OUTLINE OF APPENDIX III

Supplemental Materials for the Demand Forecast Section

Appendix III-1. Summary of Demand Forecasting Framework

	Customer Segment Forecast	**Daily Planning Load Model**
Purpose	Forecast demand for gas on a quarterly basis for the period 2011 Q2 through 2016 Q4 based on projected economic and demographic conditions	Forecast monthly baseload and weather-sensitive components based on regression of daily Planning Load data with historical weather
Periodicity	Quarterly	Daily
Units of Time	Billing quarter/Billing month	Gas day (10:00 am to 10:00 am)
Historical Time Period	2005 Q1 – 2011 Q1 (i.e., 25 quarters)	May 1, 2009 – March 31, 2011 (i.e., 700 days)
Independent Variables Types	Economic, demographic, and weather data	Weather and date/seasonal-related data
Demand Data Detail	Four Customer Segments, Special Contracts, plus Company Use	Planning Load
Demand Data Source	Internal Company monthly reports	Gate station meter reads
Determination of Forecast Demand	Results from (1) number of customers model times (2) use per customer model equals demand	Planning Load Model
Forecast Period	2011/12 – 2015/16 Split Years	Baseload and weather-sensitive components are estimated for each of 12 months and calibrated to 2011/12 – 2015/16 Split Year forecasted Customer Segment Planning Load
Sales Load	Includes all firm sales customers	Includes all firm sales customers
Transportation Load	All firm transportation customers included in models; capacity assigned and capacity exempt and non-capacity assigned transportation separated as post-model adjustment	Includes capacity assigned transportation customers

Appendix III-2. Variable Descriptions – Customer Segment Models

	Variable Prefix	Variable Prefix Description
1	M_ or ME_	Maine Division
2	N_ or NH_	New Hampshire Division

	Variable Name	Variable Description	Source
3	RHC	Residential Heating Number of Customers	Company Records
4	RRC	Residential Non-Heating Number of Customers	Company Records
5	LLFC	C&I LLF Number of Customers	Company Records
6	HLFC	C&I HLF Number of Customers	Company Records
7	RHUPC	Residential Heating Use Per Customer	Company Records
8	RRUPC	Residential Non-Heating Use Per Customer	Company Records
9	LLFUPC	C&I LLF Use Per Customer	Company Records
10	HLFUPC	C&I HLF Use Per Customer	Company Records
11	COUSE	Company Use	Company Records
12	RHNGP	Residential Heating Natural Gas Price (Real 2010$)	Company Records; Global Insight
13	RRNGP	Residential Non-Heating Natural Gas Price (Real 2010$)	Company Records; Global Insight
14	LLFNGP	C&I LLF Natural Gas Price (Real 2010$)	Company Records; Global Insight
15	HLFNGP	C&I HLF Natural Gas Price (Real 2010$)	Company Records; Global Insight
16	EDD	Billing Cycle EDDs (History = Actual, Forecast = 20-Year Normal)	Company Records; Weather Analysis
17	CAL_EDD	Calendar Cycle EDDs (History = Actual, Forecast = 20-Year Normal)	Company Records; Weather Analysis
18	DES_EDD	Billing Cycle EDDs (History = Actual, Forecast = Design)	Company Records; Weather Analysis
19	CAL_DES_EDD	Calendar Cycle EDDs (History = Actual, Forecast = Design)	Company Records; Weather Analysis
20	TRENDQ	Quarterly Trend	Calculated
21	TRENDY	Annual Trend	Calculated
22	Q1	Dummy Variable, Quarter 1	Calculated
23	Q2	Dummy Variable, Quarter 2	Calculated
24	Q3	Dummy Variable, Quarter 3	Calculated
25	Q4	Dummy Variable, Quarter 4	Calculated
26	POP	Total Population (Thousands)	Global Insight
27	POP_L1Q	Total Population (Thousands), Lag 1 Quarter	Global Insight
28	HH	Total Households (Thousands)	Global Insight
29	HH_SIZE	Average Household Size (Persons)	Global Insight; Calculated
30	HSTOCK	Total Housing Stock (Units)	Global Insight
31	HSTARTS	Housing Starts, Total Private (Cumulative)	Global Insight; Calculated
32	HSTARTS_L2Q	Housing Starts, Total Private (Cumulative), Lag 2 Quarters	Global Insight; Calculated
33	HSTARTS_L4Q	Housing Starts, Total Private (Cumulative), Lag 4 Quarters	Global Insight; Calculated

	Variable Name	Variable Description	Source
34	HST_L4Q_ALL	Maine, New Hampshire and Massachusetts Regional – Housing Starts, Total Private, Lag 4 Quarters	Global Insight; Calculated
35	ORIG_NEW	Mortgage Originations – New Homes (Millions $, Cumulative)	Global Insight; Calculated
36	ORIG_N_L1Q	Mortgage Originations – New Homes (Millions $, Cumulative), Lag 1 Quarter	Global Insight; Calculated
37	ORIG_TOTAL	Mortgage Originations – Total (Millions $, Cumulative)	Global Insight; Calculated
38	ORIG_T_L1Q	Mortgage Originations – Total (Millions $, Cumulative), Lag 1 Quarter	Global Insight; Calculated
39	EMP_NF	Total Non-Farm Employment (Thousands)	Global Insight
40	EMP_NM	Total Non-Manufacturing Employment (Thousands)	Global Insight
41	EMP_SERV	Total Service Providing Private Employment (Thousands)	Global Insight
42	EMP_MAN	Total Manufacturing Employment (Thousands)	Global Insight
43	EMP_MAN_L1Q	Total Manufacturing Employment (Thousands), Lag 1 Quarter	Global Insight
44	EMP_MAN_L4Q	Total Manufacturing Employment (Thousands), Lag 4 Quarters	Global Insight
45	HH_INC	Real Household Income (Thousands, 2005$)	Global Insight; Calculated
46	HH_INC_L1Q	Real Household Income (Thousands, 2005$), Lag 1 Quarter	Global Insight; Calculated
47	HH_INC_L4Q	Real Household Income (Thousands, 2005$), Lag 4 Quarters	Global Insight; Calculated
48	IPC	Real Income Per Capita (Thousands, 2005$)	Global Insight
49	IPC_L1Q	Real Income Per Capita (Thousands, 2005$), Lag 1 Quarter	Global Insight
50	IPC_L4Q	Real Income Per Capita (Thousands, 2005$), Lag 4 Quarters	Global Insight
51	SALES	Real Retail Sales (Millions, 2005$)	Global Insight
52	SALES_L1Q	Real Retail Sales (Millions, 2005$), Lag 1 Quarter	Global Insight
53	SALES_L4Q	Real Retail Sales (Millions, 2005$), Lag 4 Quarters	Global Insight
54	GMP	Real Gross Metro Product (Millions, 2005$)	Global Insight
55	GMP_L1Q	Real Gross Metro Product (Millions, 2005$), Lag 1 Quarter	Global Insight
56	GMP_L4Q	Real Gross Metro Product (Millions, 2005$), Lag 4 Quarters	Global Insight
57	GSP	Gross State Product	Global Insight
58	GSP_L1Q	Gross State Product, Lag 1 Quarter	Global Insight
59	GSP_L4Q	Gross State Product, Lag 4 Quarters	Global Insight
60	Various Dummy Variables	Consists of 0s and 1s to represent specific time period (described with each model)	Calculated
61	Various Interaction Variables	Consists of 0s and values of another independent variable (calculated by multiplying a dummy variable times another independent variable) (described with each model)	Calculated

Appendix III-3. Calculation of Billing Cycle EDD Variable

Because demand for natural gas is generally affected by weather, including both temperature and wind speed, use per customer models should include a weather variable that (a) reflects temperature and wind speed and (b) measures weather in a manner that reflects the way that the customer class gas usage data is measured and recorded.

It is common operating practice for gas distribution companies, including Northern, to measure and record gas usage data in "billing months". For that purpose, customers are divided into groups, or billing cycles[1], and each group of billing cycle customers is processed through the Company's billing procedures in succeeding business days throughout the month; distribution companies generally have approximately 20 billing cycles. Because the billing cycle schedules are set to accommodate weekends and holidays, customers in a billing cycle are read at approximately the same time of the month, every month.

As a result of this billing process, most of the gas consumption between meter readings of customers in an early billing cycle (e.g., Cycles 1 or 2) occurs in the prior calendar month; in contrast, most of the gas consumption between meter readings of customers in a later billing cycle (e.g., Cycles 19 or 20) occurs in the current calendar month. "Billing Month deliveries" are the gas deliveries as measured by meter readings and recorded by billing month (which includes consumption in the prior and current calendar month), and "Calendar Month deliveries" are estimated gas deliveries by calendar month.

For Northern's 2011 IRP Customer Segment models, Concentric created billing month and billing quarter EDD variables to be consistent with the Customer Segment data that was provided by the Company in billing months (and summed to billing quarters). Billing month EDD data was derived from daily EDD data[2] by (1) summing the days of consumption that impact metered deliveries in the billing month and (2) developing weighting factors, i.e., Billing Month Percent Factors ("Percent Factors"), based on those sums that relate billing cycle data to calendar consumption. The weighting factors allocate calendar EDD to the days of the month. The Percent Factors for the first and last days in the billing month are relatively small; Percent Factors for days in the middle of the billing month are the largest. Below is an example of the calculation of the Percent Factors that were used to convert weather data from a calendar month basis to a billing month basis for the January billing month:

---

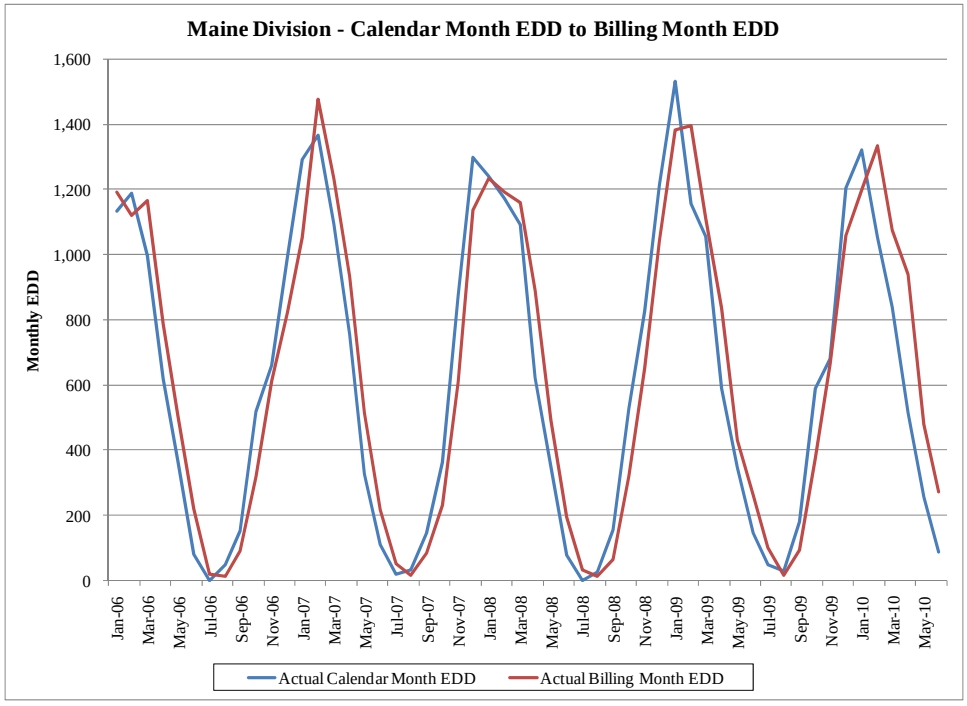
1 Dividing the customers into billing cycles allows for the most efficient use of meter reading and billing systems.

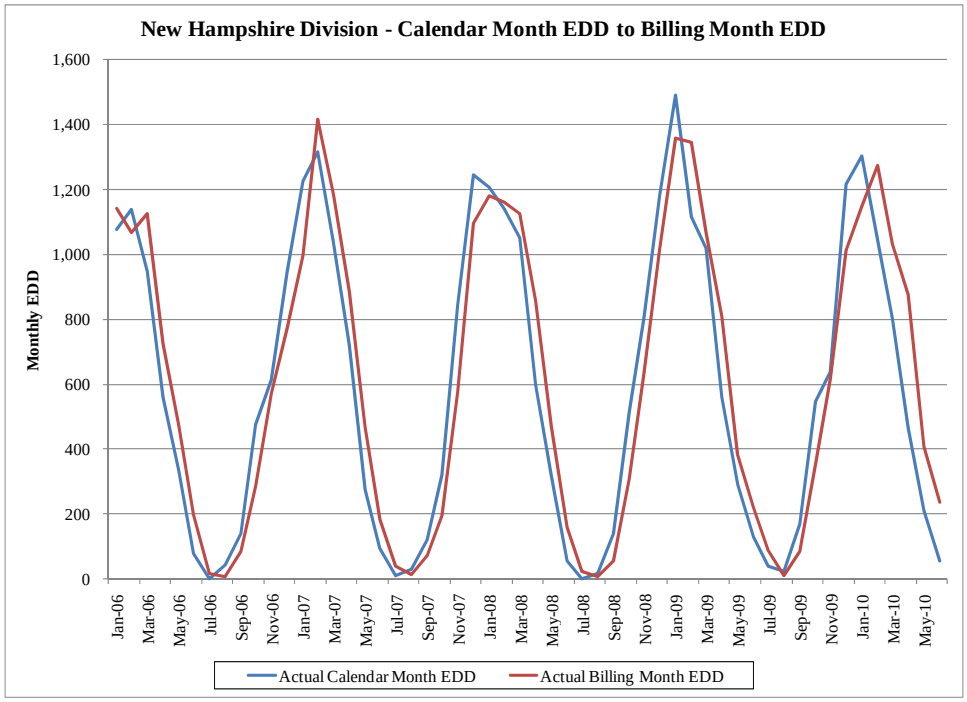
2 Daily EDD data for the period November 1, 1970 to March 31, 2011 was provided by the Company.

	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Days	Percent Factors DEC	JAN	FEB
Prior Month (December)	1	1																															1	97%	3%	
	2	1	1																														2	94%	6%	
	3	1	1	1																													3	90%	10%	
	4	1	1	1	1																												4	87%	13%	
	5	1	1	1	1	1																											5	84%	16%	
	6	1	1	1	1	1	1																										6	81%	19%	
	7	1	1	1	1	1	1	1																									7	77%	23%	
	8	1	1	1	1	1	1	1	1																								8	74%	26%	
	9	1	1	1	1	1	1	1	1	1																							9	71%	29%	
	10	1	1	1	1	1	1	1	1	1	1																						10	68%	32%	
	11	1	1	1	1	1	1	1	1	1	1	1																					11	65%	35%	
	12	1	1	1	1	1	1	1	1	1	1	1	1																				12	61%	39%	
	13	1	1	1	1	1	1	1	1	1	1	1	1	1																			13	58%	42%	
	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1																		14	55%	45%	
	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																	15	52%	48%	
	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																16	48%	52%	
	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1															17	45%	55%	
	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1														18	42%	58%	
	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1													19	39%	61%	
	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1												20	35%	65%	
	21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1											21	32%	68%	
	22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1										22	29%	71%	
	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									23	26%	74%	
	24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1								24	23%	77%	
	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1							25	19%	81%	
	26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						26	16%	84%	
	27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					27	13%	87%	
	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				28	10%	90%	
	29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			29	6%	94%	
	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		30	3%	97%	
	31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	31	0%	100%	
Billing Month (January)	1	R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30		97%	3%
	2		R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29		94%	6%
	3			R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28		90%	10%
	4				R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27		87%	13%
	5					R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26		84%	16%
	6						R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25		81%	19%
	7							R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24		77%	23%
	8								R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23		74%	26%
	9									R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22		71%	29%
	10										R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21		68%	32%
	11											R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20		65%	35%
	12												R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19		61%	39%
	13													R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18		58%	42%
	14														R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17		55%	45%
	15															R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16		52%	48%
	16																R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15		48%	52%
	17																	R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14		45%	55%
	18																		R	1	1	1	1	1	1	1	1	1	1	1	1	1	13		42%	58%
	19																			R	1	1	1	1	1	1	1	1	1	1	1	1	12		39%	61%
	20																				R	1	1	1	1	1	1	1	1	1	1	1	11		35%	65%
	21																					R	1	1	1	1	1	1	1	1	1	1	10		32%	68%
	22																						R	1	1	1	1	1	1	1	1	1	9		29%	71%
	23																							R	1	1	1	1	1	1	1	1	8		26%	74%
	24																								R	1	1	1	1	1	1	1	7		23%	77%
	25																									R	1	1	1	1	1	1	6		19%	81%
	26																										R	1	1	1	1	1	5		16%	84%
	27																											R	1	1	1	1	4		13%	87%
	28																												R	1	1	1	3		10%	90%
	29																													R	1	1	2		6%	94%
	30																														R	1	1		3%	97%
	31																															R	0		0%	100%

A set of Percent Factors was calculated for each of the 12 billing months in a year. For each day in the billing month, the actual daily EDD was multiplied by the corresponding Percent Factor for that day to determine the billing month EDDs. The chart below shows the difference between the actual

calendar month EDDs and the actual billing month EDDs for 2006 through 2010. Normal billing month EDDs were calculated by applying the billing month strings of Percent Factors to Normal daily EDDs.





Appendix III-4. Calculation of Natural Gas Prices

Because economic theory suggests that demand is likely to be influenced by price, natural gas price variables that reflect the price that Northern Utilities' customers in each customer segment pay for gas service were developed to be tested in the use per customer models.

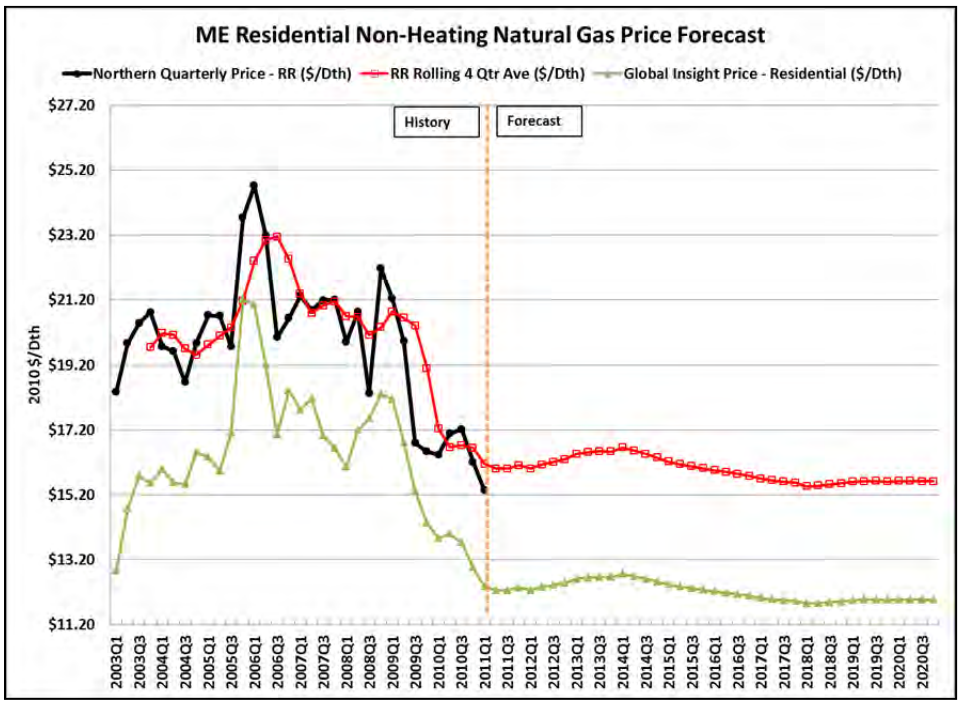
Historical natural gas prices were developed for each Maine and New Hampshire Customer Segment by dividing the quarterly Customer Segment sales revenues by Customer Segment sales demand (dekatherms); the calculated values represent the full cost to customers of gas service "at the burner-tip." Because the full cost of gas service to transportation customers is unknown to Northern, the delivered price to sales customers was used as a proxy for the full cost of service to transportation customers. Nominal historical prices were converted to real 2010 dollars for each Division using the quarterly Consumer Price Index ("CPI") for Maine and New Hampshire, provided by Global Insight, Inc.

