	. | .
-6	60647896	0.06191	. |* .
-5	-62442128	-.06374	. *| .
-4	-85490027	-.08727	. **| .
-3	-23907519	-.02440	. | .
-2	-9435833	-.00963	. | .
-1	-54520772	-.05565	. *| .
0	36037590	0.03679	. |* .
1	45168894	0.04611	. |* .
2	-59976394	-.06122	. *| .
3	70021714	0.07148	. |* .
4	61162267	0.06243	. |* .
5	33229592	0.03392	. |* .
6	47732348	0.04872	. |* .
7	-51240117	-.05231	. *| .
8	-75801459	-.07738	. **| .
9	-21715587	-.02217	. | .
10	2778972	0.00284	. | .
11	-32735623	-.03342	. *| .
12	-2410022	-.00246	. | .

```
13       4927331        0.00503    |                .   |   .               |
14     -17198090        -.01756    |                .   |   .               |
15      45464050        0.04641    |                .   |*  .               |
16      35650501        0.03639    |                .   |*  .               |
17      68665734        0.07009    |                .   |*  .               |
18      48928282        0.04995    |                .   |*  .               |
19     -66200639        -.06758    |                .  *|   .               |
20     -58669673        -.05989    |                .  *|   .               |
21     -17735134        -.01810    |                .   |   .               |
22     -25562876        -.02609    |                .  *|   .               |
23     -27175943        -.02774    |                .  *|   .               |
24      10606376        0.01083    |                .   |   .               |

                    "." marks two standard errors

                Variable BHDD55 has been differenced.
```

Industrial 9

The ARIMA Procedure

Correlation of KWH and BHDD55

Period(s) of Differencing	1
Variance of input =	25025.63
Number of Observations	120
Observation(s) eliminated by differencing	1

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	-18971531	-.00949	| . | . |
-23	-11320531	-.00566	| . | . |
-22	-192548970	-.09628	| . ** | . |
-21	-52432504	-.02622	| . * | . |
-20	-64447223	-.03223	| . * | . |
-19	-50379258	-.02519	| . * | . |
-18	6575373	0.00329	| . | . |
-17	-8928444	-.00446	| . | . |
-16	153472242	0.07674	| . |** . |
-15	83646060	0.04183	| . |* . |
-14	183848776	0.09193	| . |** . |
-13	-133021680	-.06652	| . * | . |
-12	33126774	0.01656	| . | . |
-11	-14840536	-.00742	| . | . |
-10	-114190807	-.05710	| . * | . |
-9	-111535449	-.05577	| . * | . |
-8	-24044954	-.01202	| . | . |
-7	-78011210	-.03901	| . * | . |
-6	-4651391	-.00233	| . | . |
-5	175480228	0.08775	| . |** . |
-4	38410867	0.01921	| . | . |
-3	23768643	0.01189	| . | . |
-2	157356909	0.07868	| . |** . |
-1	-4753921	-.00238	| . | . |
0	18047069	0.00902	| . | . |
1	30722448	0.01536	| . | . |
2	-177922334	-.08897	| . ** | . |
3	-113332332	-.05667	| . * | . |
4	-18692375	-.00935	| . | . |
5	5893197	0.00295	| . | . |
6	-122837403	-.06142	| . * | . |
7	206646924	0.10333	| . |** . |
8	-20605964	-.01030	| . | . |
9	-253605576	-.12681	| .*** | . |
10	415622081	0.20783	| . |**** |
11	13435983	0.00672	| . | . |
12	54028921	0.02702	| . |* . |
13	-39391022	-.01970	| . | . |
14	-178784609	-.08940	| . ** | . |
15	-46821041	-.02341	| . | . |
16	1048460	0.00052	| . | . |
17	-70519086	-.03526	| . * | . |
18	30246163	0.01512	| . | . |
19	-9510789	-.00476	| . | . |
20	-136544981	-.06828	| . * | . |
21	263587543	0.13180	| . |***. |
22	53329876	0.02667	| . |* . |
23	60907665	0.03046	| . |* . |
24	113185115	0.05660	| . |* . |

