Thomas R. Teehan
Senior Counsel

April 29, 2011

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 4206 - Revenue Decoupling Mechanism Proposal
Responses to Division Data Requests 1-19

Dear Ms. Massaro:

Enclosed please find National Grid's response to Division Data Request 1-19 in the above-captioned proceeding.

Thank you for your attention to this transmittal. If you have any questions, please feel free to contact me at (401) 784-7667.

Very truly yours,

Thomas R. Teehan

Enclosures
cc: Docket 4206 Service List
Leo Wold, Esq.
Steve Scialabba, Division

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Division 1-19

Request:

Re: Exhibit JAL-3:

a. The illustrative calculation of a Revenue Decoupling Mechanism Factor provided does not appear to include consideration of interest on deferred balances, please provide an example showing the calculation of the (Over)/Under Recovery amount with the application of interest on deferred recovery balances.

b. Provide the Forecasted July 1, 2011 – June 30, 2012 deliveries by rate class and compare that forecast with the Company's test year deliveries by rate class from its last base rate case.

c. Please indicate whether the "forecasted" deliveries used in RDM factor calculations would be based on normalized weather conditions, and if not, explain when and for which classes of service non-weather normalized forecasts of deliveries would be used.

d. Please explain why footnote (3) indicates that the RDM factor would be truncated, rather than rounded, after 5 decimal places, and explain why the use of "truncated" results is more appropriate than the use of rounded results.

Response:

a. Please see Attachment 1 for the calculation of interest assessed during the recovery period on the illustrative over recovery balance of $3,998,706. Please note that the addition of interest during the recovery period increases the illustrative RDM Credit Factor from 0.051¢ per kWh to 0.052¢ per kWh.

b. Please see Attachment 2 for a comparison of forecasted kilowatt-hour deliveries to test year kilowatt-hour deliveries as reported in R.I.P.U.C. Docket No. 4065.

c. Yes, forecasted deliveries used in the RDM factor calculation are based on normalized weather conditions. Please refer to R.I.P.U.C. Docket 4065 Division Data Request Set 10, Data Request 10-5 for a complete explanation of the Company's procedure for weather normalization.

Division 1-19 (continued)

d. It has been common practice by the Company to truncate, rather than round, in the calculation of kilowatt-hour factors to five decimal places when calculating bill charges. Truncation always results in the calculation of the lowest possible charge and therefore, reduces the chance for over collection of costs. In addition, the Company does not bill "rounded" factors; therefore the factor must be an absolute value to 5 decimal places.

Prepared by or under the supervision of: Jeanne A. Lloyd

Narragansett Electric Company
Hypothetical Calculation of the (Over)/Under Recovery With the
Application of Interest on Deferred Recovery Balances

Month	Beginning Balance (1)	Surcharge/ (Refund) (2)	Ending Balance (3)	Interest Rate (4)	Interest (5)
Apr-2011	($3,998,706)	$0	($3,998,706)	2.3600%	($7,864)
May-2011	($4,006,570)	$0	($4,006,570)	2.3600%	($7,880)
Jun-2011	($4,014,450)	$0	($4,014,450)	2.3600%	($7,895)
Jul-2011	($4,022,345)	($335,195)	($3,687,149)	2.3600%	($7,581)
Aug-2011	($3,694,730)	($335,885)	($3,358,846)	2.3600%	($6,936)
Sep-2011	($3,365,782)	($336,578)	($3,029,204)	2.3600%	($6,288)
Oct-2011	($3,035,492)	($337,277)	($2,698,215)	2.3600%	($5,638)
Nov-2011	($2,703,853)	($337,982)	($2,365,872)	2.3600%	($4,985)
Dec-2011	($2,370,857)	($338,694)	($2,032,163)	2.3600%	($4,330)
Jan-2012	($2,036,493)	($339,415)	($1,697,077)	2.3600%	($3,671)
Feb-2012	($1,700,749)	($340,150)	($1,360,599)	2.3600%	($3,010)
Mar-2012	($1,363,609)	($340,902)	($1,022,707)	2.3600%	($2,347)
Apr-2012	($1,025,053)	($341,684)	($683,369)	2.3600%	($1,680)
May-2012	($685,049)	($342,524)	($342,524)	2.3600%	($1,010)
Jun-2012	($343,535)	($343,535)	$0	2.3600%	($338)
					($71,454)