To develop forecasted natural gas prices for each Customer Segment, percent changes in the Global Insight forecasted natural gas delivery prices to Maine and New Hampshire customers by quarter from 2011Q2 through 2020Q4 were applied to the rolling four quarter average of historical Northern natural gas prices by Division. Global Insight provided forecasted quarterly delivered natural gas prices in Maine and New Hampshire for three customer sectors: (1) residential, (2) commercial, and (3) industrial. The following Global Insight price forecasts by sector were used to forecast prices for each of Northern's sales Customer Segments.

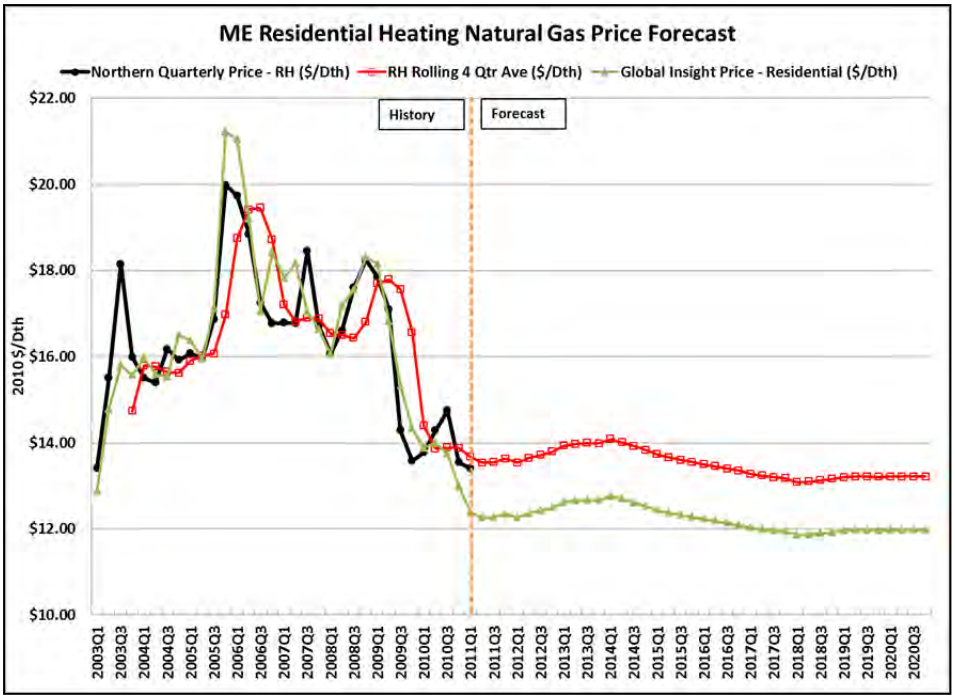
Global Insight Sector	Northern Customer Segment
ME/NH Residential	Residential Heating Residential Non-Heating
ME/NH Commercial	C&I Low Load Factor
ME/NH Industrial	C&I High Load Factor

The use per customer models use natural gas price variables calculated as rolling four quarter averages from the actual and forecasted quarterly natural gas price data. The four quarter average price variable reflects the concept that Northern's customers respond to the cumulative effect of price levels over an extended period of time; customer decisions concerning gas equipment purchases and changes in gas usage behavior appear to be made on the basis of a customer's growing awareness that the current

price of natural gas is different from what gas prices had been in the recent past.[3] The following graphs illustrate the quarterly historical and forecast natural gas prices and the rolling four quarters price variable that was used in the use per customer models.



[3] A price variable that is calculated as rolling four quarter averages also avoids a statistical problem with data known as "simultaneity," which occurs when two variables have an effect on each other at the same time. For example, the price of gas service, measured as average revenues per therm may be generally higher in the summer, and lower in the winter because of the impact of fixed customer charges on the average rate, divided by low delivery quantities in the summer and high delivery quantities in the winter. Simultaneity occurs because in this example, a high price did not cause low usage; rather, a high price was caused by low usage.


ME Residential Heating Natural Gas Price Forecast
Northern Quarterly Price - RH ($/Dth)
RH Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Residential ($/Dth)
History
Forecast
2010 $/Dth
$22.00
$20.00
$18.00
$16.00
$14.00
$12.00
$10.00
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
2009Q1
2009Q3
2010Q1
2010Q3
2011Q1
2011Q3
2012Q1
2012Q3
2013Q1
2013Q3
2014Q1
2014Q3
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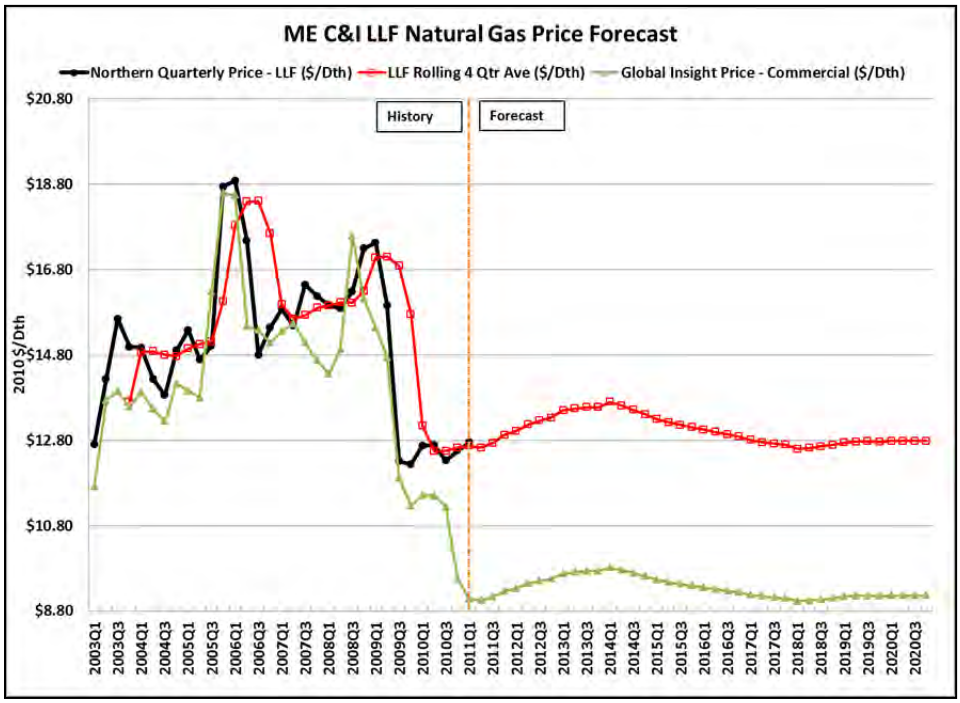
2017Q1
2017Q3
2018Q1
2018Q3
2019Q1
2019Q3
2020Q1
2020Q3


ME C&I LLF Natural Gas Price Forecast
Northern Quarterly Price - LLF ($/Dth)
LLF Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Commercial ($/Dth)
History
Forecast
2010 $/Dth
$20.80
$18.80
$16.80
$14.80
$12.80
$10.80
$8.80
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
2009Q1
2009Q3
2010Q1
2010Q3
2011Q1
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2013Q3
2014Q1
2014Q3
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2017Q1
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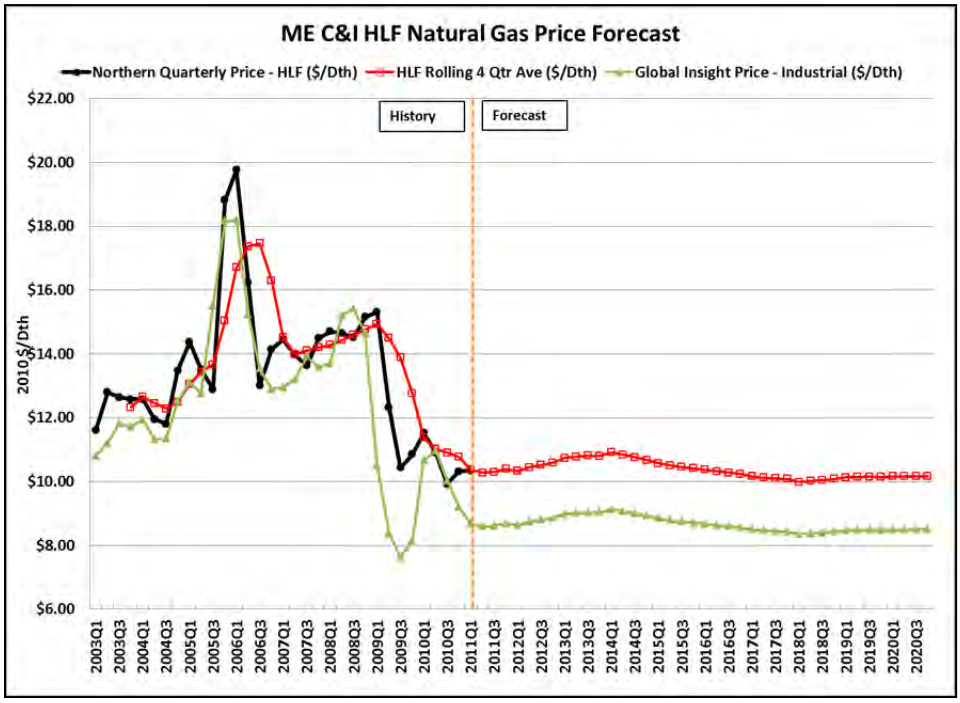
2018Q1
2018Q3
2019Q1
2019Q3
2020Q1
2020Q3


ME C&I HLF Natural Gas Price Forecast
Northern Quarterly Price - HLF ($/Dth)
HLF Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Industrial ($/Dth)
History
Forecast
2010$/Dth
$22.00
$20.00
$18.00
$16.00
$14.00
$12.00
$10.00
$8.00
$6.00
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
2009Q1
2009Q3
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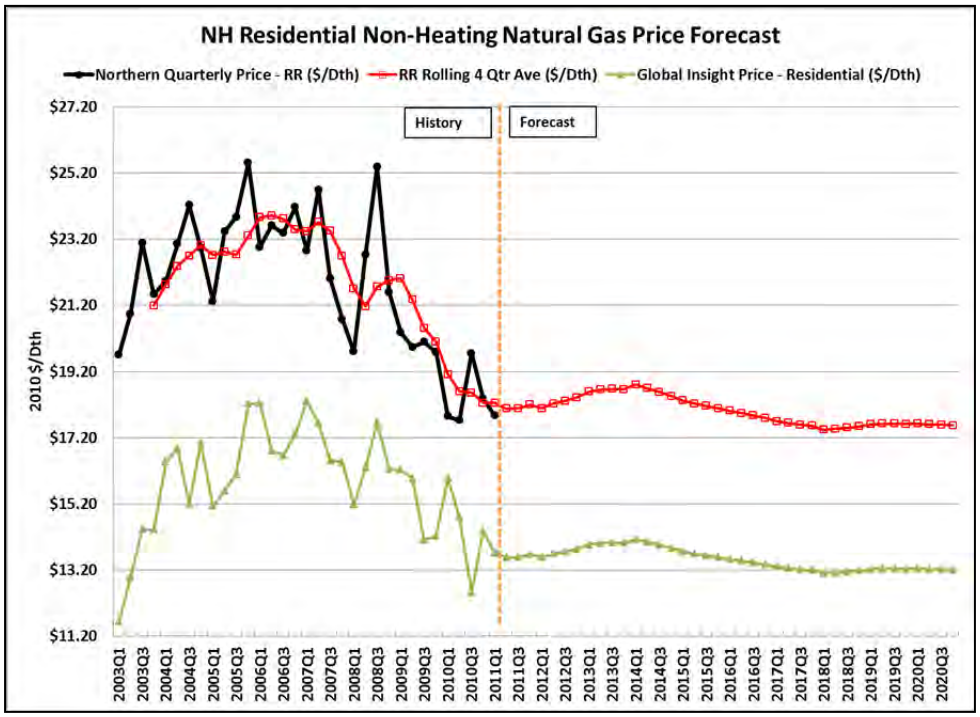
NH Residential Non-Heating Natural Gas Price Forecast
Northern Quarterly Price - RR ($/Dth)
RR Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Residential ($/Dth)
History
Forecast
2010$/Dth
$27.20
$25.20
$23.20
$21.20
$19.20
$17.20
$15.20
$13.20
$11.20
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
2009Q1
2009Q3
2010Q1
2010Q3
2011Q1
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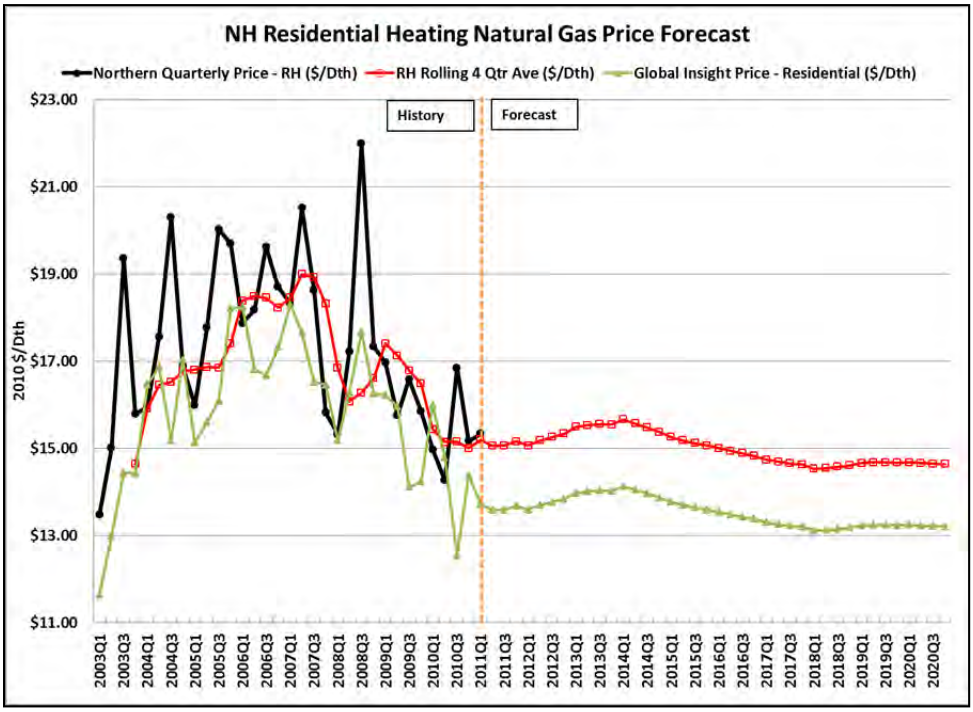
2018Q1
2018Q3
2019Q1
2019Q3
2020Q1
2020Q3


NH Residential Heating Natural Gas Price Forecast
Northern Quarterly Price - RH ($/Dth)
RH Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Residential ($/Dth)
History
Forecast
2010 $/Dth
$23.00
$21.00
$19.00
$17.00
$15.00
$13.00
$11.00
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
2009Q1
2009Q3
2010Q1
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2013Q3
2014Q1
2014Q3
2015Q1
2015Q3
2016Q1
2016Q3
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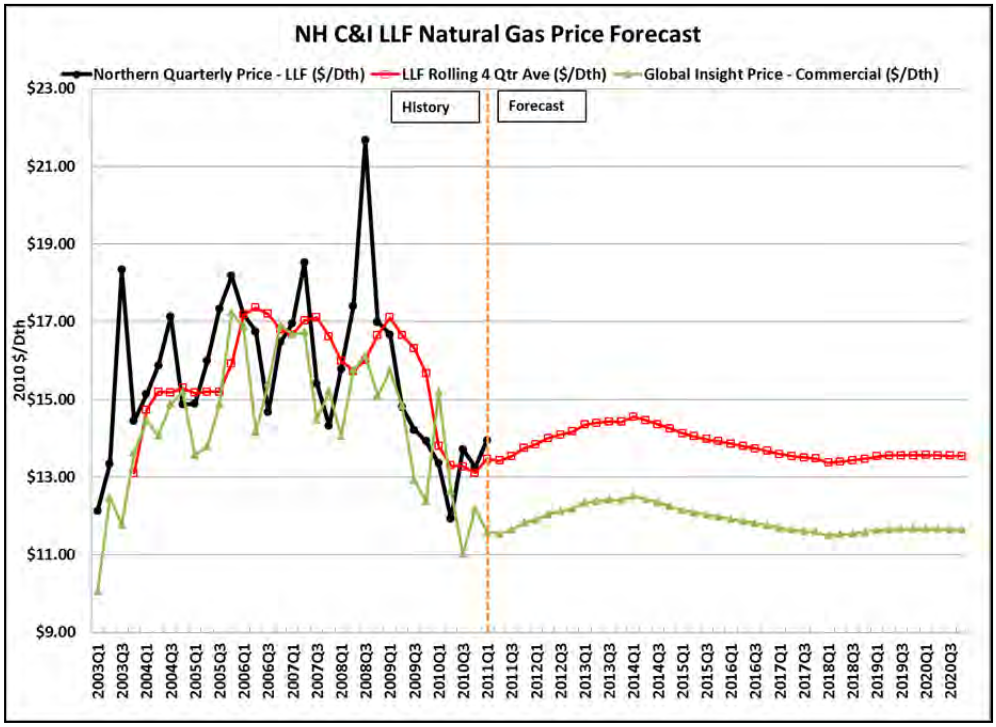
2017Q3
2018Q1
2018Q3
2019Q1
2019Q3
2020Q1
2020Q3


NH C&I LLF Natural Gas Price Forecast
Northern Quarterly Price - LLF ($/Dth)
LLF Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Commercial ($/Dth)
History
Forecast
2010 $/Dth
$23.00
$21.00
$19.00
$17.00
$15.00
$13.00
$11.00
$9.00
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
2009Q1
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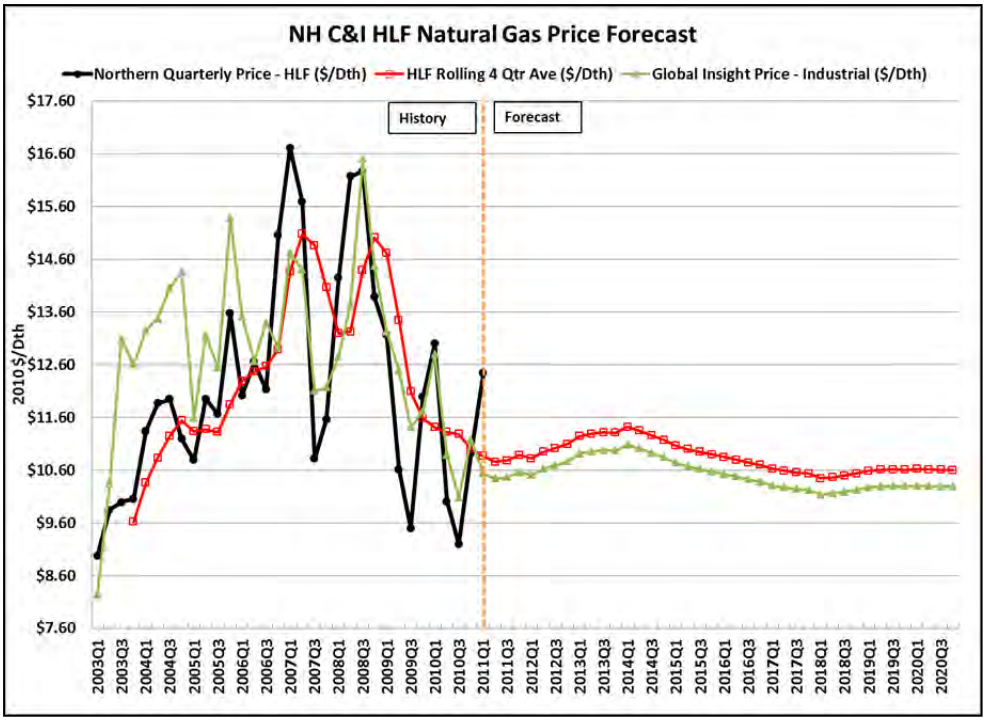
2018Q1
2018Q3
2019Q1
2019Q3
2020Q1
2020Q3


NH C&I HLF Natural Gas Price Forecast
Northern Quarterly Price - HLF ($/Dth)
HLF Rolling 4 Qtr Ave ($/Dth)
Global Insight Price - Industrial ($/Dth)
History
Forecast
2010 $/Dth
$17.60
$16.60
$15.60
$14.60
$13.60
$12.60
$11.60
$10.60
$9.60
$8.60
$7.60
2003Q1
2003Q3
2004Q1
2004Q3
2005Q1
2005Q3
2006Q1
2006Q3
2007Q1
2007Q3
2008Q1
2008Q3
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2014Q3
2015Q1
2015Q3
2016Q1
2016Q3
2017Q1
2017Q3
2018Q1
2018Q3
2019Q1
2019Q3
2020Q1
2020Q3

Appendix III-5. Statistical Techniques and Glossary

Regression modeling techniques were used to generate the demand forecasts for both Divisions. The regression analyses were developed in the PASW/SPSS™ (Release 18.0.0) software package.[4] Regression modeling techniques were used to develop separate Maine and New Hampshire forecasts of (a) number of customers, (b) use per customer for each of the four Customer Segments, as well as demand forecasts for (1) Special Contract customers, (2) Company Use, and (3) Daily Planning Load.