"." marks two standard errors

The ARIMA Procedure

Name of Variable = KWH

Period(s) of Differencing	12
Mean of Working Series	-6155083
Standard Deviation	7301226
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	5.33079E13	1.00000	|********************|	0
1	4.43134E13	0.83127	|****************. |	0.095783
2	3.86328E13	0.72471	|**************. |	0.147829
3	3.45752E13	0.64860	|*************. |	0.177455
4	2.78515E13	0.52246	|**********. |	0.198013
5	2.36127E13	0.44295	|*********. |	0.210280
6	1.83541E13	0.34430	|*******. |	0.218673
7	1.28651E13	0.24134	|*****. |	0.223591
8	6.75104E12	0.12664	|***. |	0.225968
9	-7.5277E11	-.01412	|. |	0.226618
10	-4.4895E12	-.08422	|.** |	0.226626
11	-7.5026E12	-.14074	|.*** |	0.226913
12	-1.4326E13	-.26874	|.***** |	0.227713
13	-1.0966E13	-.20570	|.**** |	0.230604
14	-8.1939E12	-.15371	|.*** |	0.232281
15	-8.5164E12	-.15976	|.*** |	0.233213
16	-8.8782E12	-.16655	|.*** |	0.234215
17	-9.4192E12	-.17669	|.**** |	0.235299
18	-9.5297E12	-.17877	|.**** |	0.236513
19	-9.3072E12	-.17459	|.*** .|	0.237749
20	-7.7995E12	-.14631	|.*** .|	0.238922
21	-5.7276E12	-.10744	|.** .|	0.239743
22	-6.5321E12	-.12253	|.** .|	0.240184
23	-8.362E12	-.15686	|.*** .|	0.240757
24	-6.225E12	-.11677	|.** .|	0.241693

"." 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	-0.47138	|********* . |
2	0.06835	|. . |
3	-0.23594	|***** . |
4	0.34129	|. |******* |
5	-0.28245	|****** . |
6	0.14056	|. |***. |
7	-0.23417	|***** . |
8	0.19472	|. |**** |
9	-0.05900	|. *| . |
10	0.14092	|. |***. |
11	-0.33743	|******* . |
12	0.43271	|. |********* |
13	-0.12765	|.***| . |
14	-0.00218	|. | . |
15	-0.17206	|.***| . |
16	0.15459	|. |***. |
17	-0.08535	|. **| . |
18	0.05718	|. |* . |
19	-0.03637	|. *| . |
20	0.01945	|. | . |
21	-0.01951	|. | . |
22	0.04547	|. |* . |
23	-0.02436	|. | . |
24	0.00151	|. | . |

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	0.83127	|. |**********. |
2	0.10906	|. |**. |
3	0.06946	|. |*. |
4	-0.17271	|.***| . |
5	0.03851	|. |*. |
6	-0.10718	|. **| . |
7	-0.06382	|. *| . |
8	-0.16447	|.***| . |
9	-0.18819	|****| . |
10	0.06370	|. |*. |
11	0.02634	|. |*. |
12	-0.26791	|*****| . |
13	0.47298	|. |********* |
14	0.13649	|. |***. |
15	-0.07545	|. **| . |
16	-0.29142	|******| . |
17	0.01966	|. | . |
18	-0.10708	|. **| . |

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
19	-0.03440	| . *| . |
20	-0.05443	| . *| . |
21	-0.01753	| . | . |
22	-0.02881	| . *| . |
23	0.05973	| . |* . |
24	-0.00409	| . | . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	253.02	6	<.0001	0.831	0.725	0.649	0.522	0.443	0.344
12	274.20	12	<.0001	0.241	0.127	-0.014	-0.084	-0.141	-0.269
18	297.79	18	<.0001	-0.206	-0.154	-0.160	-0.167	-0.177	-0.179
24	313.87	24	<.0001	-0.175	-0.146	-0.107	-0.123	-0.157	-0.117

Variable BCDD65 has been differenced.