Total Surcharge/(Refund) to Customers with Interest	($4,070,160)
forecasted kWh deliveries (7/1/2011 through 6/30/2012)	7,801,501,217
Reconciliation Transition Adjustment Factor per kWh	($0.00052)

Notes:

1 Column (3) + Column (5) of previous month; Beginning balance from page Exhibit JAL-1, page 1
2 For July-2011, (Column (1)) ÷ 12. For Aug-2011, (Column (1)) ÷ 11, etc.
3 Column (1) - Column (2)
4 Current Rate for Customer Deposits
5 {([Column (1) + Column (3)] ÷ 2) * Column (4)} ÷ 12

The Narragansett Electric Company
Comparison of Forecasted kWh to Test Year kWh per R.I.P.U.C. Docket 4065

Line No.	Forecasted kWh:	A16/A60	SL	B32/G32	B62/G62	C06	G02	X01	Total
1	July-11	303,640,139	4,701,893	172,212,682	47,432,503	51,882,061	135,416,416	2,094,991	717,380,684
2	August-11	310,588,991	5,111,124	193,928,462	52,223,100	56,255,653	132,022,534	1,953,239	752,083,103
3	September-11	300,100,968	6,159,378	199,755,193	49,073,039	53,878,576	123,273,251	2,149,503	734,389,908
4	October-11	197,799,859	6,640,717	175,426,097	50,249,002	43,312,722	109,414,397	2,242,469	585,085,263
5	November-11	228,955,351	6,947,307	170,387,353	54,152,056	43,677,786	96,403,424	2,115,156	602,638,433
6	December-11	245,510,053	7,760,944	176,294,805	51,507,998	45,611,355	105,274,566	2,379,594	634,339,315
7	January-12	291,572,315	7,627,576	187,319,820	47,026,218	53,102,265	115,200,947	2,000,995	703,850,137
8	February-12	255,653,556	6,708,593	172,570,607	46,885,102	50,198,527	105,582,590	1,977,498	639,576,472
9	March-12	253,805,812	6,117,544	173,147,152	49,125,643	49,584,582	106,872,827	1,873,261	640,526,821
10	April-12	233,356,633	5,638,429	179,211,853	46,930,769	45,641,080	103,683,184	1,935,700	616,397,647
11	May-12	218,006,615	4,559,338	171,736,158	49,158,143	44,086,561	95,599,538	1,746,114	584,892,467
12	June-12	206,329,752	4,666,703	174,978,061	48,324,590	45,221,308	109,010,660	1,809,892	590,340,965
13		3,045,320,044	72,639,546	2,146,968,243	592,088,163	582,452,476	1,337,754,333	24,278,412	7,801,501,217
14	Test Year kWh	3,037,613,124	68,381,640	2,041,538,285	565,377,847	552,428,873	1,371,693,627	25,935,238	7,662,968,634
15	Difference - kWh	7,706,920	4,257,906	105,429,958	26,710,316	30,023,603	(33,939,294)	(1,656,826)	138,532,583
16	Difference - %	0.25%	6.23%	5.16%	4.72%	5.43%	-2.47%	-6.39%	1.81%

Line Description:

Lines 1-12	per current Company forecast
Line 13	sum of Lines 1 through 12
Line 14	per Schedule NG-HSG-2 page 33, Column 1
Line 15	Line 13 - Line 14
Line 16	Line 15 ÷ Line 13

Division Data Request 10-5

Request:

'Please provide workpapers showing how the rate year billing determinants on Schedule NSG-HSG-6, Pages 10-12 were developed from actual test year billing determinants. The response should show how test year billing determinants were adjusted for customer growth, normal weather, and any other factors, to derive the rate year billing determinants and should be provided in its Excel version.