Regression Analysis

Econometrics is the empirical determination of economic laws; it involves the application of statistical techniques and analyses to the study of economic data. A fundamental statistical method of econometrics is regression analysis, which is concerned with the study of the relationship between one variable, i.e., the dependent variable, and one or more other variables, i.e., the independent or explanatory variables. One of the primary uses of regression analysis is to forecast the values of the dependent variable, given forecast values of the independent variables.[5]

Northern forecast models of number of customers, use per customer, or demand, regression equations were developed with appropriate variables, such as weather, natural gas prices, economic data, and dummy variables, etc. Each of the forecast models explains historical values of the dependent variable as a function of historical values of the independent variables; the models produce forecasted values of the dependent variable based on forecasted values of the independent variables.

The forecast models for this IRP were developed using the following process: (a) a statement of the economic theory that the model should be based on was created; (b) appropriate data was collected; (c) mathematical and statistical models were specified; (d) the model parameters were estimated; (e) the accuracy of the model was checked; (f) hypotheses about the model and its parameters were tested; and (g) the models were used to prepare the forecast.[6]

First, based on economic theory and standard utility forecasting practice, independent variables were identified that could have an effect on the dependent variable in each equation, and expectations about the appropriate sign of the coefficients for those variables was determined. For example, the EDD variable is expected to affect use per customer, and the relationship would be expected to be positive (i.e., when EDDs increase, demand should increase, and vice versa). The price variable is also expected to

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4 In 2009, SPSS was acquired by IBM.

5 A glossary of statistical terms can be found at the end of this Appendix.

6 This process was derived from Essentials of Econometrics, Damodar Gujarati, p. 3 (1999 Irwin McGraw-Hill).

affect use per customer and the relationship would be expected to be negative (i.e., when natural gas prices increase, demand should decrease, and vice versa).

For each of the models, after the possible explanatory variables were identified and the data sets were developed, potential regression equations were created to test various combinations of independent variables. Based on: (1) the theoretical relevance and signs of the independent variables; (2) the results of various statistical tests that assess the significance of the independent variables included in the equation; and (3) the explanatory power of the equation as a whole, a preliminary regression equation was identified for each model. If the sign of an independent variable was counter to expectations or if important variables were not significant, either, (a) that model not considered further or (b) modified forms of the model with different variables were considered. The statistical significance of each independent variable was determined by examining the variable t-test values; variables that were significant at the 0.10 level were included in a model.[7] Finally, equations were evaluated based on explanatory power, as determined by the R^2. Models that met all of these criteria were subjected to further testing, for example, for autocorrelation, heteroskedasticity, and stability.

Autocorrelation

Statistical theory requires that the residuals (the "error terms") associated with a regression equation be independent of one another (i.e., there should be no relationship or correlation in the residuals over time).[8] Correlation of residuals over time is known as "autocorrelation". One aspect of time series analysis is to identify and correct for autocorrelation.

Autocorrelation can be present between two consecutive periods (lag 1 or first-order), periods separated by one period (lag 2 or second-order), periods separated by two periods (lag 3 or third-order), etc. The autocorrelation function ("ACF") and partial autocorrelation function ("PACF") values and graphs can be used to test for higher orders of autocorrelation.[9] Advanced statistical packages correct for higher order autocorrelation, based on user inputs.

The forecast models for this IRP were examined for autocorrelation from lag(s) 1 through 8 using the ACF and PACF graphs. If autocorrelation was identified, the appropriate autoregressive terms ("AR") were added to the regression equation to correct for the autocorrelation (e.g., autocorrelation at lag 4 would be corrected by adding an AR4 term to the regression equation). The regression equations

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[7] Depending on specific circumstances, acceptable statistical practice allows for including variables that are not statistically significant in a regression model.

[8] In statistical theory, a regression equation with residuals that are independent of one another equation is efficient. The coefficients of an "efficient" regression equation have the smallest (i.e., minimum) variance.

[9] The presence of autocorrelation is indicated by ACF or PACF values that fall beyond two standard errors.

were re-evaluated after any necessary corrections for autocorrelation were made. If correcting for autocorrelation in residuals decreased an independent variable's t-statistic to the extent that the variable was no longer significant, the equation parameters were re-estimated with the statistically insignificant variables excluded.

Heteroskedasticity

Statistical theory also requires that the residuals associated with a regression equation have constant variance to ensure that the equation is efficient. Non-constant variance is known as "heteroskedasticity". The forecast models for this IRP were tested for heteroskedasticity using White's Test. The White's Test statistic is developed by regressing the squared residuals from the original regression against the original independent variables, the independent variables squared, and the cross products. The R^2 from this regression is multiplied by the number of observations compared against a χ^2 distribution to test for significance; models with White's Test results that were not significant at the 0.01 level were considered to not exhibit heteroskedasticity.

If the overall explanatory power of the model was significantly reduced after correcting for the various statistical issues described above, another preliminary model was examined. This process continued until a model was developed with appropriate statistical properties and explanatory power. Details associated with final model results, including all parameters, residuals, and the results of all the statistical tests described above can be found in Appendices 6, 7, and 8.

Glossary of Statistical Terms[10]

Term	Definition
Adjusted R^2	A measure of the overall goodness of fit for the regression model, taking into account the number of independent variables in the model. Adjusted R^2 ranges from 0 to 1; the closer the Adjusted R^2 value is to 1, the better the fit of the model. Adjusted R^2 can be interpreted as the amount of variability of the dependent variable that is explained by the regression equation, taking into consideration the number of independent variables in the model.
Autocorrelation	A measure of the correlation of the values of a series with the values lagged by 1 or more cases. (Other equivalent terms include: serial correlation)
Autocorrelation Function ("ACF")	A function defined as the autocorrelation of the residuals at various lags; can be shown as a graph.
Correlation	A measure of the degree of relationship between two variables. The value of a correlation can range from -1 to 1, with values close to +/-1 indicating a strong relationship between two variables and a correlation close to 0 indicating no relationship between the variables.
Dependent Variable	A dependent variable is one that is observed to change in response to the independent variables. (Other equivalent terms include: response variable, result variable, outcome variable, endogenous variable, output variable, Y-variable)
Estimate (of the Independent Variable)	A measure of the value of the model parameter (i.e., independent variable). (Other equivalent terms include: coefficient of the independent variable)
F statistic	A measure of whether a regression equation is significant (i.e., whether the set of independent variables in a model explains a significant portion of the variability of the dependent variable). Calculated as the mean-square regression divided by the mean square residuals. The value of the F statistic ranges from zero to positive infinity, with large positive values indicating that the model is significant.
Forecast	The values predicted by the model for the forecast period.
Independent Variable	A variable used to attempt to explain the behavior of another variable (see Dependent Variable) in a regression equation. (Other equivalent terms include: explanatory variable, exogenous variable, external variable, predictor variable, causal variable, input variable, X-variable, regressors)
Model	A specific set of independent variables and their parameters used to explain a dependent variable. (Other equivalent terms include: Equation)
Number of Observations ("N")	The amount of data used to develop the model (i.e., the number of data points that are included for each variable in the model).
Number of Predictors	The amount of independent variables included in the model. Note that Number of Predictors measures the total number of independent variables included in the model, not only the significant independent variables.

[10] These terms are defined as they relate to the econometric/regression analysis used in this IRP.

Term	Definition
Partial Autocorrelation Function ("PACF")	A function defined as the partial autocorrelation of the residuals at various lags. Partial autocorrelation is a measure of the correlation of the values of a series with values lagged by one or more cases, after the effects of correlations at the intervening lags have been removed; can be shown as a graph.
R^2	A measure of the overall goodness of fit for the regression model. R^2 ranges from 0 to 1; the closer the R^2 value is to 1, the better the fit of the model. R^2 can be interpreted as the amount of variability of the dependent variable that is explained by the regression equation.
Residual	The difference between the actual historical values of the dependent variable and the values predicted by the model (i.e., the model fits). (Other equivalent terms include: error, error term)
Root Mean Square Error ("RMSE")	A measure of the variability of the residuals. (Other equivalent terms include: Standard Error of the Regression)
Significance of the t statistic	A measure of the strength (or significance level) of the t statistic. A low value of the significance level of the t statistic is desired, as it indicates the related independent variable is significant in the equation. In general, only independent variables that had t statistics that were significant at the 0.10 level (i.e. less than 0.10) were included in the final equation. (Other equivalent terms include: p-value) Although statistical significance is dependent on the number of observations and number of explanatory variables in the equation, generally, t statistics greater than 2.0 are statistically significant.
Standard Error (of the Estimate of the Independent Variable) ("SE")	A measure of how much the value of a test statistic varies (i.e., the standard deviation of the sampling distribution for a statistic), in this case the Estimate of the Independent Variable.
T statistic	A measure of whether the coefficient for an independent variable is statistically different than zero. Calculated as the Estimate of the Independent Variable divided by its Standard Error. The value of t statistic ranges from negative infinity to positive infinity, with values far from zero indicating that the independent variable is significant in the model. (Other equivalent terms include: t-Statistic, t-Test, Student's t)

Appendix III-6. Maine Division Statistical Results and Models

A. HISTORICAL AND FORECASTED FIRM DEMAND BY SEASON

Index of Tables

	Total Customer Segment	**Sales Plus Capacity Assigned**	**Capacity Exempt and Non-Capacity Assigned Load**
Residential Heating	ME-RH-1 (page Appendix III-20)	Same as Total Customer Segment	*N/A*
Residential Non-Heating	ME-RR-1 (page Appendix III-21)	Same as Total Customer Segment	*N/A*
C&I Low Load Factor	ME-LLF-1 (page Appendix III-22)	ME-LLF-2 (page Appendix III-23)	ME-LLF-3 (page Appendix III-24)
C&I High Load Factor	ME-HLF-1 (page Appendix III-25)	ME-HLF-2 (page Appendix III-26)	ME-HLF-3 (page Appendix III-27)
Special Contracts	ME-SPC-1 (page Appendix III-28)	ME-SPC-2 (page Appendix III-29)	ME-SPC-3 (page Appendix III-30)
Company Use	ME-COUSE-1 (page Appendix III-31)	Same as Total Customer Segment	*N/A*
Energy Efficiency	ME-EE-1 (page Appendix III-32)	ME-EE-2 (page Appendix III-33)	ME-EE-3 (page Appendix III-34)
Marketing Adjustment	ME-MA-1 (page Appendix III-35)	ME-MA-2 (page Appendix III-36)	ME-MA-3 (page Appendix III-37)
Losses and Unbilled Sales	ME-LAUF-1 (page Appendix III-38)	ME-LAUF-2 (page Appendix III-39)	ME-LAUF-3 (page Appendix III-40)
Total Company	ME-TOTAL-1 (page Appendix III-41)	ME-TOTAL-2 (page Appendix III-42)	ME-TOTAL-3 (page Appendix III-43)

Table ME-RH-1[11]

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
RESIDENTIAL HEATING

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL Heating Season	ACTUAL Non-Heating Season	ACTUAL Total Split Year	NORMAL Heating Season	NORMAL Non-Heating Season	NORMAL Total Split Year
2005/06	11,842	617,631	260,040	877,671	636,330	283,360	919,690
2006/07	12,180	628,558	295,497	924,055	642,678	308,600	951,278
2007/08	12,525	654,666	276,272	930,938	654,777	294,199	948,976
2008/09	13,265	724,411	282,569	1,006,980	692,853	288,955	981,808
2009/10	13,676	652,065	259,272	911,337	693,366	326,137	1,019,502
2010/11 [2]	14,024	756,951	322,225	1,079,176	735,362	322,225	1,057,588
CAGR (05/06-10/11)	3.4%	*N/A*	*N/A*	*N/A*	2.9%	2.6%	2.8%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL Heating Season	NORMAL Non-Heating Season	NORMAL Total Split Year	DESIGN 1-in-33 Heating Season	DESIGN 1-in-33 Non-Heating Season	DESIGN 1-in-33 Total Split Year
2011/12	14,155	741,359	326,887	1,068,246	827,152	330,721	1,157,873
2012/13	14,364	749,430	329,778	1,079,209	836,383	333,679	1,170,062
2013/14	14,651	762,332	336,892	1,099,224	850,946	340,875	1,191,821
2014/15	14,975	780,864	347,495	1,128,358	871,389	351,568	1,222,957
2015/16	15,312	800,241	357,227	1,157,468	892,775	361,390	1,254,165
CAGR (11/12-15/16)	2.0%	1.9%	2.2%	2.0%	1.9%	2.2%	2.0%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

[11] The historical Residential Heating customer count growth rate is affected by a shift in the number of customers that occurred in December 2008.

Table ME-RR-1[12]

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
RESIDENTIAL NON-HEATING

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL			NORMAL		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	5,453	34,937	39,307	74,244	35,096	39,307	74,404
2006/07	5,236	34,773	38,429	73,201	34,590	38,429	73,019
2007/08	5,145	35,222	36,175	71,397	35,249	36,175	71,424
2008/09	4,943	43,108	35,798	78,905	38,739	35,798	74,537
2009/10	4,964	49,092	37,702	86,794	51,331	37,702	89,034
2010/11 [2]	4,867	58,177	38,398	96,576	55,185	38,398	93,583
CAGR (05/06-10/11)	-2.2%	*N/A*	*N/A*	*N/A*	9.5%	-0.5%	4.7%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL			DESIGN 1-in-33		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	4,721	52,228	37,234	89,462	60,245	37,234	97,479
2012/13	4,590	49,668	35,959	85,627	57,466	35,959	93,426
2013/14	4,459	47,798	34,945	82,743	55,377	34,945	90,322
2014/15	4,329	47,400	34,162	81,562	54,760	34,162	88,922
2015/16	4,198	46,625	33,270	79,895	53,766	33,270	87,035
CAGR (11/12-15/16)	-2.9%	-2.8%	-2.8%	-2.8%	-2.8%	-2.8%	-2.8%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

[12] The historical Residential Non-Heating demand growth rate is affected by a shift in use per customer that occurred in January 2009.

Table ME-LLF-1[13,14]

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I LOW LOAD FACTOR

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL Heating Season	ACTUAL Non-Heating Season	ACTUAL Total Split Year	NORMAL Heating Season	NORMAL Non-Heating Season	NORMAL Total Split Year
2005/06	5,439	1,818,693	884,241	2,702,935	1,877,673	956,867	2,834,540
2006/07	5,626	1,955,297	948,894	2,904,191	1,988,855	975,367	2,964,222
2007/08	5,661	2,142,543	964,827	3,107,370	2,144,007	1,029,121	3,173,128
2008/09	5,892	2,571,263	1,104,873	3,676,136	2,457,564	1,079,706	3,537,270
2009/10	5,978	2,369,053	995,997	3,365,050	2,503,713	1,226,858	3,730,571
2010/11 [2]	6,051	2,708,816	1,272,032	3,980,847	2,632,785	1,272,032	3,904,817
CAGR (05/06-09/10)	2.2%	*N/A*	*N/A*	*N/A*	7.0%	5.9%	6.6%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL Heating Season	NORMAL Non-Heating Season	NORMAL Total Split Year	DESIGN 1-in-33 Heating Season	DESIGN 1-in-33 Non-Heating Season	DESIGN 1-in-33 Total Split Year
2011/12	6,141	2,615,534	1,277,702	3,893,236	2,904,880	1,290,015	4,194,895
2012/13	6,217	2,636,952	1,284,495	3,921,446	2,929,664	1,296,964	4,226,628
2013/14	6,307	2,670,097	1,303,922	3,974,019	2,967,121	1,316,569	4,283,690
2014/15	6,391	2,712,797	1,330,912	4,043,709	3,013,807	1,343,719	4,357,526
2015/16	6,468	2,752,029	1,352,671	4,104,700	3,056,669	1,365,629	4,422,298
CAGR (10/11-15/16)	1.3%	1.3%	1.4%	1.3%	1.3%	1.4%	1.3%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

[13] The historical C&I LLF customer count growth rate is affected by multiple shifts in the number of customers, the most recent beginning in December 2008.

[14] The historical C&I LLF demand growth rate is affected by a shift in the number of customers and use per customer that occurred in December 2008.

Table ME-LLF-2

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I LOW LOAD FACTOR - SALES PLUS CAPACITY ASSIGNED

Historical Period (Dth)

	ACTUAL			NORMAL [1]		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	1,881,208	405,535	2,286,743	1,798,022	396,298	2,194,320
2009/10	1,695,820	360,697	2,056,517	1,792,213	444,302	2,236,515
2010/11 [2]	1,908,414	474,025	2,382,438	1,854,849	474,025	2,328,873
CAGR (08/09-10/11)	*N/A*	*N/A*	*N/A*	1.6%	9.4%	3.0%

Forecast Period (Dth) [3]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,863,626	466,113	2,329,740	2,102,057	473,838	2,575,895
2012/13	1,862,395	458,346	2,320,741	2,102,202	466,277	2,568,479
2013/14	1,869,051	454,647	2,323,698	2,111,023	462,839	2,573,862
2014/15	1,881,681	453,047	2,334,728	2,125,612	461,528	2,587,140
2015/16	1,891,152	449,356	2,340,508	2,136,688	458,110	2,594,797
CAGR (11/12-15/16)	0.4%	-0.9%	0.1%	0.4%	-0.8%	0.2%

Notes:

[1] Normal demand is allocated based on ratio of actual sales plus capacity assigned to actual C&I LLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-LLF-3

NORTHERN UTILITIES - MAINE DIVISION

FIRM DEMAND BY CUSTOMER SEGMENT

C&I LOW LOAD FACTOR - CAPACITY EXEMPT AND NON-CAPACITY ASSIGNED LOAD

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL [1]		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	690,056	699,338	1,389,393	659,542	683,408	1,342,950
2009/10	673,233	635,300	1,308,533	711,500	782,555	1,494,056
2010/11 [2]	800,402	798,007	1,598,409	777,936	798,007	1,575,943
CAGR (08/09-10/11)	*N/A*	*N/A*	*N/A*	8.6%	8.1%	8.3%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	751,907	811,589	1,563,496	802,823	816,177	1,619,000
2012/13	774,557	826,148	1,600,705	827,462	830,687	1,658,149
2013/14	801,047	849,275	1,650,322	856,098	853,730	1,709,828
2014/15	831,116	877,865	1,708,981	888,196	882,191	1,770,386
2015/16	860,877	903,315	1,764,193	919,982	907,519	1,827,501
CAGR (11/12-15/16)	3.4%	2.7%	3.1%	3.5%	2.7%	3.1%

Notes:

[1] Normal demand is allocated based on ratio of actual capacity exempt and non-capacity assigned load to actual C&I LLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-HLF-1[15]

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I HIGH LOAD FACTOR

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL			NORMAL		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	2,197	1,026,791	1,350,200	2,376,991	1,054,977	1,395,628	2,450,606
2006/07	2,044	1,238,742	1,410,461	2,649,204	1,274,679	1,437,478	2,712,158
2007/08	2,015	1,462,126	1,440,567	2,902,692	1,460,873	1,467,841	2,928,714
2008/09	1,922	1,152,329	1,100,833	2,253,162	1,120,130	1,126,841	2,246,972
2009/10	1,862	1,010,693	1,108,885	2,119,578	1,062,129	1,202,155	2,264,284
2010/11 [2]	1,822	1,175,300	1,219,489	2,394,789	1,156,665	1,219,489	2,376,154
CAGR (05/06-10/11)	-3.7%	*N/A*	*N/A*	*N/A*	1.9%	-2.7%	-0.6%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL			DESIGN 1-in-33		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,829	1,126,354	1,215,290	2,341,644	1,209,694	1,223,530	2,433,224
2012/13	1,838	1,120,514	1,213,456	2,333,970	1,204,203	1,221,763	2,425,966
2013/14	1,852	1,124,406	1,221,837	2,346,243	1,208,791	1,230,191	2,438,982
2014/15	1,859	1,136,691	1,237,415	2,374,106	1,221,423	1,245,793	2,467,216
2015/16	1,863	1,146,507	1,246,981	2,393,487	1,231,472	1,255,368	2,486,840
CAGR (11/12-15/16)	0.5%	0.4%	0.6%	0.5%	0.4%	0.6%	0.5%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

[15] The historical C&I HLF customer count growth rate is affected by a shift in the number of customers that occurred in October 2006.