Correlation of KWH and BCDD65

Period(s) of Differencing	12
Variance of input =	1528.164
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	69409436	0.21637	| . |**** |
-23	98938962	0.30843	| . |****** |
-22	106050169	0.33060	| . |******* |
-21	110219459	0.34359	| . |******* |
-20	108357472	0.33779	| . |******* |
-19	97570984	0.30416	| . |****** |
-18	83364343	0.25988	| . |***** |
-17	54537038	0.17001	| . |***. |
-16	38142569	0.11890	| . |** . |
-15	20477273	0.06384	| . |* . |
-14	-20566315	-.06411	| . *| . |
-13	-14123851	-.04403	| . *| . |
-12	-19361139	-.06036	| . *| . |
-11	-36234553	-.11296	| . **| . |
-10	-45120636	-.14066	| .***| . |
-9	-71009584	-.22136	| ****| . |
-8	-71152840	-.22181	| ****| . |
-7	-70478886	-.21971	| ****| . |
-6	-65489421	-.20415	| ****| . |
-5	-54647629	-.17036	| .***| . |
-4	-48619619	-.15156	| .***| . |
-3	-37418278	-.11665	| . **| . |
-2	-12468983	-.03887	| . *| . |
-1	-35920709	-.11198	| . **| . |
0	-60714737	-.18927	| ****| . |
1	-61053085	-.19032	| ****| . |
2	-57171284	-.17822	| ****| . |
3	-35428732	-.11044	| . **| . |
4	-33431345	-.10422	| . **| . |
5	-36921076	-.11510	| . **| . |
6	-45170891	-.14081	| .***| . |
7	-51148415	-.15945	| .***| . |
8	-45592959	-.14213	| .***| . |
9	-30682374	-.09565	| . **| . |
10	-13617487	-.04245	| . *| . |
11	15011509	0.04680	| . |* . |
12	50376527	0.15704	| . |***. |

```
13      55299742        0.17239    |                .   |***.              |
14      58832464        0.18340    |                .   |****              |
15      55841221        0.17408    |                .   |***.              |
16      54591692        0.17018    |                .   |***.              |
17      56813871        0.17711    |                .   |****              |
18      45888486        0.14305    |                .   |***.              |
19      30760926        0.09589    |                .   |** .              |
20       5024273        0.01566    |                .   |   .              |
21     -27499453        -.08573    |                . **|   .              |
22     -48361430        -.15076    |               .***|   .              |
23     -65864158        -.20532    |               ****|   .              |
24     -75793589        -.23628    |              *****|   .              |

                    "." marks two standard errors

                Variable BHDD55 has been differenced.
```

Industrial Mine Power 12

The ARIMA Procedure

Correlation of KWH and BHDD55

Period(s) of Differencing	12
Variance of input =	6575.773
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	123173506	0.17709	|. |**** |
-23	29021364	0.04172	|. |* . |
-22	40655174	0.05845	|. |* . |
-21	-6650592	-.00956	|. | . |
-20	-36765420	-.05286	|. * | . |
-19	-61325433	-.08817	|. ** | . |
-18	-94281867	-.13555	|.*** | . |
-17	-88928962	-.12785	|.*** | . |
-16	-97861818	-.14070	|.*** | . |
-15	-89251284	-.12832	|.*** | . |
-14	-139556787	-.20064	|**** | . |
-13	-174768581	-.25127	|***** | . |
-12	-180938633	-.26014	|***** | . |
-11	-107333971	-.15431	|.*** | . |
-10	-136221118	-.19585	|**** | . |
-9	-129092809	-.18560	|**** | . |
-8	-129939473	-.18681	|**** | . |
-7	-105661337	-.15191	|.*** | . |
-6	-106511631	-.15313	|.*** | . |
-5	-120720298	-.17356	|.*** | . |
-4	-88115761	-.12668	|.*** | . |
-3	-79040911	-.11364	|. ** | . |
-2	-58264340	-.08377	|. ** | . |
-1	16956024	0.02438	|. | . |
0	102090305	0.14678	|. |***. |
1	91146566	0.13104	|. |***. |
2	125124032	0.17989	|. |**** |
3	144822607	0.20821	|. |**** |
4	180755775	0.25987	|. |***** |
5	140365717	0.20180	|. |**** |
6	153743566	0.22104	|. |**** |
7	182868222	0.26291	|. |***** |
8	140553079	0.20207	|. |**** |
9	132150214	0.18999	|. |**** |
10	133329279	0.19169	|. |**** |
11	116536495	0.16755	|. |***. |
12	37020726	0.05322	|. |* . |
13	10283055	0.01478	|. | . |
14	15948535	0.02293	|. | . |
15	37844371	0.05441	|. |* . |
16	33668465	0.04841	|. |* . |
17	85881025	0.12347	|. |** . |
18	32752052	0.04709	|. |* . |
19	-19179344	-.02757	|. * | . |
20	27371270	0.03935	|. |* . |
21	38817493	0.05581	|. |* . |
22	42452544	0.06103	|. |* . |
23	-4903184	-.00705	|. | . |
24	8263525	0.01188	|. | . |