Response:

The rate-year billing determinants were derived from the forecast of gigawatthour (gWh) sales and customer counts described in the testimony of Alfred P. Morrissey. As the testimony explains, monthly gWh sales and customer counts for the Company's main revenue classes were forecast from econometric models relating these sales and customer counts to economic variables, weather and other factors affecting the demand for electricity. The forecast assumed normal weather. Rate year economic conditions were obtained from Moody's Economy.com. The econometric forecast of gWh sales was adjusted for the impact of additional demand-side management (DSM) programs the Company has proposed for 2010, beyond what it achieved in 2008. The resulting rate year forecast of gWh sales and customer counts, by revenue class, were allocated to rate classes using linear regression equations that predicted each rate class's share of revenue class growth, based on historical trends.

The econometric models described in Morrissey's testimony were estimated using PC-SAS statistical software and are attached as "DIV 10-5 Attachment 1.pdf." The data sets used to estimate these models are provided in the attached Excel workbook, "DIV 10-5 Attachment 2.xls." This workbook is laid out as follows:

DIV-10-5 Attachment 2.xls

Tab	Description
KWh	KWh input data to the econometric models
Customers	Customer input data to the econometric models
Exogenous	Exogenous input data to the econometric models
Key	Key for use in reviewing the spreadsheets

Prepared by or under the supervision of: Alfred P. Morrissey, Jr

Division Data Request 10-5 (cont.)

Note that the econometric models for customers with electric heating were used only to allocate the forecast of total residential kWh sales into space heating revenue classes. Note also that model residuals from the 2008 test year were added to the forecast results so that model-produced gWh and customer growth rates could be applied directly to the 2008 test year billing determinants.

The DSM adjustment to the gWh forecast, as well as the allocation of the revenue class forecast to rate classes, was performed in the attached Excel workbook, "DIV 10-5 Attachment 3.xls." This workbook setup as follows:

DIV 10-5 Attachment 3.xls

Tab	Description
Model_Produced_Results	Monthly history and econometric forecast of kilowatthour (kWh) by revenue class. These kWh are shown on Schedule NG-APM-1 of Morrissey's testimony as annual gWh (Schedule NG-APM-2 shows the same forecast but with gWh history weather-normalized).
Incremental_DSM	Incremental DSM kWh subtracted from the econometric forecast in the Model_Produced_Results tab.
RevClassKWhFC	Monthly history and kWh forecast by revenue class with 2010 adjusted for incremental DSM.
RateClassAllocation	Rate class kWh regressed against a linear time trend and used to allocate the revenue class kWh forecast to rate classes
MonthlyKWhReport	Shows monthly historical and forecast kWh, by revenue class and rate class, adjusted for incremental DSM, along with growth rates and annual totals.
AnnualKWhReport	Shows the historical and forecast kWh, by revenue class and rate class, aggregated to calendar years, including the 2008 test year and the 2010 rate year. The 2010 kWh in this report are shown on NG-APM-6 and are consistent with the billing determinants shown on NG-HSG-6 with the exception of the streetlight billing determinants which were forecast based on the December 2008 streetlights inventory, as identified in the response to Division Data Request 3-12.

Prepared by or under the supervision of: Alfred P. Morrissey, Jr

Division Data Request 10-5 (cont.)

ForecastResults	Shows monthly historical and forecast kWh aggregated to revenue and rate class. Forecasted 2010 kWh are consistent with the rate year billing determinants shown in NG-HSG-6 with the exception of the streetlight billing determinants which were forecast based on the December 2008 streetlights inventory, as identified in the response to Division Data Request 3-12.
Key	Key for use in reviewing the spreadsheets

The allocation of the revenue class forecast of customer counts to rate classes, was performed in the attached Excel workbook, "DIV 10-5 Attachment 4.xls." This workbook setup as follows:

DIV 10-5 Attachment 4.xls

Tab	Description
RevClassKWhFC	Monthly customer count history and forecast by revenue class.
RateClassAllocation	Rate class customer counts regressed against a linear time trend and used to allocate the revenue class customer forecast to rate classes
MonthlyCustomerReport	Shows monthly customer historical and forecast, by revenue class and rate class, along with growth rates and annual totals.
AnnualCustomerReport	Shows the historical and forecast customers, by revenue class and rate class, aggregated to calendar years, including the 2008 test year and the 2010 rate year. The 2010 customers in this report are shown on NG-APM-5 and are consistent with the billing determinants shown on NG-HSG-6.
ForecastResults	Shows monthly historical and forecast customers aggregated to revenue and rate class. Forecasted 2010 customers are consistent with the rate year billing determinants shown in NG-HSG-6.
Key	Key for use in reviewing the spreadsheets

Prepared by or under the supervision of: Alfred P. Morrissey, Jr

Neco FY10 Deliveries Forecast
Residential KWh Per Customer Model

The AUTOREG Procedure

Dependent Variable u_49_r
KWh Per Customer

Ordinary Least Squares Estimates

SSE	115892.463	DFE	222
MSE	522.03812	Root MSE	22.84815
SBC	2100.29655	AIC	2079.72047
Regress R-Square	0.9251	Total R-Square	0.9251
Durbin-Watson	1.1324		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	-448.8264	50.2117	-8.94	<.0001	
rypc	1	7.3369	0.5333	13.76	<.0001	Per Capita Income
dsummer2003on	1	49.7888	5.8112	8.57	<.0001	Summer 2003 on
cdd_49	1	0.9215	0.0237	38.84	<.0001	Cooling Degree Days
hdd_49	1	0.2063	0.005913	34.90	<.0001	Heating Degree Days
Bdays	1	20.5392	1.5593	13.17	<.0001	Days Billed

Estimates of 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
0	508.3	1.000000	| |********** |
1	217.4	0.427707	| |********* |

Preliminary MSE 415.3

Neco FY10 Deliveries Forecast
Residential KWh Per Customer Model

The AUTOREG Procedure

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.427707	0.060804	-7.03

Yule-Walker Estimates

SSE	91432.8736	DFE	221
MSE	413.72341	Root MSE	20.34019
SBC	2051.87878	AIC	2027.87336
Regress R-Square	0.9146	Total R-Square	0.9409
Durbin-Watson	1.7217		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	-403.3972	47.5015	-8.49	<.0001	
rypc	1	7.8923	0.7716	10.23	<.0001	Per Capita Income
dsummer2003on	1	36.7042	6.5219	5.63	<.0001	Summer 2003 on
cdd_49	1	0.9194	0.0232	39.60	<.0001	Cooling Degree Days
hdd_49	1	0.2033	0.006584	30.87	<.0001	Heating Degree Days
Bdays	1	18.6388	1.3684	13.62	<.0001	Days Billed

NECo FY10 Deliveries Forecast
Residential Electric Heat KWh Per Customer Model

The AUTOREG Procedure

Dependent Variable u_49_reh
KWh Per Customer

Ordinary Least Squares Estimates

SSE	449132.481	DFE	125
MSE	3593	Root MSE	59.94214
SBC	1467.33682	AIC	1450.08563
Regress R-Square	0.9727	Total R-Square	0.9727
Durbin-Watson	1.0596		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	314.8942	156.4758	2.01	0.0463	
time	1	-10.6325	1.6590	-6.41	<.0001	Linear Time Trend
price	1	-635.7065	317.6220	-2.00	0.0475	Elec Price, lag12
cdd_49	1	1.5723	0.0779	20.18	<.0001	Cooling Degree Days
hdd_49	1	1.1133	0.0202	55.10	<.0001	Heating Degree Days
Bdays	1	11.4088	4.8877	2.33	0.0212	Days Billed

Estimates of 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
0	3428.5	1.000000	||**********
1	1385.8	0.404194	||******** |