Table ME-HLF-2

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I HIGH LOAD FACTOR - SALES PLUS CAPACITY ASSIGNED

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL [1]		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	611,392	187,400	798,793	594,308	191,828	786,136
2009/10	505,666	174,446	680,112	531,400	189,119	720,519
2010/11 [2]	598,183	192,009	790,192	588,698	192,009	780,708
CAGR (08/09-10/11)	*N/A*	*N/A*	*N/A*	-0.5%	0.0%	-0.3%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	549,018	184,996	734,014	596,446	186,519	782,964
2012/13	539,053	178,376	717,429	586,143	179,867	766,010
2013/14	534,466	173,213	707,679	581,477	174,669	756,146
2014/15	534,236	168,947	703,183	581,070	170,365	751,435
2015/16	533,011	163,730	696,742	579,607	165,107	744,714
CAGR (11/12-15/16)	-0.7%	-3.0%	-1.3%	-0.7%	-3.0%	-1.2%

Notes:

[1] Normal demand is allocated based on ratio of actual sales plus capacity assigned to actual C&I HLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-HLF-3

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I HIGH LOAD FACTOR - CAPACITY EXEMPT AND NON-CAPACITY ASSIGNED LOAD

Historical Period (Dth)

	ACTUAL			NORMAL [1]		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	540,937	913,432	1,454,369	525,822	935,013	1,460,835
2009/10	505,026	934,440	1,439,466	530,728	1,013,036	1,543,764
2010/11 [2]	577,117	1,027,479	1,604,597	567,967	1,027,479	1,595,446
CAGR (08/09-10/11)	*N/A*	*N/A*	*N/A*	3.9%	4.8%	4.5%

Forecast Period (Dth) [3]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	577,336	1,030,294	1,607,630	613,248	1,037,011	1,650,259
2012/13	581,462	1,035,080	1,616,541	618,060	1,041,897	1,659,956
2013/14	589,940	1,048,624	1,638,563	627,314	1,055,522	1,682,836
2014/15	602,455	1,068,468	1,670,923	640,353	1,075,428	1,715,781
2015/16	613,495	1,083,250	1,696,745	651,865	1,090,261	1,742,126
CAGR (11/12-15/16)	1.5%	1.3%	1.4%	1.5%	1.3%	1.4%

Notes:

[1] Normal demand is allocated based on ratio of actual capacity exempt and non-capacity assigned load to actual C&I HLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-SPC-1

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACTS (COMBINED)

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	381,131	473,883	855,014	390,063	475,859	865,922
2006/07	573,334	462,763	1,036,097	576,497	465,238	1,041,735
2007/08	657,051	479,419	1,136,470	661,647	486,026	1,147,673
2008/09	696,993	504,749	1,201,742	684,934	504,486	1,189,421
2009/10	678,532	482,336	1,160,868	714,428	501,434	1,215,862
2010/11 [1]	706,279	529,487	1,235,766	700,329	529,487	1,229,816
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	12.4%	2.2%	7.3%

Forecast Period (Dth) [2]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	682,222	528,011	1,210,233	724,925	532,002	1,256,927
2012/13	681,234	527,059	1,208,293	723,937	531,050	1,254,987
2013/14	680,769	527,102	1,207,870	723,471	531,093	1,254,565
2014/15	681,421	528,153	1,209,574	724,124	532,144	1,256,268
2015/16	682,017	528,784	1,210,802	724,720	532,776	1,257,496
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-SPC-2

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACTS (COMBINED) - CAPACITY ASSIGNED

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	190,566	0	190,566	195,032	0	195,032
2006/07	286,667	0	286,667	288,249	0	288,249
2007/08	328,526	0	328,526	330,824	0	330,824
2008/09	348,497	0	348,497	342,467	0	342,467
2009/10	339,266	0	339,266	357,214	0	357,214
2010/11 [1]	353,139	0	353,139	350,164	0	350,164
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	12.4%	0.0%	12.4%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	341,111	0	341,111	362,462	0	362,462
2012/13	340,617	0	340,617	361,968	0	361,968
2013/14	340,384	0	340,384	361,736	0	361,736
2014/15	340,710	0	340,710	362,062	0	362,062
2015/16	341,009	0	341,009	362,360	0	362,360
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-SPC-3

NORTHERN UTILITIES - MAINE DIVISION

FIRM DEMAND BY CUSTOMER SEGMENT

SPECIAL CONTRACTS (COMBINED) - CAPACITY EXEMPT AND NON-CAPACITY ASSIGNED LOAD

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	190,566	473,883	664,448	195,032	475,859	670,890
2006/07	286,667	462,763	749,430	288,249	465,238	753,487
2007/08	328,526	479,419	807,945	330,824	486,026	816,850
2008/09	348,497	504,749	853,246	342,467	504,486	846,954
2009/10	339,266	482,336	821,602	357,214	501,434	858,648
2010/11 [1]	353,139	529,487	882,626	350,164	529,487	879,651
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	12.4%	2.2%	5.6%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	341,111	528,011	869,122	362,462	532,002	894,465
2012/13	340,617	527,059	867,676	361,968	531,050	893,019
2013/14	340,384	527,102	867,486	361,736	531,093	892,829
2014/15	340,710	528,153	868,863	362,062	532,144	894,206
2015/16	341,009	528,784	869,793	362,360	532,776	895,136
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-COUSE-1

NORTHERN UTILITIES - MAINE DIVISION

COMPANY USE

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	2,477	716	3,193	2,671	960	3,631
2006/07	2,326	672	2,998	2,480	805	3,285
2007/08	1,638	283	1,921	1,638	461	2,099
2008/09	3,729	2,653	6,382	3,438	2,711	6,149
2009/10	3,792	1,831	5,623	4,165	2,437	6,602
2010/11 [1]	5,003	2,280	7,283	4,815	2,280	7,095
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	12.5%	18.9%	14.3%

Forecast Period (Dth) [2]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	4,878	2,263	7,141	5,619	2,298	7,917
2012/13	4,887	2,256	7,143	5,627	2,291	7,918
2013/14	4,890	2,253	7,143	5,631	2,288	7,919
2014/15	4,892	2,252	7,143	5,632	2,287	7,919
2015/16	4,892	2,251	7,143	5,633	2,286	7,919
CAGR (11/12-15/16)	0.1%	-0.1%	0.0%	0.1%	-0.1%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses, unbilled sales and marketing program.

Table ME-EE-1

NORTHERN UTILITIES - MAINE DIVISION

ENERGY EFFICIENCY SAVINGS

(for Total Company Firm Demand)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	-2,107	-2,107	*N/A*	*N/A*	*N/A*
2011/12	-9,690	-5,938	-15,628	-9,690	-5,938	-15,628
2012/13	-20,899	-9,769	-30,668	-20,899	-9,769	-30,668
2013/14	-32,108	-13,600	-45,708	-32,108	-13,600	-45,708
2014/15	-43,317	-17,430	-60,748	-43,317	-17,430	-60,748
2015/16	-54,439	-21,261	-75,700	-54,439	-21,261	-75,700
CAGR (11/12-15/16)	54.0%	37.6%	48.4%	54.0%	37.6%	48.4%

Notes:

[1] Energy efficiency savings begin in the non-heating season of 2010/11.

Table ME-EE-2

NORTHERN UTILITIES - MAINE DIVISION
ENERGY EFFICIENCY SAVINGS
(for Total Company Sales plus Capacity Assigned)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	-1,200	-1,200	*N/A*	*N/A*	*N/A*
2011/12	-7,686	-3,270	-10,956	-7,764	-3,280	-11,044
2012/13	-16,485	-5,295	-21,780	-16,654	-5,314	-21,968
2013/14	-25,182	-7,275	-32,457	-25,447	-7,303	-32,750
2014/15	-33,775	-9,208	-42,983	-34,138	-9,247	-43,385
2015/16	-42,194	-11,097	-53,291	-42,658	-11,147	-53,804
CAGR (11/12-15/16)	53.1%	35.7%	48.5%	53.1%	35.8%	48.6%

Notes:

[1] Energy efficiency savings begin in the non-heating season of 2010/11.

Table ME-EE-3

NORTHERN UTILITIES - MAINE DIVISION

ENERGY EFFICIENCY SAVINGS

(for Total Company Capacity Exempt and Non-Capacity Assigned Load)

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	-907	-907	*N/A*	*N/A*	*N/A*
2011/12	-2,003	-2,668	-4,672	-1,926	-2,658	-4,584
2012/13	-4,414	-4,474	-8,888	-4,244	-4,455	-8,699
2013/14	-6,926	-6,325	-13,251	-6,661	-6,297	-12,958
2014/15	-9,543	-8,222	-17,765	-9,179	-8,184	-17,363
2015/16	-12,245	-10,164	-22,409	-11,781	-10,114	-21,895
CAGR (11/12-15/16)	57.2%	39.7%	48.0%	57.3%	39.7%	47.8%

Notes:

[1] Energy efficiency savings begin in the non-heating season of 2010/11.

Table ME-MA-1

NORTHERN UTILITIES - MAINE DIVISION
MARKETING PROGRAM ADJUSTMENT
(for Total Company Firm Demand)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	18,417	18,417	*N/A*	*N/A*	*N/A*
2011/12	69,785	65,201	134,985	77,298	65,859	143,157
2012/13	144,760	110,989	255,749	160,051	112,059	272,110
2013/14	219,323	157,234	376,557	242,376	158,714	401,090
2014/15	295,085	205,016	500,101	325,890	206,905	532,795
2015/16	371,041	252,526	623,567	409,581	254,823	664,404
CAGR (11/12-15/16)	51.9%	40.3%	46.6%	51.7%	40.3%	46.8%

Notes:
[1] The marketing program begins in the non-heating season of 2010/11.

Table ME-MA-2

NORTHERN UTILITIES - MAINE DIVISION
MARKETING PROGRAM ADJUSTMENT
(for Total Company Sales plus Capacity Assigned)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	6,768	6,768	*N/A*	*N/A*	*N/A*
2011/12	50,869	24,572	75,441	57,090	24,947	82,038
2012/13	104,686	41,529	146,215	117,276	42,143	159,419
2013/14	157,551	58,162	215,714	176,446	59,018	235,463
2014/15	210,530	74,854	285,385	235,681	75,957	311,638
2015/16	262,973	90,969	353,942	294,317	92,322	386,639
CAGR (11/12-15/16)	50.8%	38.7%	47.2%	50.7%	38.7%	47.3%

Notes:

[1] The marketing program begins in the non-heating season of 2010/11.

Table ME-MA-3

NORTHERN UTILITIES - MAINE DIVISION

MARKETING PROGRAM ADJUSTMENT

(for Total Company Capacity Exempt and Non-Capacity Assigned Load)

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	11,649	11,649	*N/A*	*N/A*	*N/A*
2011/12	18,915	40,629	59,544	20,207	40,912	61,119
2012/13	40,074	69,460	109,534	42,775	69,916	112,691
2013/14	61,772	99,071	160,843	65,930	99,697	165,627
2014/15	84,555	130,161	214,716	90,209	130,948	221,158
2015/16	108,069	161,557	269,625	115,264	162,502	277,766
CAGR (11/12-15/16)	54.6%	41.2%	45.9%	54.5%	41.2%	46.0%

Notes:

[1] The marketing program begins in the non-heating season of 2010/11.

Table ME-LAUF-1

NORTHERN UTILITIES - MAINE DIVISION
LOSSES AND UNBILLED SALES
(for Total Company Firm Demand)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year	Heating	Non-Heating	Total	Heating	Non-Heating	Total
(11/1 - 10/31)	Season	Season	Split Year	Season	Season	Split Year
2005/06	228,518	-72,232	156,286	235,297	-75,680	159,617
2006/07	260,018	-102,393	157,625	265,107	-104,637	160,469
2007/08	373,100	-136,580	236,520	373,472	-141,547	231,926
2008/09	307,168	31,847	339,014	295,680	31,920	327,600
2009/10	212,417	-17,985	194,432	224,275	-20,544	203,731
2010/11 [1]	285,281	-70,533	214,748	278,670	-70,195	208,475

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year	Heating	Non-Heating	Total	Heating	Non-Heating	Total
(11/1 - 10/31)	Season [1]	Season [2]	Split Year	Season [1]	Season [2]	Split Year
2011/12	324,710	-71,496	253,214	356,517	-72,099	284,418
2012/13	329,866	-72,483	257,383	362,437	-73,100	289,336
2013/14	336,686	-74,067	262,620	370,131	-74,699	295,431
2014/15	345,189	-76,087	269,102	379,480	-76,734	302,746
2015/16	353,369	-77,839	275,530	388,483	-78,500	309,983

Notes:

[1] Heating season losses and unbilled sales assumed to be 6.15% in the forecast period.

[2] Non-heating season losses and unbilled sales assumed to be -2.07% in the forecast period.

Table ME-LAUF-2

NORTHERN UTILITIES - MAINE DIVISION
LOSSES AND UNBILLED SALES
(for Total Company Sales plus Capacity Assigned)

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	213,719	9,601	223,321	205,288	9,619	214,906
2009/10	144,742	-5,197	139,546	152,947	-6,230	146,718
2010/11 [1]	194,028	-21,459	172,569	189,241	-21,344	167,897

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season [1]	Non-Heating Season [2]	Total Split Year	Heating Season [1]	Non-Heating Season [2]	Total Split Year
2011/12	220,999	-21,548	199,451	246,072	-21,828	224,244
2012/13	223,387	-21,593	201,794	248,967	-21,882	227,085
2013/14	226,893	-21,840	205,053	253,072	-22,140	230,931
2014/15	231,518	-22,228	209,290	258,289	-22,540	235,749
2015/16	235,893	-22,521	213,371	263,232	-22,846	240,386

Notes:

[1] Heating season losses and unbilled sales assumed to be 6.15% in the forecast period.

[2] Non-heating season losses and unbilled sales assumed to be -2.07% in the forecast period.

Table ME-LAUF-3

NORTHERN UTILITIES - MAINE DIVISION

LOSSES AND UNBILLED SALES

(for Total Company Capacity Exempt and Non-Capacity Assigned Load)

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	93,448	22,245	115,694	90,392	22,302	112,694
2009/10	67,674	-12,788	54,886	71,327	-14,314	57,013
2010/11 [1]	91,252	-49,073	42,179	89,429	-48,851	40,578

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season [1]	Non-Heating Season [2]	Total Split Year	Heating Season [1]	Non-Heating Season [2]	Total Split Year
2011/12	103,711	-49,948	53,764	110,445	-50,271	60,174
2012/13	106,479	-50,890	55,589	113,470	-51,218	62,252
2013/14	109,794	-52,227	57,566	117,059	-52,559	64,500
2014/15	113,671	-53,859	59,811	121,191	-54,193	66,998
2015/16	117,476	-55,318	62,158	125,251	-55,654	69,597

Notes:

[1] Heating season losses and unbilled sales assumed to be 6.15% in the forecast period.

[2] Non-heating season losses and unbilled sales assumed to be -2.07% in the forecast period.

Table ME-TOTAL-1

NORTHERN UTILITIES - MAINE DIVISION

TOTAL COMPANY - FIRM THROUGHPUT

(includes Company Use, Forecasted Energy Efficiency Savings, Losses and Unbilled Sales and Marketing Program)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	4,110,177	2,936,156	7,046,333	4,232,108	3,076,301	7,308,409
2006/07	4,693,048	3,054,324	7,747,372	4,784,886	3,121,279	7,906,165
2007/08	5,326,346	3,060,964	8,387,310	5,331,663	3,172,276	8,503,939
2008/09	5,499,001	3,063,320	8,562,321	5,293,338	3,070,418	8,363,756
2009/10	4,975,643	2,868,039	7,843,682	5,253,407	3,276,179	8,529,586
2010/11 [1]	5,695,806	3,329,687	9,025,493	5,563,811	3,313,716	8,877,527
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	5.6%	1.5%	4.0%

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	5,607,380	3,375,153	8,982,533	6,156,639	3,403,622	9,560,262
2012/13	5,696,412	3,421,740	9,118,152	6,258,869	3,450,896	9,709,766
2013/14	5,814,193	3,496,518	9,310,711	6,391,735	3,526,378	9,918,113
2014/15	5,961,021	3,591,887	9,552,907	6,553,189	3,622,414	10,175,602
2015/16	6,102,283	3,674,609	9,776,892	6,708,661	3,705,782	10,414,442
CAGR (11/12-15/16)	2.1%	2.1%	2.1%	2.2%	2.1%	2.2%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

Table ME-TOTAL-2

NORTHERN UTILITIES - MAINE DIVISION

TOTAL COMPANY - PLANNING LOAD

(includes Company Use, Forecasted Energy Efficiency Savings, Losses and Unbilled Sales and Marketing Program)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	3,826,064	923,556	4,749,620	3,675,115	925,208	4,600,323
2009/10	3,390,444	828,751	4,219,195	3,582,637	993,467	4,576,104
2010/11 [1]	3,873,895	1,013,045	4,886,940	3,778,315	1,007,593	4,785,908
CAGR (08/09-10/11)	*N/A*	*N/A*	*N/A*	1.4%	4.4%	2.0%

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	3,816,402	1,017,247	4,833,649	4,249,380	1,030,449	5,279,829
2012/13	3,857,638	1,019,357	4,876,995	4,299,379	1,033,019	5,332,398
2013/14	3,918,183	1,030,998	4,949,181	4,370,260	1,045,191	5,415,451
2014/15	3,998,056	1,049,321	5,047,377	4,460,357	1,064,079	5,524,436
2015/16	4,073,602	1,063,184	5,136,786	4,545,720	1,078,492	5,624,212
CAGR (11/12-15/16)	1.6%	1.1%	1.5%	1.7%	1.1%	1.6%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

Table ME-TOTAL-3

NORTHERN UTILITIES - MAINE DIVISION
TOTAL COMPANY - CAPACITY EXEMPT AND NON-CAPACITY ASSIGNED LOAD
(includes Forecasted Energy Efficiency Savings, Losses and Unbilled Sales and Marketing Program)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	1,672,937	2,139,764	3,812,702	1,618,223	2,145,210	3,763,432
2009/10	1,585,199	2,039,288	3,624,487	1,670,770	2,282,712	3,953,481
2010/11 [1]	1,821,911	2,316,642	4,138,553	1,785,496	2,306,123	4,091,619
CAGR (08/09-10/11)	*N/A*	*N/A*	*N/A*	5.0%	3.7%	4.3%