"." marks two standard errors

Other Retail 13

The ARIMA Procedure

Name of Variable = KWH

Period(s) of Differencing	12
Mean of Working Series	3884.862
Standard Deviation	117378.3
Number of Observations	109
Observation(s) eliminated by differencing	12

Autocorrelations

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	1.37777E10	1.00000	|*******************|	0
1	-2.47911E9	-.17994	|****. |	0.095783
2	-2.18472E9	-.15857	|.***. |	0.098835
3	-726500066	-.05273	|. *. |	0.101142
4	-498202428	-.03616	|. *. |	0.101394
5	1939047880	0.14074	|. |***. |	0.101512
6	-204106641	-.01481	|. |. |	0.103287
7	-2.09664E9	-.15218	|.***. |	0.103306
8	1468127436	0.10656	|. |**. |	0.105343
9	428322454	0.03109	|. |*. |	0.106327
10	526840173	0.03824	|. |*. |	0.106411
11	1691133557	0.12274	|. |**. |	0.106537
12	-6.68544E9	-.48524	|**********. |	0.107826
13	806043925	0.05850	|. |*. |	0.126280
14	2410865842	0.17498	|. |***. |	0.126529
15	-438398653	-.03182	|. *. |	0.128730
16	611385539	0.04438	|. |*. |	0.128802
17	-1.75179E9	-.12715	|. ***. |	0.128942
18	311418899	0.02260	|. |. |	0.130087
19	2127217360	0.15440	|. |***. |	0.130123
20	-1.20637E9	-.08756	|. **. |	0.131793
21	113555330	0.00824	|. |. |	0.132326
22	-1.03001E9	-.07476	|. *. |	0.132331
23	-378132259	-.02745	|. *. |	0.132718
24	1990791035	0.14449	|. |***. |	0.132770

"." 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	0.18928	|. |**** |
2	0.18293	|. |**** |
3	0.12625	|. |***. |
4	-0.03577	|. *. |
5	0.00521	|. |. |
6	-0.02015	|. |. |
7	0.00235	|. |. |
8	-0.07741	|. **. |
9	0.02737	|. |*. |
10	0.14121	|. |***. |
11	0.03719	|. |*. |
12	0.42880	|. |********* |
13	0.07341	|. |*. |
14	-0.00032	|. |. |
15	0.05611	|. |*. |
16	-0.03223	|. *. |
17	0.01046	|. |. |
18	-0.03046	|. *. |
19	-0.03334	|. *. |
20	-0.01436	|. |. |
21	-0.01338	|. |. |
22	0.08524	|. |**. |
23	-0.00019	|. |. |
24	0.09462	|. |**. |

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	-0.17994	****| .
2	-0.19734	****| .
3	-0.13162	.***| .
4	-0.11858	. **| .
5	0.07923	. |** .
6	0.00296	. | .
7	-0.13306	.***| .
8	0.06441	. |* .
9	0.03346	. |* .
10	0.05361	. |* .
11	0.18056	. |****
12	-0.41897	*******| .
13	-0.11069	. **| .
14	0.02919	. |* .
15	-0.07783	. **| .
16	0.01589	. | .
17	-0.03982	. *| .
18	0.00504	. | .

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
19	0.03414	. |* . |
20	0.02270	. | . |
21	0.08422	. |** . |
22	-0.08709	. **| . |
23	0.05518	. |* . |
24	-0.13546	.***| . |

Autocorrelation Check for White Noise

To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	9.27	6	0.1590	-0.180	-0.159	-0.053	-0.036	0.141	-0.015
12	44.90	12	<.0001	-0.152	0.107	0.031	0.038	0.123	-0.485
18	51.81	18	<.0001	0.059	0.175	-0.032	0.044	-0.127	0.023
24	59.92	24	<.0001	0.154	-0.088	0.008	-0.075	-0.027	0.144

Variable BCDD65 has been differenced.