Preliminary MSE 2868.4

NECo FY10 Deliveries Forecast
Residential Electric Heat KWh Per Customer Model

The AUTOREG Procedure

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.404194	0.082140	-4.92

Yule-Walker Estimates

SSE	359800.667	DFE	124
MSE	2902	Root MSE	53.86667
SBC	1443.49014	AIC	1423.36376
Regress R-Square	0.9603	Total R-Square	0.9781
Durbin-Watson	1.5849		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	196.8060	144.1752	1.37	0.1747	
time	1	-11.5681	2.4499	-4.72	<.0001	Linear Time Trend
price	1	-420.4470	337.9833	-1.24	0.2159	Elec Price, lag12
cdd_49	1	1.4939	0.0779	19.18	<.0001	Cooling Degree Days
hdd_49	1	1.0953	0.0221	49.52	<.0001	Heating Degree Days
Bdays	1	15.1790	4.2943	3.53	0.0006	Days Billed

NECo FY10 Deliveries Forecast
Commercial KWh Deliveries Model

The AUTOREG Procedure

Dependent Variable K_49_C
Commercial KWh

Ordinary Least Squares Estimates

SSE	1.61623E16	DFE	218
MSE	7.41391E13	Root MSE	8610404
SBC	7972.7312	AIC	7938.43775
Regress R-Square	0.9510	Total R-Square	0.9510
Durbin-Watson	1.3991		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	-3.0682E8	20051352	-15.30	<.0001	
CommEmpl	1	699065	55605	12.57	<.0001	Commercial Empl
CommProd	1	382918870	63777371	6.00	<.0001	Commercial Producti
cdd_49	1	231883	9310	24.91	<.0001	Cooling Degree Days
hdd_49	1	22875	2344	9.76	<.0001	Heating Degree Days
Bdays	1	7216697	585569	12.32	<.0001	Days Billed
d10	1	13145197	2294837	5.73	<.0001	Oct
css0804	1	30574932	8723233	3.51	0.0006	
css0809	1	31758140	8876935	3.58	0.0004	
css0810	1	16354649	9129646	1.79	0.0746	

NECo FY10 Deliveries Forecast
Commercial KWh Deliveries Model

The AUTOREG Procedure

Estimates of 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
0	7.089E13	1.000000	||**********
1	2.102E13	0.296492	||******

Preliminary MSE 6.466E13

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.296492	0.064832	-4.57

Yule-Walker Estimates

SSE	1.43288E16	DFE	217
MSE	6.60314E13	Root MSE	8125971
SBC	7950.79912	AIC	7913.07632
Regress R-Square	0.9240	Total R-Square	0.9565
Durbin-Watson	1.8512		

NECo FY10 Deliveries Forecast
Commercial KWh Deliveries Model

The AUTOREG Procedure

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	-3.0454E8	20868599	-14.59	<.0001	
CommEmpl	1	728347	71075	10.25	<.0001	Commercial Empl
CommProd	1	348269064	80405710	4.33	<.0001	Commercial Producti
cdd_49	1	220239	9548	23.07	<.0001	Cooling Degree Days
hdd_49	1	20163	2519	8.00	<.0001	Heating Degree Days
Bdays	1	7094274	558438	12.70	<.0001	Days Billed
d10	1	8558692	1997388	4.28	<.0001	Oct
css0804	1	34655434	7830264	4.43	<.0001	
css0809	1	30392237	8290284	3.67	0.0003	
css0810	1	19431371	8489282	2.29	0.0230	

NECo FY10 Deliveries Forecast
Industrial KWh Deliveries Model

The AUTOREG Procedure

Dependent Variable K_49_I
Industrial KWh

Ordinary Least Squares Estimates

SSE	1.0814E16	DFE	217
MSE	4.98339E13	Root MSE	7059314
SBC	7847.7364	AIC	7813.4869
Regress R-Square	0.6128	Total R-Square	0.6128
Durbin-Watson	1.6041		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	71760539	14930342	4.81	<.0001	
MfgEmpl	1	620497	36335	17.08	<.0001	Mfg Employment
cdd_49	1	28893	5069	5.70	<.0001	Cooling Degree Days
Bdays	1	723583	463323	1.56	0.1198	Days Billed
elecprice	1	-2.0836E8	27180618	-7.67	<.0001	Real Elec Price
css3	1	24627908	7202423	3.42	0.0007	CSS3
d907	1	-20064373	7157277	-2.80	0.0055	
d00m1	1	-14117929	7109270	-1.99	0.0483	Jan00
d00m2	1	19472591	7115845	2.74	0.0067	Feb00
d00m6	1	14822531	7101773	2.09	0.0380	Jun00