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,790,978	2,357,906	4,148,884	1,907,260	2,373,173	4,280,433
2012/13	1,838,774	2,402,383	4,241,157	1,959,490	2,417,877	4,377,367
2013/14	1,896,009	2,465,520	4,361,529	2,021,476	2,481,186	4,502,662
2014/15	1,962,964	2,542,566	4,505,530	2,092,832	2,558,334	4,651,166
2015/16	2,028,681	2,611,425	4,640,106	2,162,941	2,627,290	4,790,230
CAGR (11/12-15/16)	3.2%	2.6%	2.8%	3.2%	2.6%	2.9%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

B. QUARTERLY DEMAND FORECAST MODELS – DETAILED STATISTICAL RESULTS

1. Customer Segment: Residential Heating – Maine Division

a) Residential Heating Customer Model – Maine Division

(1) Model Statistics – RHC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_RHC-Model_1	9	.990	104.677

ARIMA Model Parameters

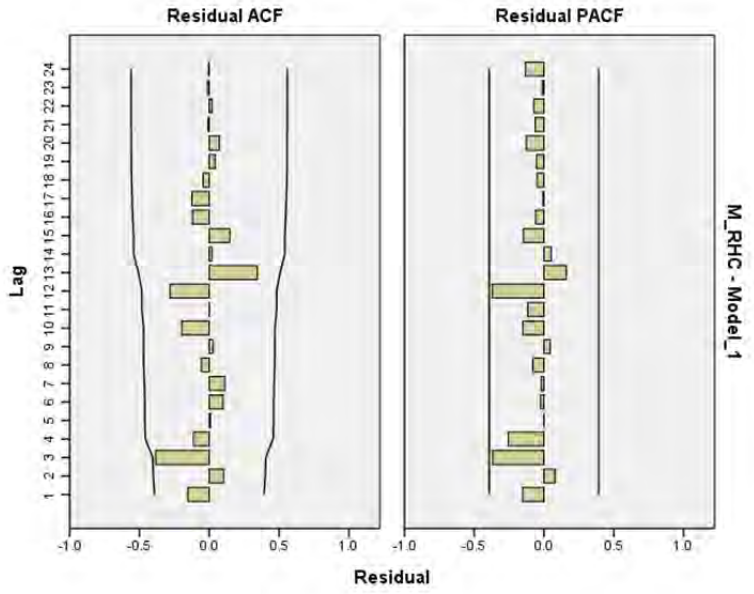
			Estimate	SE	t	Sig.
M_RHC-Model_1	M_RHC	Constant	11442.735	96.854	118.145	.000
	Q2		-355.763	61.747	-5.762	.000
	Q3		-581.588	61.187	-9.505	.000
	Q4		-246.478	58.730	-4.197	.001
	M_HST_L2Q		.026	.001	20.472	.000
	D05Q4_07Q2		-584.259	58.308	-10.020	.000
	D07Q3_08Q1		-705.422	74.952	-9.412	.000
	D08Q2_08Q3		-603.505	89.516	-6.742	.000
	D08Q4_09Q1		-304.258	91.698	-3.318	.005
	D10Q2A		274.470	77.117	3.559	.003

Variable Definitions:

Q2	Dummy Variable: Quarter 2
Q3	Dummy Variable: Quarter 3
Q4	Dummy Variable: Quarter 4
M_HST_L2Q	Maine Division - Total Cumulative Housing Starts (Units) - Lagged 2 Quarters
D05Q4_07Q2	Dummy Variable: 2005 Q4 to 2007 Q2
D07Q3_08Q1	Dummy Variable: 2007 Q3 to 2008 Q1
D08Q2_08Q3	Dummy Variable: 2008 Q2 to 2008 Q3
D08Q4_09Q1	Dummy Variable: 2008 Q4 to 2009 Q1
D10Q2A	Dummy Variable: 2010 Q2 and Beyond

N	25
Adjusted R^2	0.984
F statistic	162.897
White Stat	2.961
White Significance (p-value)	0.227

(2) ACF/PACF Graphs – RHC – Maine Division



(3) Actual, Fitted, and Forecasted Values – RHC – Maine Division

YRQTR	Actual	Fitted
2005Q1	12,048	12,089
2005Q2	11,901	11,838
2005Q3	11,664	11,769
2005Q4	11,842	11,646
2006Q1	12,036	12,013
2006Q2	11,854	11,775
2006Q3	11,636	11,700
2006Q4	11,975	12,151
2007Q1	12,431	12,491
2007Q2	12,243	12,241
2007Q3	12,069	11,998
2007Q4	12,383	12,428
2008Q1	12,729	12,755
2008Q2	12,525	12,576
2008Q3	12,463	12,412
2008Q4	12,974	13,092
2009Q1	13,499	13,381
2009Q2	13,361	13,364
2009Q3	13,225	13,171
2009Q4	13,606	13,540
2010Q1	13,797	13,830
2010Q2	13,697	13,786
2010Q3	13,602	13,607
2010Q4	14,068	13,991
2011Q1	14,297	14,280

YRQTR	Forecasted
2011Q2	13,964
2011Q3	13,768
2011Q4	14,142
2012Q1	14,429
2012Q2	14,115
2012Q3	13,935
2012Q4	14,321
2013Q1	14,626
2013Q2	14,334
2013Q3	14,177
2013Q4	14,585
2014Q1	14,907
2014Q2	14,629
2014Q3	14,483
2014Q4	14,899
2015Q1	15,229
2015Q2	14,957
2015Q3	14,815
2015Q4	15,235
2016Q1	15,566
2016Q2	15,294
2016Q3	15,153
2016Q4	15,573

b) Residential Heating Use Per Customer Model – Maine Division

(1) Model Statistics – RHUPC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_RHUPC-Model_1	6	.999	.496

ARIMA Model Parameters

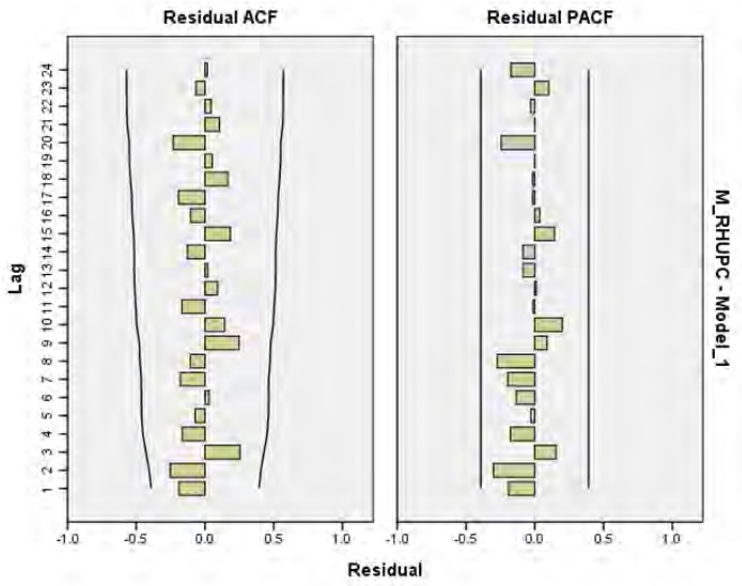
			Estimate	SE	t	Sig.
M_RHUPC-Model_1	M_RHUPC	Constant	7.410	1.051	7.049	.000
		AR Lag 1	-.458	.230	-1.991	.063
		M_EDD	.009	.000	127.852	.000
		M_RHNGP	-.282	.071	-3.951	.001
		D05Q1_07Q4	1.866	.280	6.677	.000
		Q2	-3.426	.384	-8.916	.000
		Q4	-4.689	.380	-12.331	.000
		D08Q2_09Q3	.904	.294	3.076	.007

Variable Definitions:

AR Lag 1	Autoregressive Term Lag 1
M_EDD	Maine Division - Billing Cycle EDD
M_RHNGP	Maine Division - Residential Heating Natural Gas Price (Real 2010$)
D05Q1_07Q4	Dummy Variable: 2005 Q1 to 2007 Q4
Q2	Dummy Variable: Quarter 2
Q4	Dummy Variable: Quarter 4
D08Q2_09Q3	Dummy Variable: 2008 Q2 to 2009 Q3

N	25
Adjusted R^2	0.998
F statistic	2204.091
White Stat	1.452
White Significance (p-value)	0.484

(2) ACF/PACF Graphs – RHUPC – Maine Division



(3) Actual, Fitted, and Forecasted Values – RHUPC – Maine Division

YRQTR	Actual	Fitted
2005Q1	41.1	40.7
2005Q2	17.4	17.4
2005Q3	5.6	5.7
2005Q4	18.4	17.6
2006Q1	35.6	35.5
2006Q2	14.1	14.4
2006Q3	5.2	5.0
2006Q4	15.7	15.2
2007Q1	38.1	38.8
2007Q2	16.6	16.8
2007Q3	5.4	5.8
2007Q4	18.1	18.2
2008Q1	36.0	35.5
2008Q2	14.8	14.5
2008Q3	4.7	4.7
2008Q4	17.2	17.4
2009Q1	39.6	39.1
2009Q2	13.4	13.6
2009Q3	5.2	5.5
2009Q4	15.6	15.7
2010Q1	34.3	35.1
2010Q2	12.3	11.9
2010Q3	4.5	3.9
2010Q4	16.2	17.0
2011Q1	39.1	38.9

YRQTR	Forecasted
2011Q2	15.4
2011Q3	4.9
2011Q4	17.8
2012Q1	36.7
2012Q2	15.6
2012Q3	4.8
2012Q4	17.8
2013Q1	36.6
2013Q2	15.5
2013Q3	4.7
2013Q4	17.7
2014Q1	36.5
2014Q2	15.5
2014Q3	4.7
2014Q4	17.8
2015Q1	36.6
2015Q2	15.6
2015Q3	4.8
2015Q4	17.8
2016Q1	36.7
2016Q2	15.7
2016Q3	4.9
2016Q4	17.9

2. Customer Segment: Residential Non-Heating – Maine Division

a) Residential Non-Heating Customer Model – Maine Division

(1) Model Statistics – RRC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_RRC-Model_1	4	.986	32.583

ARIMA Model Parameters

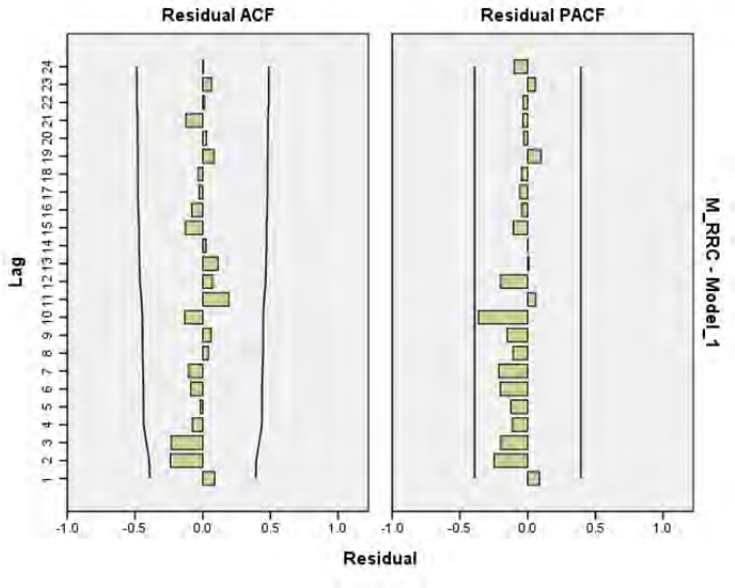
			Estimate	SE	t	Sig.
M_RRC-Model_1	M_RRC	Constant	5800.393	19.018	305.000	.000
	TRENDQ		-32.646	.914	-35.735	.000
	Q1		55.026	14.669	3.751	.001
	D06_Q4		-118.563	33.922	-3.495	.002
	I_06Q1_09Q3		-7.034	.768	-9.158	.000

Variable Definitions:

TRENDQ	Quarterly Trend
Q1	Dummy Variable: Quarter 1
D06_Q4	Dummy Variable: 2006 Q4
I_06Q1_09Q3	Interaction Term: Quarterly Trend x 2006 Q1 to 2009 Q3

N	25
Adjusted R^2	0.983
F statistic	352.508
White Stat	1.305
White Significance (p-value)	0.521

(2) ACF/PACF Graphs – RRC – Maine Division



(3) Actual, Fitted, and Forecasted Values – RRC – Maine Division

YRQTR	Actual	Fitted
2005Q1	5,695	5,692
2005Q2	5,641	5,605
2005Q3	5,552	5,572
2005Q4	5,520	5,539
2006Q1	5,505	5,498
2006Q2	5,441	5,404
2006Q3	5,344	5,364
2006Q4	5,206	5,206
2007Q1	5,298	5,340
2007Q2	5,244	5,245
2007Q3	5,198	5,205
2007Q4	5,133	5,166
2008Q1	5,213	5,181
2008Q2	5,151	5,086
2008Q3	5,083	5,046
2008Q4	4,969	5,007
2009Q1	4,995	5,022
2009Q2	4,898	4,927
2009Q3	4,911	4,888
2009Q4	4,991	5,017
2010Q1	5,031	5,039
2010Q2	4,956	4,952
2010Q3	4,880	4,919
2010Q4	4,915	4,886
2011Q1	4,944	4,909

YRQTR	Forecasted
2011Q2	4,821
2011Q3	4,788
2011Q4	4,756
2012Q1	4,778
2012Q2	4,690
2012Q3	4,658
2012Q4	4,625
2013Q1	4,648
2013Q2	4,560
2013Q3	4,527
2013Q4	4,495
2014Q1	4,517
2014Q2	4,429
2014Q3	4,397
2014Q4	4,364
2015Q1	4,386
2015Q2	4,299
2015Q3	4,266
2015Q4	4,233
2016Q1	4,256
2016Q2	4,168
2016Q3	4,135
2016Q4	4,103

b) Residential Non-Heating Use Per Customer Model – Maine Division

(1) Model Statistics – RRUPC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_RRUPC-Model_1	8	.994	.128

ARIMA Model Parameters

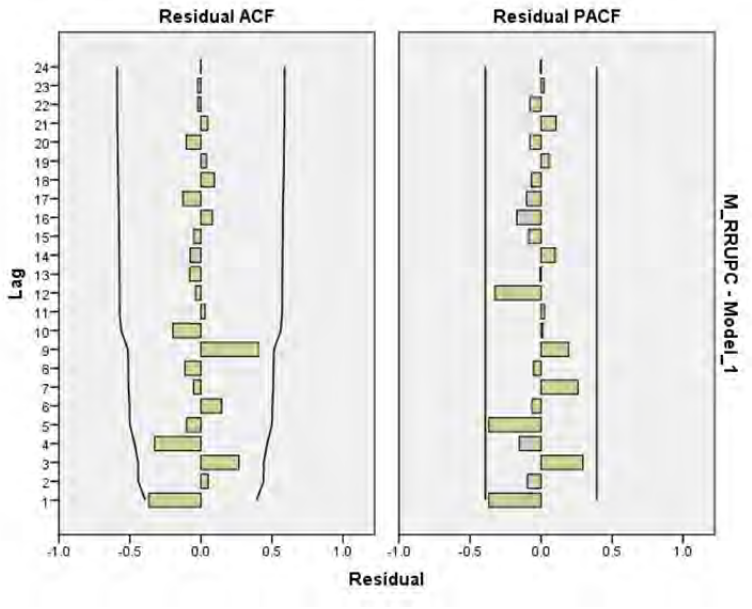
		Estimate	SE	t	Sig.
M_RRUPC-Model_1	M_RRUPC Constant	5.054	.382	13.225	.000
	Q3	-.714	.093	-7.659	.000
	Q1XM_EDD	.000	.000	9.825	.000
	M_RRNGP	-.069	.019	-3.695	.002
	I_08Q3_After	-.377	.114	-3.316	.004
	I_05Q4_08Q4XQ4	-.415	.085	-4.912	.000
	I09Q1_AfterXQ1XEDDs	.003	.000	12.273	.000
	I09Q1_AfterXQ1XNGP	-.446	.046	-9.729	.000
	I09Q4_AfterXQ4XNGP	.022	.006	3.546	.003

Variable Definitions:

Q3	Dummy Variable: Quarter 3
Q1XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 1
M_RRNGP	Maine - Residential Non-Heating Natural Gas Price (Real 2010$)
I_08Q3_After	Interaction Term: Quarter 3 x 2008 Q3 and Beyond
I_05Q4_08Q4XQ4	Interaction Term: Quarter 4 x 2005 Q4 to 2008 Q4
I09Q1_AfterXQ1XEDDs	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 1 x 2009 Q1 and Beyond
I09Q1_AfterXQ1XNGP	Interaction Term: Maine - Residential Non-Heating Natural Gas Price (Real 2010$) x Quarter 1 x 2009 Q1 and Beyond
I09Q4_AfterXQ4XNGP	Interaction Term: Maine - Residential Non-Heating Natural Gas Price (Real 2010$) x Quarter 4 x 2009 Q4 and Beyond

N	25
Adjusted R^2	0.991
F statistic	346.292
White Stat	2.440
White Significance (p-value)	0.295

(2) ACF/PACF Graphs – RRUPC – Maine Division



(3) Actual, Fitted, and Forecasted Values – RRUPC – Maine Division

YRQTR	Actual	Fitted
2005Q1	4.5	4.6
2005Q2	3.6	3.7
2005Q3	2.9	2.9
2005Q4	3.1	3.2
2006Q1	4.2	4.3
2006Q2	3.5	3.5
2006Q3	2.8	2.7
2006Q4	3.2	3.1
2007Q1	4.4	4.4
2007Q2	3.6	3.6
2007Q3	2.8	2.9
2007Q4	3.1	3.2
2008Q1	4.6	4.4
2008Q2	3.5	3.6
2008Q3	2.7	2.6
2008Q4	3.4	3.2
2009Q1	6.2	6.2
2009Q2	3.6	3.6
2009Q3	2.7	2.6
2009Q4	4.1	4.2
2010Q1	6.7	6.7
2010Q2	4.1	3.9
2010Q3	2.6	2.8
2010Q4	4.4	4.3
2011Q1	8.4	8.4

YRQTR	Forecasted
2011Q2	4.0
2011Q3	2.9
2011Q4	4.3
2012Q1	7.8
2012Q2	3.9
2012Q3	2.8
2012Q4	4.3
2013Q1	7.6
2013Q2	3.9
2013Q3	2.8
2013Q4	4.3
2014Q1	7.5
2014Q2	3.9
2014Q3	2.8
2014Q4	4.3
2015Q1	7.7
2015Q2	3.9
2015Q3	2.9
2015Q4	4.3
2016Q1	7.9
2016Q2	4.0
2016Q3	2.9
2016Q4	4.3

3. Customer Segment: C&I Low Load Factor – Maine Division

a) C&I LLF Customer Model – Maine Division

(1) Model Statistics – LLFC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_LLFC-Model_1	8	.990	35.768

ARIMA Model Parameters

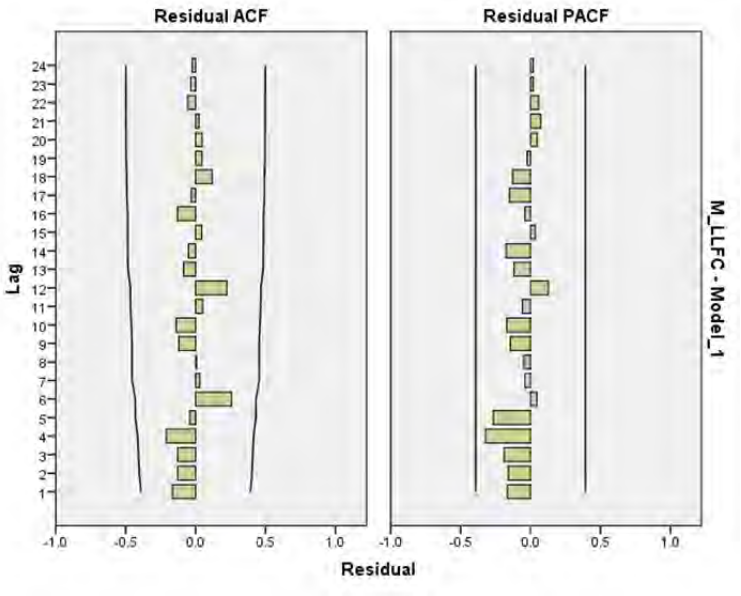
		Estimate	SE	t	Sig.
M_LLFC-Model_1	M_LLFC Constant	209.120	1758.276	.119	.907
	M_EMP_NM	17.925	6.285	2.852	.012
	Q3	-121.045	18.058	-6.703	.000
	I09Q1_AfterXEMP_NM	2.899	.079	36.870	.000
	Q2	-86.402	18.061	-4.784	.000
	D09Q1	-104.551	39.715	-2.633	.018
	D07Q3_07Q4	-92.547	30.580	-3.026	.008
	I07Q1_08Q4XEMP_NM	1.326	.176	7.549	.000
	I06Q1_06Q4XEMP_NM	.999	.113	8.872	.000