Correlation of KWH and BCDD65

Period(s) of Differencing	12
Variance of input =	1528.164
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	702671	0.13625	. |***. |
-23	-419453	-.08134	. **| . |
-22	-702545	-.13623	.***| . |
-21	-293274	-.05687	. *| . |
-20	138855	0.02693	. |* . |
-19	-509893	-.09887	. **| . |
-18	-13039.717	-.00253	. | . |
-17	-728390	-.14124	.***| . |
-16	-68032.873	-.01319	. | . |
-15	-537959	-.10431	. **| . |
-14	-997656	-.19345	****| . |
-13	81494.644	0.01580	. | . |
-12	-215658	-.04182	. *| . |
-11	297826	0.05775	. |* . |
-10	567801	0.11010	. |** . |
-9	317744	0.06161	. |* . |
-8	-444109	-.08612	. **| . |
-7	-143357	-.02780	. *| . |
-6	-404958	-.07852	. **| . |
-5	386061	0.07486	. |* . |
-4	158616	0.03076	. |* . |
-3	29910.932	0.00580	. | . |
-2	-32737.177	-.00635	. | . |
-1	52588.553	0.01020	. | . |
0	114638	0.02223	. | . |
1	-63128.984	-.01224	. | . |
2	-356873	-.06920	. *| . |
3	-152533	-.02958	. *| . |
4	86938.685	0.01686	. | . |
5	51259.872	0.00994	. | . |
6	-294695	-.05714	. *| . |
7	13032.128	0.00253	. | . |
8	477332	0.09256	. |** . |
9	671763	0.13026	. |***. |
10	772980	0.14989	. |***. |
11	-214962	-.04168	. *| . |
12	144488	0.02802	. |* . |

13	99944.451	0.01938	.	.	
14	490356	0.09508	.	** .	
15	371472	0.07203	.	* .	
16	301972	0.05855	.	* .	
17	275700	0.05346	.	* .	
18	509160	0.09873	.	** .	
19	-250908	-.04865	. *	.	
20	-814273	-.15789	.***	.	
21	-535985	-.10393	. **	.	
22	-209891	-.04070	. *	.	
23	377072	0.07312	.	* .	
24	-55748.422	-.01081	.	.	

"." marks two standard errors

Variable BHDD55 has been differenced.

Other Retail 15

The ARIMA Procedure

Correlation of KWH and BHDD55

Period(s) of Differencing	12
Variance of input =	6575.773
Number of Observations	109
Observation(s) eliminated by differencing	12

Crosscorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
-24	1103645	0.09870	| . |** . |
-23	71850.343	0.00643	| . | . |
-22	122794	0.01098	| . | . |
-21	-1261710	-.11283	| . ** | . |
-20	-188416	-.01685	| . | . |
-19	1187546	0.10620	| . |** . |
-18	-615103	-.05501	| . *| . |
-17	-108736	-.00972	| . | . |
-16	-1153228	-.10313	| . ** | . |
-15	2295803	0.20531	| . |**** |
-14	1637549	0.14644	| . |***. |
-13	-47401.036	-.00424	| . | . |
-12	-442029	-.03953	| . *| . |
-11	471383	0.04216	| . |* . |
-10	245429	0.02195	| . | . |
-9	1021201	0.09132	| . |** . |
-8	-1122131	-.10035	| . ** | . |
-7	933988	0.08353	| . |** . |
-6	1844441	0.16495	| . |***. |
-5	984850	0.08807	| . |** . |
-4	-95850.282	-.00857	| . | . |
-3	-2233520	-.19974	| **** | . |
-2	-1296328	-.11593	| . ** | . |
-1	123314	0.01103	| . | . |
0	-218052	-.01950	| . | . |
1	-636106	-.05689	| . *| . |
2	-311156	-.02783	| . *| . |
3	-1190217	-.10644	| . ** | . |
4	1928134	0.17243	| . |***. |
5	-1221078	-.10920	| . ** | . |
6	-146557	-.01311	| . | . |
7	-711908	-.06367	| . *| . |
8	-637668	-.05703	| . *| . |
9	1247442	0.11156	| . |** . |
10	565001	0.05053	| . |* . |
11	-668840	-.05981	| . *| . |
12	-58915.806	-.00527	| . | . |
13	188610	0.01687	| . | . |
14	1180198	0.10554	| . |** . |
15	184324	0.01648	| . | . |
16	-2687891	-.24037	| ***** | . |
17	-42321.014	-.00378	| . | . |
18	-1098102	-.09820	| . ** | . |
19	924234	0.08265	| . |** . |
20	403009	0.03604	| . |* . |
21	-502941	-.04498	| . *| . |
22	-86729.375	-.00776	| . | . |
23	7219.139	0.00065	| . | . |
24	-829703	-.07420	| . *| . |

"." marks two standard errors