NECo FY10 Deliveries Forecast
Industrial KWh Deliveries Model

The AUTOREG Procedure

Estimates of 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
0	4.764E13	1.000000	|********************|
1	8.301E12	0.174248	|*** |

Preliminary MSE 4.619E13

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.174248	0.067000	-2.60

Yule-Walker Estimates

SSE	1.04102E16	DFE	216
MSE	4.81952E13	Root MSE	6942279
SBC	7844.5837	AIC	7806.90925
Regress R-Square	0.5486	Total R-Square	0.6272
Durbin-Watson	1.9316		

NECo FY10 Deliveries Forecast
Industrial KWh Deliveries Model

The AUTOREG Procedure

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	69719322	15121312	4.61	<.0001	
MfgEmpl	1	614213	42619	14.41	<.0001	Mfg Employment
cdd_49	1	28351	5575	5.09	<.0001	Cooling Degree Days
Bdays	1	704992	462950	1.52	0.1293	Days Billed
elecprice	1	-1.8756E8	30192870	-6.21	<.0001	Real Elec Price
css3	1	28808434	6921379	4.16	<.0001	CSS3
d907	1	-16610916	6902336	-2.41	0.0169	
d00m1	1	-14050098	6981253	-2.01	0.0454	Jan00
d00m2	1	20572365	6976549	2.95	0.0035	Feb00
d00m6	1	16577507	6868096	2.41	0.0166	Jun00

NECo FY10 Deliveries Forecast
Streetlighting KWh Deliveries Model

The SYSLIN Procedure
Ordinary Least Squares Estimation

Model	K_49_S
Dependent Variable	K_49_S
Label	Streetlighting KWh

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2.256E14	7.519E13	351.27	<.0001
Error	224	4.795E13	2.141E11		
Corrected Total	227	2.735E14			

Root MSE	462665.001	R-Square	0.82470
Dependent Mean	5395966.63	Adj R-Sq	0.82235
Coeff Var	8.57427		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variable Label
Intercept	1	14438834	300965.6	47.98	<.0001	Intercept
hlight	1	-24049.3	783.1704	-30.71	<.0001	Hours of Daylight
d2	1	-1062332	125122.1	-8.49	<.0001	Feb
d11	1	-607071	123084.8	-4.93	<.0001	Nov

Durbin-Watson	0.85742
Number of Observations	228
First-Order Autocorrelation	0.556421

NECo FY10 Deliveries Forecast
Sales for Resale KWh Deliveries Model

The SYSLIN Procedure
Ordinary Least Squares Estimation

Model	K_49_M
Dependent Variable	K_49_M
Label	Resale KWh

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1.694E10	5.6463E9	15.99	<.0001
Error	224	7.911E10	3.5318E8		
Corrected Total	227	9.605E10			

Root MSE	18793.1130	R-Square	0.17635
Dependent Mean	57398.2763	Adj R-Sq	0.16532
Coeff Var	32.74160		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variable Label
Intercept	1	33977.39	3933.560	8.64	<.0001	Intercept
time	1	1039.450	227.3959	4.57	<.0001	Linear Time Trend
cdd_49	1	47.59162	19.11342	2.49	0.0135	Cooling Degree Days
hdd_49	1	22.51422	4.588815	4.91	<.0001	Heating Degree Days

Durbin-Watson	1.570889
Number of Observations	228
First-Order Autocorrelation	0.181268

NECo FY10 Deliveries Forecast
Residential Customer Model

The AUTOREG Procedure

Dependent Variable C_49_R
Residential Customers

Ordinary Least Squares Estimates

SSE	4885065378	DFE	226
MSE	21615334	Root MSE	4649
SBC	4506.55812	AIC	4499.69943
Regress R-Square	0.8922	Total R-Square	0.8922
Durbin-Watson	0.2188		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	3810	9295	0.41	0.6823	
HHQ	1	1001	23.1441	43.25	<.0001	RI Households