Variable Definitions:

M_EMP_NM	Maine Division - Total Non-manufacturing Employment (Thousands)
Q3	Dummy Variable: Quarter 3
I09Q1_AfterXEMP_NM	Interaction Term: Maine Division - Total Non-manufacturing Employment (Thousands) x 2009 Q1 and Beyond
Q2	Dummy Variable: Quarter 2
D09Q1	Dummy Variable: 2009 Q1
D07Q3_07Q4	Dummy Variable: 2007 Q3 to 2007 Q4
I07Q1_08Q4XEMP_NM	Interaction Term: Maine Division - Total Non-manufacturing Employment (Thousands) x 2007 Q1 and 2008 Q4
I06Q1_06Q4XEMP_NM	Interaction Term: Maine Division - Total Non-manufacturing Employment (Thousands) x 2006 Q1 and 2006 Q4

N	25
Adjusted R^2	0.985
F statistic	204.884
White Stat	2.373
White Significance (p-value)	0.305

(2) ACF/PACF Graphs – LLFC – Maine Division



(3) Actual, Fitted, and Forecasted Values – LLFC – Maine Division

YRQTR	Actual	Fitted
2005Q1	5,176	5,200
2005Q2	5,113	5,130
2005Q3	5,078	5,114
2005Q4	5,323	5,246
2006Q1	5,526	5,536
2006Q2	5,483	5,475
2006Q3	5,423	5,438
2006Q4	5,607	5,590
2007Q1	5,697	5,716
2007Q2	5,632	5,613
2007Q3	5,567	5,528
2007Q4	5,625	5,664
2008Q1	5,729	5,763
2008Q2	5,674	5,682
2008Q3	5,616	5,628
2008Q4	5,749	5,694
2009Q1	5,968	5,968
2009Q2	5,938	5,959
2009Q3	5,911	5,893
2009Q4	5,975	6,008
2010Q1	6,017	6,043
2010Q2	5,983	5,962
2010Q3	5,935	5,929
2010Q4	6,056	6,042
2011Q1	6,112	6,091

YRQTR	Forecasted
2011Q2	6,024
2011Q3	6,013
2011Q4	6,160
2012Q1	6,185
2012Q2	6,118
2012Q3	6,102
2012Q4	6,243
2013Q1	6,255
2013Q2	6,190
2013Q3	6,180
2013Q4	6,325
2014Q1	6,349
2014Q2	6,285
2014Q3	6,271
2014Q4	6,413
2015Q1	6,433
2015Q2	6,368
2015Q3	6,352
2015Q4	6,491
2016Q1	6,511
2016Q2	6,444
2016Q3	6,426
2016Q4	6,567

b) C&I LLF Use Per Customer Model – Maine Division

(1) Model Statistics – LLFUPC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_LLFUPC-Model_1	6	.996	6.954

ARIMA Model Parameters

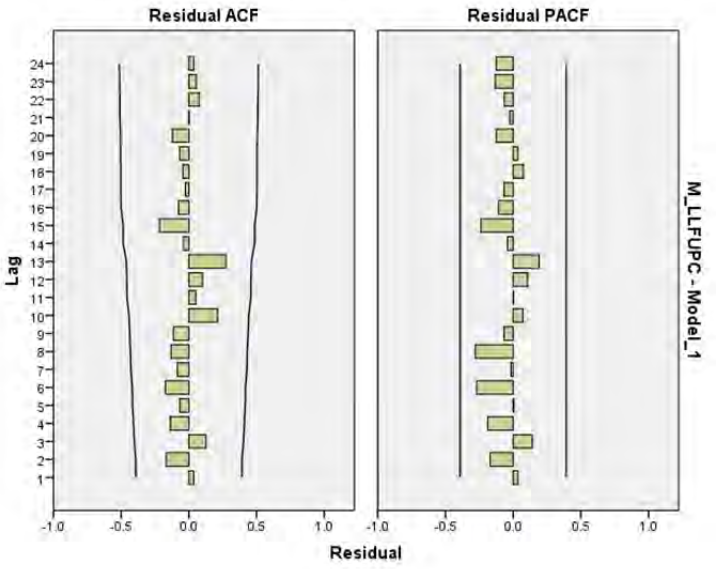
		Estimate	SE	t	Sig.
M_LLFUPC-Model_1	M_LLFUPC Constant	51.268	14.708	3.486	.003
	M_LLFNGP	-1.944	.907	-2.144	.046
	Q1XM_EDD	.065	.002	26.582	.000
	Q3XM_EDD	.154	.061	2.517	.022
	Q2_4XM_EDD	.056	.005	11.476	.000
	D05Q4_06Q1	-11.108	5.540	-2.005	.060
	I08Q3_AfterXEDDs	.008	.001	6.013	.000

Variable Definitions:

M_LLFNGP	Maine Division - C&I LLF Natural Gas Price (Real 2010$)
Q1XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 1
Q3XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 3
Q2_4XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarters 2 & 4
D05Q4_06Q1	Dummy Variable: 2005 Q4 to 2006 Q1
I08Q3_AfterXEDDs	Interaction Term: Maine Division - Billing Cycle EDD x 2008 Q3 and Beyond

N	25
Adjusted R^2	0.994
F statistic	675.165
White Stat	2.448
White Significance (p-value)	0.294

(2) ACF/PACF Graphs – LLFUPC – Maine Division



(3) Actual, Fitted, and Forecasted Values – LLFUPC – Maine Division

YRQTR	Actual	Fitted
2005Q1	283	279
2005Q2	127	121
2005Q3	43	37
2005Q4	121	118
2006Q1	229	233
2006Q2	102	100
2006Q3	38	34
2006Q4	110	115
2007Q1	256	266
2007Q2	113	114
2007Q3	39	44
2007Q4	132	131
2008Q1	261	255
2008Q2	109	109
2008Q3	42	38
2008Q4	146	149
2009Q1	310	304
2009Q2	107	116
2009Q3	49	53
2009Q4	154	144
2010Q1	270	280
2010Q2	96	107
2010Q3	45	41
2010Q4	157	155
2011Q1	313	307

YRQTR	Forecasted
2011Q2	135
2011Q3	48
2011Q4	159
2012Q1	291
2012Q2	134
2012Q3	47
2012Q4	158
2013Q1	290
2013Q2	134
2013Q3	47
2013Q4	158
2014Q1	290
2014Q2	134
2014Q3	47
2014Q4	158
2015Q1	291
2015Q2	134
2015Q3	47
2015Q4	159
2016Q1	291
2016Q2	135
2016Q3	48
2016Q4	159

4. Customer Segment: C&I High Load Factor – Maine Division

a) C&I HLF Customer Model – Maine Division

(1) Model Statistics – HLFC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_HLFC-Model_1	6	.995	11.163

ARIMA Model Parameters

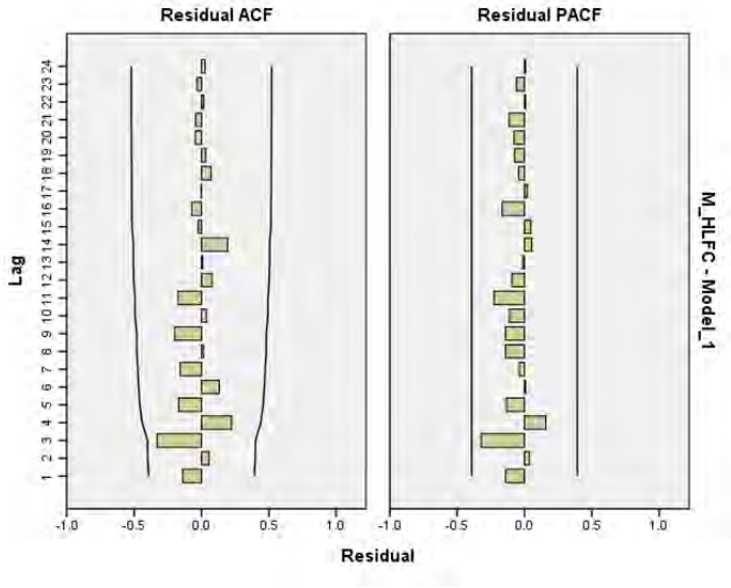
		Estimate	SE	t	Sig.
M_HLFC-Model_1	M_HLFC Constant	1425.715	56.839	25.083	.000
	M_EMP_MAN_L4Q	14.896	1.939	7.683	.000
	D05Q1_Q2	256.458	12.080	21.229	.000
	D05Q3_06Q3	279.940	9.676	28.932	.000
	D08Q2_09Q1	102.105	10.240	9.972	.000
	D08Q4_09Q1	-59.572	11.169	-5.334	.000
	D06Q4_08Q1	136.314	8.020	16.997	.000

Variable Definitions:

M_EMP_MAN_L4Q	Maine Division - Total Manufacturing Employment (Thousands) - Lagged 4 Quarters
D05Q1_Q2	Dummy Variable: 2005 Q1 to 2005 Q2
D05Q3_06Q3	Dummy Variable: 2005 Q3 to 2006 Q3
D08Q2_09Q1	Dummy Variable: 2008 Q2 to 2009 Q1
D08Q4_09Q1	Dummy Variable: 2008 Q4 to 2009 Q1
D06Q4_08Q1	Dummy Variable: 2006 Q4 to 2008 Q1

N	25
Adjusted R^2	0.993
F statistic	575.764
White Stat	4.347
White Significance (p-value)	0.114

(2) ACF/PACF Graphs – HLFC – Maine Division



(3) Actual, Fitted, and Forecasted Values – HLFC – Maine Division

YRQTR	Actual	Fitted
2005Q1	2,175	2,182
2005Q2	2,187	2,180
2005Q3	2,200	2,207
2005Q4	2,212	2,203
2006Q1	2,210	2,199
2006Q2	2,194	2,192
2006Q3	2,171	2,184
2006Q4	2,061	2,038
2007Q1	2,052	2,041
2007Q2	2,044	2,040
2007Q3	2,020	2,040
2007Q4	2,035	2,037
2008Q1	2,018	2,034
2008Q2	2,011	2,003
2008Q3	1,996	2,004
2008Q4	1,950	1,945
2009Q1	1,943	1,948
2009Q2	1,898	1,903
2009Q3	1,899	1,898
2009Q4	1,880	1,886
2010Q1	1,871	1,867
2010Q2	1,856	1,849
2010Q3	1,842	1,836
2010Q4	1,832	1,831
2011Q1	1,813	1,821

YRQTR	Forecasted
2011Q2	1,822
2011Q3	1,821
2011Q4	1,833
2012Q1	1,826
2012Q2	1,827
2012Q3	1,829
2012Q4	1,833
2013Q1	1,836
2013Q2	1,841
2013Q3	1,845
2013Q4	1,848
2014Q1	1,851
2014Q2	1,854
2014Q3	1,856
2014Q4	1,857
2015Q1	1,858
2015Q2	1,860
2015Q3	1,861
2015Q4	1,862
2016Q1	1,864
2016Q2	1,864
2016Q3	1,864
2016Q4	1,864

b) C&I HLF Use Per Customer Model – Maine Division

(1) Model Statistics – HLFUPC – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_HLFUPC-Model_1	9	.969	13.389

ARIMA Model Parameters

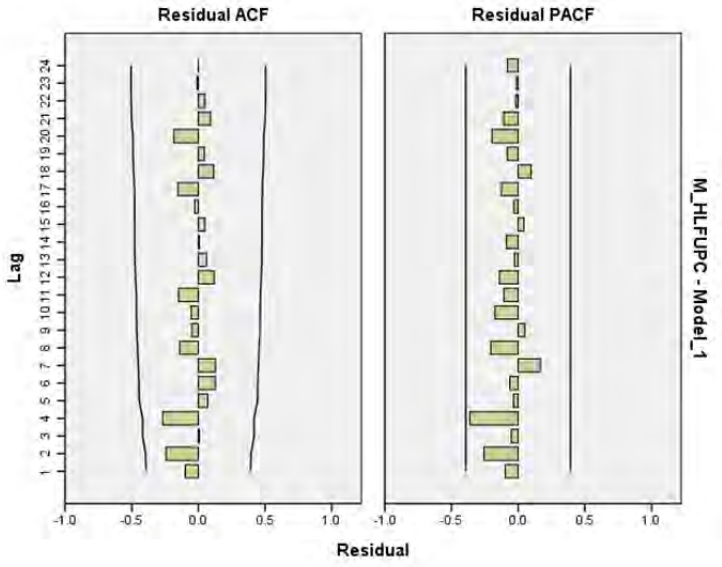
		Estimate	SE	t	Sig.
M_HLFUPC-Model_1	M_HLFUPC Constant	280.236	59.802	4.686	.000
	M_HLFNGP	-9.210	1.979	-4.655	.000
	Q1XM_EDD	.068	.013	5.327	.000
	Q2XM_EDD	.104	.030	3.453	.004
	Q3	125.797	47.300	2.660	.018
	Q4XM_EDD	.097	.024	3.961	.001
	D08Q1_Q2	57.300	11.416	5.019	.000
	D09Q1A	-50.782	9.052	-5.610	.000
	D05Q1	-115.947	16.322	-7.104	.000
	D05Q2_06Q1	-72.165	8.220	-8.779	.000

Variable Definitions:

M_HLFNGP	Maine Division - C&I HLF Natural Gas Price (Real 2010$)
Q1XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 1
Q2XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 2
Q3	Dummy Variable: Quarter 3
Q4XM_EDD	Interaction Term: Maine Division - Billing Cycle EDD x Quarter 4
D08Q1_Q2	Dummy Variable: 2008 Q1 to 2008 Q2
D09Q1A	Dummy Variable: 2009 Q1 and Beyond
D05Q1	Dummy Variable: 2005 Q1
D05Q2_06Q1	Dummy Variable: 2005 Q2 to 2006 Q1

N	25
Adjusted R^2	0.950
F statistic	52.196
White Stat	5.148
White Significance (p-value)	0.076

(2) ACF/PACF Graphs – HLFUPC – Maine Division



(3) Actual, Fitted, and Forecasted Values – HLFUPC – Maine Division

YRQTR	Actual	Fitted
2005Q1	311	311
2005Q2	267	268
2005Q3	212	208
2005Q4	267	257
2006Q1	278	291
2006Q2	281	278
2006Q3	252	245
2006Q4	301	300
2007Q1	393	403
2007Q2	323	325
2007Q3	278	276
2007Q4	354	341
2008Q1	462	450
2008Q2	357	369
2008Q3	267	272
2008Q4	330	340
2009Q1	359	357
2009Q2	260	255
2009Q3	231	227
2009Q4	292	298
2010Q1	337	360
2010Q2	267	258
2010Q3	243	255
2010Q4	315	323
2011Q1	422	393

YRQTR	Forecasted
2011Q2	311
2011Q3	260
2011Q4	334
2012Q1	380
2012Q2	309
2012Q3	258
2012Q4	332
2013Q1	376
2013Q2	306
2013Q3	256
2013Q4	330
2014Q1	375
2014Q2	305
2014Q3	256
2014Q4	331
2015Q1	378
2015Q2	309
2015Q3	259
2015Q4	333
2016Q1	380
2016Q2	310
2016Q3	261
2016Q4	335

5. Special Contracts – Maine Division

Demand for Northern's four Special Contract customers was forecasted by developing individual models for each customer. Summary historical and forecasted demand by season as well as detailed statistical summaries for each Special Contract customer, including (a) the results of the statistical tests that were performed, (b) historical actual data, (c) historical fitted values, and (d) forecasted values for both Northern's Maine and New Hampshire Divisions are provided below.

a) Special Contract No. 1 – Maine Division

(1) Historical and Forecasted Firm Demand by Season

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACT NO. 1

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	83,871	73,614	157,485	86,821	74,723	161,544
2006/07	91,371	68,678	160,049	93,469	70,078	163,548
2007/08	85,065	64,027	149,092	84,391	65,334	149,724
2008/09	88,229	69,237	157,466	86,412	68,737	155,149
2009/10	99,830	63,297	163,127	105,158	67,127	172,285
2010/11 [1]	105,253	75,000	180,253	104,364	75,000	179,364
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	3.7%	0.1%	2.1%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	97,330	73,524	170,853	103,756	74,155	177,911
2012/13	96,342	72,572	168,913	102,768	73,203	175,971
2013/14	95,876	72,615	168,491	102,303	73,246	175,548
2014/15	96,528	73,666	170,194	102,955	74,297	177,252
2015/16	97,125	74,297	171,422	103,551	74,928	178,480
CAGR (11/12-15/16)	-0.1%	0.3%	0.1%	0.0%	0.3%	0.1%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).
[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales and marketing program.

(2) Firm Demand Models – Detailed Statistical Results

(a) Model Statistics – SPC1 – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
SPC1_Dth-Model_1	5	.947	3771.035

ARIMA Model Parameters

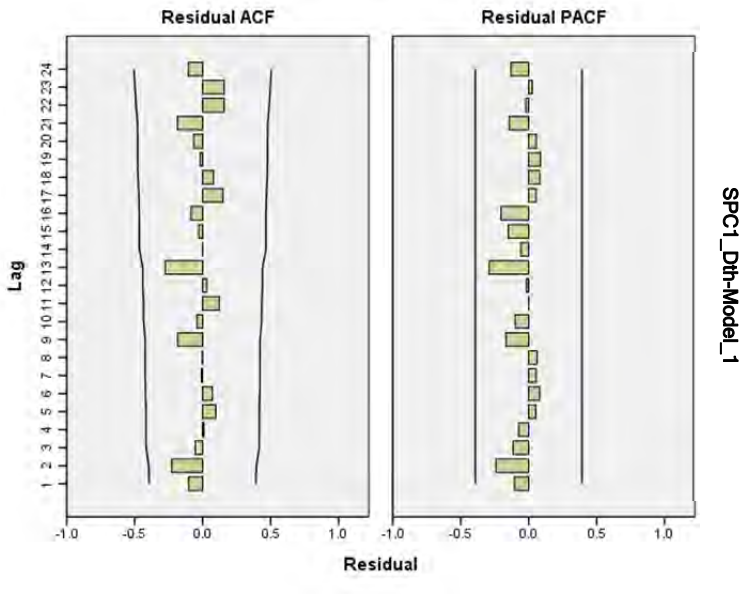
			Estimate	SE	t	Sig.
SPC1_Dth-Model_1	SPC1_Dth	Constant	39741.905	7311.539	5.436	.000
	D05Q1_Q2		7975.430	2845.675	2.803	.011
	D06Q3		15009.842	4226.731	3.551	.002
	D09Q2_10Q1		4033.157	2089.076	1.931	.069
	M_EDD_CAL		10.384	.597	17.400	.000
	M_LLFNGP		-1257.141	461.485	-2.724	.013

Variable Definitions:

D05Q1_Q2	Dummy Variable: 2005 Q1 to 2005 Q2
D06Q3	Dummy Variable: 2006 Q3
D09Q2_10Q1	Dummy Variable: 2009 Q2 to 2010 Q1
M_EDD_CAL	Maine Division - Calendar Cycle EDD
M_LLFNGP	Maine Division - C&I LLF Natural Gas Price (Real 2010$)

N	25
Adjusted R^2	0.933
F statistic	68.321
White Stat	2.472
White Significance (p-value)	0.291

(b) ACF/PACF Graphs – SPC1 – Maine Division



(c) Actual, Fitted, and Forecasted Values – SPC1 – Maine Division

YRQTR	Actual	Fitted
2005Q1	65,605	68,392
2005Q2	45,071	42,284
2005Q3	26,586	21,891
2005Q4	43,352	45,491
2006Q1	52,022	51,803
2006Q2	27,455	27,652
2006Q3	33,692	33,692
2006Q4	44,420	40,124
2007Q1	59,418	58,635
2007Q2	33,390	32,430
2007Q3	25,175	22,015
2007Q4	41,215	46,067
2008Q1	53,963	56,078
2008Q2	31,147	30,500
2008Q3	21,689	21,486
2008Q4	43,401	45,934
2009Q1	56,018	57,155
2009Q2	32,712	33,548
2009Q3	23,497	25,226
2009Q4	50,342	49,680
2010Q1	62,518	60,614
2010Q2	30,055	32,869
2010Q3	21,453	25,318
2010Q4	44,825	50,233
2011Q1	72,217	62,121

YRQTR	Forecasted
2011Q2	35,885
2011Q3	25,874
2011Q4	49,554
2012Q1	61,017
2012Q2	35,201
2012Q3	25,217
2012Q4	49,046
2013Q1	60,401
2013Q2	34,730
2013Q3	24,818
2013Q4	48,742
2014Q1	60,158
2014Q2	34,644
2014Q3	24,893
2014Q4	48,942
2015Q1	60,664
2015Q2	35,142
2015Q3	25,343
2015Q4	49,331
2016Q1	60,976
2016Q2	35,424
2016Q3	25,618
2016Q4	49,606

b) Special Contract No. 2 – Maine Division

(1) Historical and Forecasted Firm Demand by Season

NORTHERN UTILITIES - MAINE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACT NO. 2

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	297,260	400,269	697,529	303,243	401,135	704,378
2006/07	481,963	394,085	876,048	483,028	395,160	878,187
2007/08	571,986	415,393	987,379	577,257	420,693	997,949
2008/09	608,765	435,512	1,044,277	598,523	435,749	1,034,272
2009/10	578,702	419,039	997,741	609,270	434,307	1,043,577
2010/11 [1]	601,026	454,487	1,055,512	595,965	454,487	1,050,452
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	14.5%	2.5%	8.3%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	584,892	454,487	1,039,379	621,169	457,848	1,079,016
2012/13	584,892	454,487	1,039,379	621,169	457,848	1,079,016
2013/14	584,892	454,487	1,039,379	621,169	457,848	1,079,016
2014/15	584,892	454,487	1,039,379	621,169	457,848	1,079,016
2015/16	584,892	454,487	1,039,379	621,169	457,848	1,079,016
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales and marketing program.

(2) Firm Demand Models – Detailed Statistical Results

(a) Model Statistics – SPC2 – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
SPC2_Dth-Model_1	6	.993	8582.058

ARIMA Model Parameters

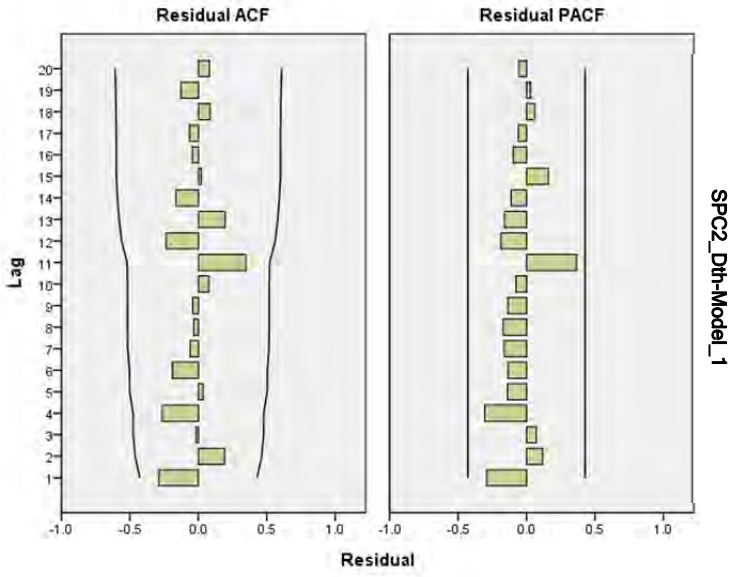
			Estimate	SE	t	Sig.
SPC2_Dth-Model_1	SPC2_Dth	Constant	156355.887	3596.162	43.479	.000
	Q1XM_EDD_CAL		61.408	1.529	40.173	.000
	Q2_4XM_EDD_CAL		52.189	2.389	21.845	.000
	D07Q4ExM_EDD_CAL		-41.007	2.965	-13.830	.000
	D06Q1_Q2		-43306.115	8774.963	-4.935	.000
	D06Q3_07Q1		62985.023	7815.006	8.059	.000
	D07Q4		68245.036	11886.850	5.741	.000

Variable Definitions:

Q1XM_EDD_CAL	Interaction Term: Maine Division - Calendar Cycle EDD x Quarter 1
Q2_4XM_EDD_CAL	Interaction Term: Maine Division - Calendar Cycle EDD x Quarters 2 & 4
D07Q4ExM_EDD_CAL	Interaction Term: Maine Division - Calendar Cycle EDD x 2007 Q4 and Earlier
D06Q1_Q2	Dummy Variable: 2006 Q1 to 2006 Q2
D06Q3_07Q1	Dummy Variable: 2006 Q3 to 2007 Q1
D07Q4	Dummy Variable: 2007 Q4

N	21
Adjusted R^2	0.989
F statistic	310.717
White Stat	3.351
White Significance (p-value)	0.187

(b) ACF/PACF Graphs – SPC2 – Maine Division



(c) Actual, Fitted, and Forecasted Values – SPC2 – Maine Division

YRQTR	Actual	Fitted
2005Q1	140,797	*N/A*
2005Q2	152,848	*N/A*
2005Q3	137,982	*N/A*
2005Q4	181,419	*N/A*
2006Q1	174,183	180,783
2006Q2	131,525	124,925
2006Q3	208,222	211,140
2006Q4	248,765	243,640
2007Q1	293,721	295,928
2007Q2	179,002	169,663
2007Q3	155,922	148,237
2007Q4	252,948	252,948
2008Q1	378,198	371,592
2008Q2	201,841	211,207
2008Q3	146,570	156,356
2008Q4	286,710	290,430
2009Q1	389,037	386,330
2009Q2	209,853	212,981
2009Q3	160,558	156,356
2009Q4	276,678	285,576
2010Q1	367,124	353,661
2010Q2	197,747	201,082
2010Q3	155,894	156,356
2010Q4	296,120	288,864
2011Q1	370,304	382,871

YRQTR	Forecasted
2011Q2	216,754
2011Q3	156,356
2011Q4	287,345
2012Q1	378,924
2012Q2	216,754
2012Q3	156,356
2012Q4	287,345
2013Q1	378,924
2013Q2	216,754
2013Q3	156,356
2013Q4	287,345
2014Q1	378,924
2014Q2	216,754
2014Q3	156,356
2014Q4	287,345
2015Q1	378,924
2015Q2	216,754
2015Q3	156,356
2015Q4	287,345
2016Q1	378,924
2016Q2	216,754
2016Q3	156,356
2016Q4	287,345

6. Company Use – Maine Division

a) Company Use Demand Model – Maine Division

(1) Model Statistics – COUSE – Maine Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
M_COUSE-Model_1	6	.960	241.230

ARIMA Model Parameters

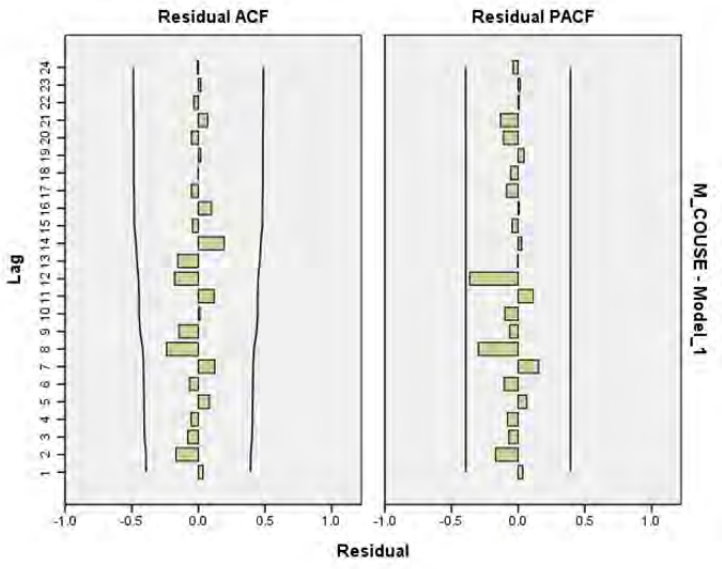
			Estimate	SE	t	Sig.
M_COUSE-Model_1	M_COUSE	Constant	-1314.156	223.079	-5.891	.000
	AR Lag 2		-.652	.186	-3.502	.003
	Q3		1170.581	227.954	5.135	.000
	M_EDD		1.142	.121	9.395	.000
	D10Q1ExQ1		-738.050	249.222	-2.961	.009
	D09Q3A		667.635	80.594	8.284	.000
	D09Q2		1427.470	223.013	6.401	.000
	D07Q3_08Q3		-338.178	94.176	-3.591	.002

Variable Definitions:

AR Lag 2	Autoregressive Term Lag 2
Q3	Dummy Variable: Quarter 3
M_EDD	Maine Division - Billing Cycle EDD
D10Q1ExQ1	Interaction Term: Quarter 1 x 2010 Q1 and Earlier
D09Q3A	Dummy Variable: 2009 Q3 and Beyond
D09Q2	Dummy Variable: 2009 Q2
D07Q3_08Q3	Dummy Variable: 2007 Q3 to 2008 Q3

N	25
Adjusted R^2	0.943
F statistic	57.858
White Stat	3.243
White Significance (p-value)	0.198

(2) ACF/PACF Graphs – COUSE – Maine Division



(3) Actual, Fitted, and Forecasted Values – COUSE – Maine Division

YRQTR	Actual	Fitted
2005Q1	2,581	2,424
2005Q2	576	705
2005Q3	105	-132
2005Q4	901	985
2006Q1	1,652	1,830
2006Q2	442	414
2006Q3	181	169
2006Q4	656	665
2007Q1	1,762	2,122
2007Q2	537	604
2007Q3	80	7
2007Q4	562	638
2008Q1	1,131	1,450
2008Q2	201	176
2008Q3	43	17
2008Q4	951	953
2009Q1	2,818	2,132
2009Q2	2,000	1,879
2009Q3	363	488
2009Q4	1,264	1,451
2010Q1	2,817	2,830
2010Q2	1,191	961
2010Q3	386	463
2010Q4	1,442	1,355
2011Q1	3,815	3,854

YRQTR	Forecasted
2011Q2	1,402
2011Q3	601
2011Q4	1,633
2012Q1	3,522
2012Q2	1,334
2012Q3	645
2012Q4	1,678
2013Q1	3,493
2013Q2	1,305
2013Q3	664
2013Q4	1,696
2014Q1	3,481
2014Q2	1,293
2014Q3	672
2014Q4	1,704
2015Q1	3,476
2015Q2	1,287
2015Q3	675
2015Q4	1,708
2016Q1	3,474
2016Q2	1,285
2016Q3	677
2016Q4	1,709

Appendix III-7. New Hampshire Division Statistical Results and Models

A. HISTORICAL AND FORECASTED FIRM DEMAND BY SEASON

Index of Tables

Table NH-RH-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
RESIDENTIAL HEATING

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL			NORMAL		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	19,103	1,055,045	482,998	1,538,043	1,082,060	508,219	1,590,278
2006/07	19,353	1,062,313	515,161	1,577,474	1,073,274	519,638	1,592,912
2007/08	19,597	1,095,035	495,377	1,590,412	1,085,402	503,259	1,588,661
2008/09	19,880	1,143,663	475,666	1,619,329	1,073,965	471,396	1,545,361
2009/10	20,283	1,044,457	426,952	1,471,408	1,073,197	525,262	1,598,460
2010/11 [2]	20,528	1,155,136	534,178	1,689,315	1,100,393	534,178	1,634,572
CAGR (05/06-10/11)	1.4%	*N/A*	*N/A*	*N/A*	0.3%	1.0%	0.6%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL			DESIGN 1-in-33		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	20,715	1,113,010	537,605	1,650,615	1,250,098	542,477	1,792,575
2012/13	20,991	1,125,076	540,672	1,665,749	1,263,834	545,620	1,809,454
2013/14	21,384	1,145,406	552,256	1,697,663	1,286,701	557,302	1,844,002
2014/15	21,835	1,176,159	571,204	1,747,363	1,320,398	576,358	1,896,756
2015/16	22,309	1,208,152	588,287	1,796,439	1,355,519	593,552	1,949,071
CAGR (11/12-15/16)	1.9%	2.1%	2.3%	2.1%	2.0%	2.3%	2.1%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-RR-1[16]

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
RESIDENTIAL NON-HEATING

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL			NORMAL		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	1,828	15,292	15,418	30,710	15,447	15,535	30,983
2006/07	1,771	15,561	15,655	31,216	15,630	15,720	31,350
2007/08	1,708	15,317	14,478	29,794	15,265	14,497	29,762
2008/09	1,657	17,905	15,108	33,013	16,325	15,148	31,473
2009/10	1,660	18,689	15,101	33,790	18,920	15,437	34,356
2010/11 [2]	1,620	21,124	15,798	36,922	19,884	15,798	35,681
CAGR (05/06-10/11)	-2.4%	*N/A*	*N/A*	*N/A*	5.2%	0.3%	2.9%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL			DESIGN 1-in-33		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,570	18,607	15,382	33,989	21,330	15,408	36,738
2012/13	1,522	17,776	14,657	32,433	20,416	14,682	35,098
2013/14	1,475	17,116	14,201	31,317	19,672	14,226	33,898
2014/15	1,427	16,867	13,922	30,789	19,340	13,946	33,286
2015/16	1,380	16,520	13,560	30,080	18,909	13,583	32,492
CAGR (11/12-15/16)	-3.2%	-2.9%	-3.1%	-3.0%	-3.0%	-3.1%	-3.0%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

[16] The historical Residential Non-Heating demand growth rate is affected by a shift in use per customer in January 2009.

Table NH-LLF-1[17]

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I LOW LOAD FACTOR

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL Heating Season	ACTUAL Non-Heating Season	ACTUAL Total Split Year	NORMAL Heating Season	NORMAL Non-Heating Season	NORMAL Total Split Year
2005/06	4,770	1,584,058	643,509	2,227,568	1,626,723	672,878	2,299,602
2006/07	4,844	1,593,502	638,584	2,232,086	1,618,944	645,303	2,264,247
2007/08	4,914	1,603,058	616,634	2,219,692	1,586,779	628,327	2,215,106
2008/09	4,973	1,786,017	741,915	2,527,932	1,676,593	712,669	2,389,262
2009/10	5,011	1,721,001	644,086	2,365,087	1,769,699	771,833	2,541,532
2010/11 [2]	5,049	1,840,651	754,332	2,594,983	1,757,298	754,332	2,511,630
CAGR (05/06-10/11)	1.1%	*N/A*	*N/A*	*N/A*	1.6%	2.3%	1.8%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL Heating Season	NORMAL Non-Heating Season	NORMAL Total Split Year	DESIGN 1-in-33 Heating Season	DESIGN 1-in-33 Non-Heating Season	DESIGN 1-in-33 Total Split Year
2011/12	5,098	1,781,382	750,191	2,531,573	1,992,955	757,163	2,750,118
2012/13	5,146	1,788,069	749,687	2,537,757	2,001,435	756,731	2,758,165
2013/14	5,208	1,805,032	759,191	2,564,223	2,020,965	766,319	2,787,284
2014/15	5,265	1,831,201	776,069	2,607,270	2,049,530	783,272	2,832,802
2015/16	5,318	1,855,462	789,383	2,644,845	2,075,984	796,658	2,872,641
CAGR (11/12-15/16)	1.1%	1.0%	1.3%	1.1%	1.0%	1.3%	1.1%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

[17] The historical C&I LLF demand growth rate is affected by a shift in the number of customers and use per customer that occurred in December 2008.

Table NH-LLF-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I LOW LOAD FACTOR - SALES PLUS CAPACITY ASSIGNED

Historical Period (Dth)

	ACTUAL			NORMAL [1]		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	579,125	579,125	N/A	556,296	556,296
2009/10	1,490,876	504,960	1,995,835	1,533,062	605,113	2,138,175
2010/11 [2]	1,634,533	619,730	2,254,264	1,560,515	619,730	2,180,245
CAGR (09/10-10/11)	*N/A*	*N/A*	*N/A*	1.8%	2.4%	2.0%

Forecast Period (Dth) [3]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,543,513	616,903	2,160,416	1,793,994	623,797	2,417,791
2012/13	1,549,356	616,777	2,166,133	1,801,713	623,734	2,425,447
2013/14	1,564,189	624,453	2,188,642	1,819,488	631,495	2,450,983
2014/15	1,586,878	637,937	2,224,814	1,845,201	645,060	2,490,261
2015/16	1,607,758	648,604	2,256,362	1,868,810	655,803	2,524,613
CAGR (11/12-15/16)	1.0%	1.3%	1.1%	1.0%	1.3%	1.1%

Notes:

[1] Normal demand is allocated based on ratio of actual sales plus capacity assigned to actual C&I LLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-LLF-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I LOW LOAD FACTOR - CAPACITY EXEMPT

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL [1]		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	162,790	162,790	N/A	156,373	156,373
2009/10	230,126	139,126	369,252	236,637	166,720	403,357
2010/11 [2]	206,117	134,601	340,719	196,783	134,601	331,385
CAGR (09/10-10/11)	*N/A*	*N/A*	*N/A*	-16.8%	-19.3%	-17.8%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	237,869	133,287	371,157	198,961	133,366	332,327
2012/13	238,713	132,910	371,624	199,722	132,997	332,719
2013/14	240,842	134,739	375,581	201,477	134,825	336,301
2014/15	244,323	138,133	382,456	204,329	138,212	342,542
2015/16	247,703	140,779	388,483	207,174	140,855	348,029
CAGR (11/12-15/16)	1.0%	1.4%	1.1%	1.0%	1.4%	1.2%

Notes:

[1] Normal demand is allocated based on ratio of actual capacity exempt to actual C&I LLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-HLF-1[18]

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I HIGH LOAD FACTOR

Historical Period (Dth)

Split Year (11/1 - 10/31)	Average No. of Customers [1]	ACTUAL			NORMAL		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	1,250	664,534	892,030	1,556,564	678,964	914,240	1,593,205
2006/07	1,285	923,164	1,201,093	2,124,257	947,000	1,213,887	2,160,887
2007/08	1,281	1,159,633	1,116,135	2,275,768	1,150,879	1,121,174	2,272,053
2008/09	1,247	965,158	830,466	1,795,624	924,127	839,293	1,763,419
2009/10	1,244	868,801	822,490	1,691,291	895,946	901,498	1,797,443
2010/11 [2]	1,235	966,943	942,521	1,909,464	937,507	942,521	1,880,028
CAGR (05/06-10/11)	-0.2%	*N/A*	*N/A*	*N/A*	6.7%	0.6%	3.4%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	Average No. of Customers [1]	NORMAL			DESIGN 1-in-33		
		Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,236	928,949	970,213	1,899,163	1,006,795	976,630	1,983,425
2012/13	1,240	940,260	974,507	1,914,767	1,018,313	980,948	1,999,260
2013/14	1,243	947,300	989,453	1,936,753	1,025,610	995,905	2,021,515
2014/15	1,245	970,290	1,020,501	1,990,791	1,048,735	1,026,965	2,075,699
2015/16	1,247	985,751	1,034,832	2,020,584	1,064,339	1,041,303	2,105,642
CAGR (11/12-15/16)	0.2%	1.5%	1.6%	1.6%	1.4%	1.6%	1.5%

Notes:

[1] Average number of customers is calculated for the four quarters Q4 through Q3 (i.e., October through September).

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

[18] The historical C&I HLF demand growth rate was affected by a shift in the customer count and use per customer that occurred in October 2006.