NECo FY10 Deliveries Forecast
Residential Electric Heat Customer Model

The AUTOREG Procedure

Dependent Variable C_49_REH
Residential Customers With Electric Heat

Ordinary Least Squares Estimates

SSE	17016657	DFE	226
MSE	75295	Root MSE	274.39924
SBC	3216.1362	AIC	3209.27751
Regress R-Square	0.8336	Total R-Square	0.8336
Durbin-Watson	0.8079		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	20068	36.4650	550.35	<.0001	
time	1	-111.4837	3.3133	-33.65	<.0001	Linear Time Trend

Estimates of 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
0	74634.5	1.000000	| |**********|
1	44187.3	0.592050	| |********** |

Preliminary MSE 48473.3

NECo FY10 Deliveries Forecast
Residential Electric Heat Customer Model

The AUTOREG Procedure

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.592050	0.053727	-11.02

Yule-Walker Estimates

SSE	11003889.9	DFE	225
MSE	48906	Root MSE	221.14741
SBC	3122.60194	AIC	3112.3139
Regress R-Square	0.5742	Total R-Square	0.8924
Durbin-Watson	2.2811		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	20069	70.9096	283.02	<.0001	
time	1	-111.8638	6.4226	-17.42	<.0001	Linear Time Trend

NECo FY10 Deliveries Forecast
Commercial Customer Model

The AUTOREG Procedure

Dependent Variable C_49_C
Commercial Customers

Ordinary Least Squares Estimates

SSE	555913845	DFE	226
MSE	2459796	Root MSE	1568
SBC	4011.0401	AIC	4004.18141
Regress R-Square	0.9018	Total R-Square	0.9018
Durbin-Watson	0.0872		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	-5064	1190	-4.26	<.0001	
CommEmpl	1	154.9668	3.4020	45.55	<.0001	Commercial Empl

Estimates of 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
0	2438219	1.000000	| |********************|
1	2311833	0.948165	| |******************* |

Preliminary MSE 246220

NECo FY10 Deliveries Forecast
Commercial Customer Model

The AUTOREG Procedure

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.948165	0.021185	-44.76

Yule-Walker Estimates

SSE	47642086.3	DFE	225
MSE	211743	Root MSE	460.15498
SBC	3458.58978	AIC	3448.30174
Regress R-Square	0.2421	Total R-Square	0.9916
Durbin-Watson	2.0717		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	1269	5658	0.22	0.8228	
CommEmpl	1	136.9826	16.1589	8.48	<.0001	Commercial Empl

NECo FY10 Deliveries Forecast
Industrial Customer Model

The AUTOREG Procedure

Dependent Variable C_49_I
Industrial Customers

Ordinary Least Squares Estimates

SSE	1933561.18	DFE	226
MSE	8556	Root MSE	92.49638
SBC	2720.27514	AIC	2713.41645
Regress R-Square	0.6409	Total R-Square	0.6409
Durbin-Watson	0.0604		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	1815	32.3653	56.07	<.0001	
MfgEmpl	1	9.0663	0.4514	20.08	<.0001	Mfg Employment

Estimates of 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
0	8480.5	1.000000	| |**********|
1	8018.5	0.945518	| |********** |

Preliminary MSE 898.9

NECo FY10 Deliveries Forecast
Industrial Customer Model

The AUTOREG Procedure

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.945518	0.021705	-43.56

Yule-Walker Estimates

SSE	120294.192	DFE	225
MSE	534.64085	Root MSE	23.12230
SBC	2094.75216	AIC	2084.46412
Regress R-Square	0.1633	Total R-Square	0.9777
Durbin-Watson	1.9977		

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|	Variable Label
Intercept	1	1716	110.8330	15.49	<.0001	
MfgEmpl	1	10.1114	1.5259	6.63	<.0001	Mfg Employment