Table NH-HLF-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I HIGH LOAD FACTOR - SALES PLUS CAPACITY ASSIGNED

Historical Period (Dth)

	ACTUAL			NORMAL [1]		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	396,262	396,262	N/A	400,474	400,474
2009/10	379,446	365,773	745,219	391,301	400,909	792,211
2010/11 [2]	394,616	414,807	809,423	382,603	414,807	797,410
CAGR (09/10-10/11)	*N/A*	*N/A*	*N/A*	-2.2%	3.5%	0.7%

Forecast Period (Dth) [3]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	371,787	419,509	791,296	402,907	422,149	825,056
2012/13	370,037	415,628	785,665	400,727	418,242	818,969
2013/14	367,848	417,294	785,142	398,234	419,883	818,117
2014/15	372,602	426,429	799,030	402,707	428,997	831,704
2015/16	374,941	428,921	803,863	404,817	431,471	836,288
CAGR (11/12-15/16)	0.2%	0.6%	0.4%	0.1%	0.5%	0.3%

Notes:

[1] Normal demand is allocated based on ratio of actual sales plus capacity assigned to actual C&I HLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-HLF-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
C&I HIGH LOAD FACTOR - CAPACITY EXEMPT

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL [1]		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	434,204	434,204	N/A	438,819	438,819
2009/10	489,355	456,716	946,072	504,644	500,588	1,005,233
2010/11 [2]	572,327	527,714	1,100,041	554,904	527,714	1,082,618
CAGR (09/10-10/11)	*N/A*	*N/A*	*N/A*	10.0%	5.4%	7.7%

Forecast Period (Dth) [3]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	557,162	550,704	1,107,867	603,888	554,481	1,158,369
2012/13	570,223	558,879	1,129,102	617,586	562,706	1,180,291
2013/14	579,453	572,159	1,151,612	627,376	576,023	1,203,398
2014/15	597,688	594,073	1,191,761	646,027	597,968	1,243,996
2015/16	610,810	605,911	1,216,721	659,522	609,832	1,269,354
CAGR (11/12-15/16)	2.3%	2.4%	2.4%	2.2%	2.4%	2.3%

Notes:

[1] Normal demand is allocated based on ratio of actual capacity exempt to actual C&I HLF load.

[2] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[3] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-SPC-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACTS (COMBINED)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	489,766	658,013	1,147,778	489,947	658,077	1,148,024
2006/07	491,231	672,683	1,163,913	493,562	673,312	1,166,874
2007/08	447,388	639,647	1,087,035	445,940	639,682	1,085,622
2008/09	404,652	607,136	1,011,788	402,913	606,629	1,009,542
2009/10	456,815	593,023	1,049,839	457,578	594,787	1,052,365
2010/11 [1]	420,138	608,791	1,028,929	419,521	608,791	1,028,312
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	-3.1%	-1.5%	-2.2%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	419,595	610,407	1,030,002	421,185	610,854	1,032,039
2012/13	425,732	623,742	1,049,474	427,322	624,188	1,051,510
2013/14	437,463	636,863	1,074,327	439,054	637,309	1,076,363
2014/15	443,928	643,434	1,087,362	445,519	643,880	1,089,399
2015/16	447,109	644,926	1,092,035	448,700	645,372	1,094,072
CAGR (11/12-15/16)	1.6%	1.4%	1.5%	1.6%	1.4%	1.5%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-SPC-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACTS (COMBINED) - CAPACITY ASSIGNED

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	175,790	261,232	437,022	174,701	261,213	435,913
2006/07	214,404	310,891	525,295	215,684	311,172	526,856
2007/08	187,076	293,755	480,830	186,304	293,771	480,075
2008/09	168,736	288,618	457,355	168,286	288,167	456,453
2009/10	216,108	307,705	523,813	216,374	309,009	525,383
2010/11 [1]	212,621	312,808	525,429	212,284	312,808	525,092
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	4.0%	3.7%	3.8%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	211,044	312,808	523,852	211,781	313,142	524,923
2012/13	211,044	312,808	523,852	211,781	313,142	524,923
2013/14	211,044	312,808	523,852	211,781	313,142	524,923
2014/15	211,044	312,808	523,852	211,781	313,142	524,923
2015/16	211,044	312,808	523,852	211,781	313,142	524,923
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-SPC-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACTS (COMBINED) - CAPACITY EXEMPT

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	313,976	396,781	710,757	315,246	396,865	712,111
2006/07	276,827	361,792	638,619	277,878	362,140	640,018
2007/08	260,312	345,892	606,204	259,636	345,912	605,548
2008/09	235,915	318,518	554,433	234,627	318,461	553,089
2009/10	240,707	285,318	526,026	241,204	285,778	526,982
2010/11 [1]	207,517	295,983	503,500	207,237	295,983	503,220
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	-8.0%	-5.7%	-6.7%

Forecast Period (Dth) [2]

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	208,551	297,599	506,150	209,404	297,711	507,116
2012/13	214,688	310,933	525,621	215,541	311,046	526,587
2013/14	226,419	324,055	550,474	227,273	324,167	551,440
2014/15	232,884	330,626	563,510	233,738	330,738	564,476
2015/16	236,065	332,118	568,183	236,919	332,230	569,149
CAGR (11/12-15/16)	3.1%	2.8%	2.9%	3.1%	2.8%	2.9%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-COUSE-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
COMPANY USE

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	1,360	722	2,083	1,397	755	2,152
2006/07	1,192	630	1,822	1,228	643	1,872
2007/08	1,201	633	1,834	1,185	643	1,828
2008/09	1,193	358	1,551	1,106	369	1,475
2009/10	451	106	557	472	160	631
2010/11 [1]	512	150	663	484	150	634
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	-19.1%	-27.6%	-21.7%

Forecast Period (Dth) [2]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	481	150	631	555	153	709
2012/13	481	150	631	555	153	709
2013/14	481	150	631	555	153	709
2014/15	481	150	631	555	153	709
2015/16	481	150	631	555	153	709
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:

[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales, and marketing program.

Table NH-EE-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
ENERGY EFFICIENCY SAVINGS
(for Total Company Firm Demand)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	-6,625	-6,625	N/A	N/A	N/A
2011/12	-16,308	-11,117	-27,425	-16,308	-11,117	-27,425
2012/13	-30,552	-15,609	-46,161	-30,552	-15,609	-46,161
2013/14	-44,795	-20,102	-64,897	-44,795	-20,102	-64,897
2014/15	-59,039	-24,594	-83,633	-59,039	-24,594	-83,633
2015/16	-73,283	-29,086	-102,369	-73,283	-29,086	-102,369
CAGR (11/12-15/16)	45.6%	27.2%	39.0%	45.6%	27.2%	39.0%

Notes:

[1] Energy efficiency savings begin in the non-heating season of 2010/11.

Table NH-EE-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
ENERGY EFFICIENCY SAVINGS
(for Total Company Sales plus Capacity Assigned)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	-5,910	-5,910	N/A	N/A	N/A
2011/12	-14,958	-9,906	-24,863	-15,299	-9,916	-25,215
2012/13	-28,013	-13,902	-41,914	-28,654	-13,917	-42,571
2013/14	-41,069	-17,893	-58,962	-42,012	-17,912	-59,924
2014/15	-54,124	-21,878	-76,003	-55,368	-21,902	-77,269
2015/16	-67,176	-25,863	-93,039	-68,719	-25,891	-94,610
CAGR (11/12-15/16)	45.6%	27.1%	39.1%	45.6%	27.1%	39.2%

Notes:

[1] Energy efficiency savings begin in the non-heating season of 2010/11.

Table NH-EE-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
ENERGY EFFICIENCY SAVINGS
(for Total Company Capacity Exempt)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	-715	-715	N/A	N/A	N/A
2011/12	-1,350	-1,212	-2,562	-1,009	-1,201	-2,210
2012/13	-2,539	-1,708	-4,247	-1,897	-1,693	-3,590
2013/14	-3,726	-2,209	-5,935	-2,783	-2,190	-4,973
2014/15	-4,915	-2,716	-7,630	-3,671	-2,692	-6,364
2015/16	-6,107	-3,223	-9,330	-4,564	-3,195	-7,759
CAGR (11/12-15/16)	45.8%	27.7%	38.1%	45.8%	27.7%	36.9%

Notes:

[1] Energy efficiency savings begin in the non-heating season of 2010/11.

Table NH-MP-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
MARKETING PROGRAM ADJUSTMENT
(for Total Company Firm Demand)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	12,124	12,124	N/A	N/A	N/A
2011/12	49,704	44,201	93,905	55,504	44,595	100,099
2012/13	104,303	76,273	180,576	116,148	76,931	193,079
2013/14	159,899	109,859	269,758	177,901	110,788	288,689
2014/15	218,489	146,317	364,806	242,772	147,519	390,291
2015/16	278,446	182,887	461,333	309,123	184,368	493,491
CAGR (11/12-15/16)	53.8%	42.6%	48.9%	53.6%	42.6%	49.0%

Notes:
[1] The Marketing Program begins in the non-heating season of 2010/11.

Table NH-MP-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
MARKETING PROGRAM ADJUSTMENT
(for Total Company Sales plus Capacity Assigned)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	8,017	8,017	N/A	N/A	N/A
2011/12	39,051	29,981	69,031	44,712	30,283	74,995
2012/13	81,452	51,796	133,248	92,976	52,303	145,279
2013/14	124,535	74,461	198,996	142,027	75,176	217,203
2014/15	169,588	98,840	268,427	193,177	99,767	292,945
2015/16	215,698	123,387	339,086	245,499	124,531	370,030
CAGR (11/12-15/16)	53.3%	42.4%	48.9%	53.1%	42.4%	49.0%

Notes:
[1] The Marketing Program begins in the non-heating season of 2010/11.

Table NH-MP-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
MARKETING PROGRAM ADJUSTMENT
(for Total Company Capacity Exempt)

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2010/11 [1]	0	4,106	4,106	N/A	N/A	N/A
2011/12	10,653	14,221	24,874	10,792	14,312	25,104
2012/13	22,852	24,477	47,328	23,172	24,628	47,800
2013/14	35,363	35,399	70,762	35,875	35,611	71,486
2014/15	48,901	47,478	96,379	49,594	47,752	97,346
2015/16	62,748	59,500	122,248	63,624	59,837	123,461
CAGR (11/12-15/16)	55.8%	43.0%	48.9%	55.8%	43.0%	48.9%

Notes:
[1] The Marketing Program begins in the non-heating season of 2010/11.

Table NH-LAUF-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
LOSSES AND UNBILLED SALES
(for Total Company Firm Demand)

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	200,702	-102,194	98,508	205,152	-105,116	100,035
2006/07	315,792	-190,052	125,739	320,635	-191,595	129,040
2007/08	335,322	-205,151	130,171	332,515	-206,907	125,608
2008/09	219,551	-138,652	80,898	208,185	-137,347	70,838
2009/10	146,773	-109,044	37,729	150,544	-122,435	28,110
2010/11 [1]	230,510	-162,394	68,116	221,644	-162,082	59,561

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season [1]	Non-Heating Season [2]	Total Split Year	Heating Season [1]	Non-Heating Season [2]	Total Split Year
2011/12	261,681	-165,559	96,122	288,285	-166,645	121,640
2012/13	266,294	-168,229	98,065	293,485	-169,340	124,145
2013/14	272,189	-172,645	99,544	300,076	-173,781	126,294
2014/15	280,137	-178,612	101,526	308,736	-179,775	128,961
2015/16	287,464	-183,035	104,429	316,779	-184,225	132,555

Notes:

[1] Heating season losses and unbilled sales assumed to be 6.09% in the forecast period.

[2] Non-heating season losses and unbilled sales assumed to be -5.68% in the forecast period.

Table NH-LAUF-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
LOSSES AND UNBILLED SALES
(for Total Company Sales plus Capacity Assigned)

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	-91,122	-91,122	N/A	-89,913	-89,913
2009/10	112,486	-70,637	41,849	115,460	-80,892	34,568
2010/11 [1]	178,910	-107,813	71,097	171,458	-107,693	63,765

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season [1]	Non-Heating Season [2]	Total Split Year	Heating Season [1]	Non-Heating Season [2]	Total Split Year
2011/12	199,975	-109,110	90,865	226,021	-109,965	116,057
2012/13	202,697	-110,027	92,670	229,266	-110,899	118,367
2013/14	206,494	-112,248	94,246	233,720	-113,141	120,579
2014/15	211,974	-115,749	96,225	239,894	-116,663	123,230
2015/16	217,330	-118,612	98,718	245,948	-119,548	126,400

Notes:

[1] Heating season losses and unbilled sales assumed to be 6.09% in the forecast period.

[2] Non-heating season losses and unbilled sales assumed to be -5.68% in the forecast period.

Table NH-LAUF-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
LOSSES AND UNBILLED SALES
(for Total Company Capacity Exempt)

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	-47,531	-47,531	N/A	-47,434	-47,434
2009/10	34,288	-38,407	-4,119	35,084	-41,542	-6,458
2010/11 [1]	51,600	-54,582	-2,981	50,185	-54,389	-4,204

Forecast Period (Dth)

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season [1]	Non-Heating Season [2]	Total Split Year	Heating Season [1]	Non-Heating Season [2]	Total Split Year
2011/12	61,706	-56,450	5,256	62,263	-56,681	5,583
2012/13	63,598	-58,203	5,395	64,218	-58,441	5,777
2013/14	65,694	-60,397	5,298	66,356	-60,640	5,716
2014/15	68,163	-62,863	5,301	68,842	-63,112	5,730
2015/16	70,133	-64,423	5,710	70,831	-64,677	6,154

Notes:

[1] Heating season losses and unbilled sales assumed to be 6.09% in the forecast period.

[2] Non-heating season losses and unbilled sales assumed to be -5.68% in the forecast period.

Table NH-TOTAL-1

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
TOTAL COMPANY - FIRM THROUGHPUT
(includes Company Use, Forecasted Energy Efficiency Savings, Losses and Unbilled Sales and Marketing Program)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	4,010,756	2,590,497	6,601,253	4,099,690	2,664,589	6,764,279
2006/07	4,402,755	2,853,753	7,256,507	4,470,273	2,876,908	7,347,182
2007/08	4,656,952	2,677,754	7,334,706	4,617,966	2,700,674	7,318,640
2008/09	4,538,138	2,531,997	7,070,134	4,303,214	2,508,156	6,811,370
2009/10	4,256,988	2,392,713	6,649,701	4,366,356	2,686,542	7,052,898
2010/11 [1]	4,635,015	2,698,874	7,333,889	4,456,731	2,693,688	7,150,418
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	1.7%	0.2%	1.1%

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	4,557,101	2,751,473	7,308,574	5,020,399	2,769,519	7,789,918
2012/13	4,637,441	2,795,849	7,433,289	5,110,955	2,814,304	7,925,259
2013/14	4,740,090	2,869,227	7,609,317	5,225,738	2,888,119	8,113,857
2014/15	4,878,513	2,968,392	7,846,905	5,376,545	2,987,725	8,364,270
2015/16	5,006,102	3,041,905	8,048,006	5,516,627	3,061,678	8,578,305
CAGR (11/12-15/16)	2.4%	2.5%	2.4%	2.4%	2.5%	2.4%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

Table NH-TOTAL-2

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
TOTAL COMPANY - PLANNING LOAD
(includes Company Use, Forecasted Energy Efficiency Savings, Losses and Unbilled Sales and Marketing Program)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	1,664,016	1,664,016	N/A	1,641,937	1,641,937
2009/10	3,262,512	1,549,960	4,812,471	3,348,786	1,774,998	5,123,783
2010/11 [1]	3,597,453	1,791,766	5,389,220	3,447,621	1,789,779	5,237,400
CAGR (09/10-10/11)	*N/A*	*N/A*	*N/A*	3.0%	0.8%	2.2%

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	3,482,510	1,813,323	5,295,833	3,936,100	1,827,529	5,763,629
2012/13	3,529,906	1,828,560	5,358,466	3,992,614	1,843,061	5,835,675
2013/14	3,596,044	1,865,482	5,461,526	4,070,166	1,880,323	5,950,488
2014/15	3,691,467	1,923,662	5,615,129	4,177,686	1,938,858	6,116,544
2015/16	3,784,749	1,971,243	5,755,992	4,283,121	1,986,796	6,269,917
CAGR (11/12-15/16)	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

Table NH-TOTAL-3

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
TOTAL COMPANY - CAPACITY EXEMPT
(includes Company Use, Forecasted Energy Efficiency Savings, Losses and Unbilled Sales and Marketing Program)

Historical Period (Dth)

	ACTUAL			NORMAL		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2008/09	N/A	867,981	867,981	N/A	866,219	866,219
2009/10	994,476	842,753	1,837,229	1,017,570	911,544	1,929,114
2010/11 [1]	1,037,562	907,108	1,944,669	1,009,110	903,909	1,913,019
CAGR (09/10-10/11)	*N/A*	*N/A*	*N/A*	-0.8%	-0.8%	-0.8%

Forecast Period (Dth)

	NORMAL			DESIGN 1-in-33		
Split Year (11/1 - 10/31)	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	1,074,591	938,150	2,012,742	1,084,299	941,989	2,026,288
2012/13	1,107,534	967,289	2,074,823	1,118,342	971,243	2,089,585
2013/14	1,144,045	1,003,746	2,147,791	1,155,573	1,007,796	2,163,369
2014/15	1,187,045	1,044,730	2,231,775	1,198,860	1,048,866	2,247,726
2015/16	1,221,353	1,070,662	2,292,015	1,233,506	1,074,882	2,308,388
CAGR (11/12-15/16)	3.3%	3.4%	3.3%	3.3%	3.4%	3.3%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).

B. QUARTERLY DEMAND FORECAST MODELS – DETAILED STATISTICAL RESULTS

1. Customer Segment: Residential Heating – New Hampshire Division

a) Residential Heating Customer Model – New Hampshire Division

(1) Model Statistics – RHC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_RHC-Model_1	6	.995	43.990

ARIMA Model Parameters

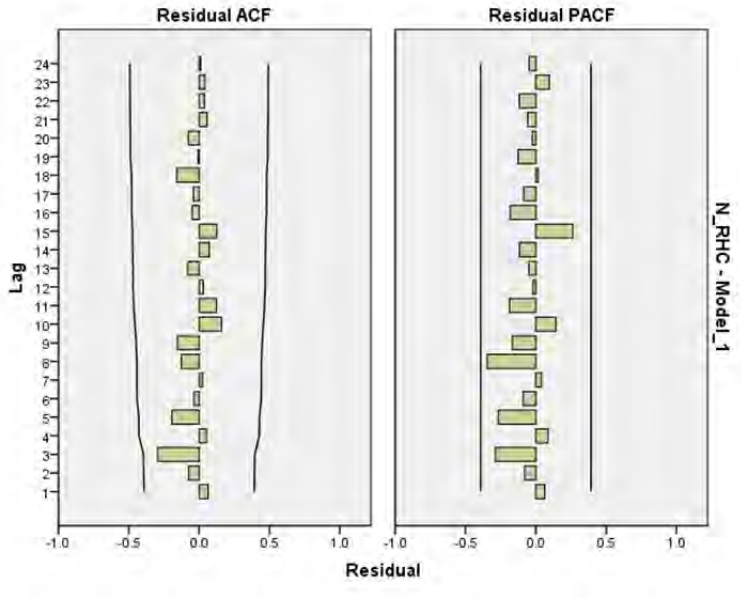
			Estimate	SE	t	Sig.
NH_RHC-Model_1	NH_RHC	Constant	-17553.902	1135.864	-15.454	.000
	Q3		-188.136	22.405	-8.397	.000
	Q4		-150.027	22.221	-6.751	.000
	N_HStock		.213	.007	32.415	.000
	D07Q2_08Q4		-83.592	24.911	-3.356	.004
	D09Q2		-143.524	52.840	-2.716	.014
	D09Q4AxN_Hstock		.001	.000	4.670	.000

Variable Definitions:

Q3	Dummy Variable: Quarter 3
Q4	Dummy Variable: Quarter 4
N_HStock	New Hampshire Division - Total Housing Stock (Units)
D07Q2_08Q4	Dummy Variable: 2007 Q2 to 2008 Q4
D09Q2	Dummy Variable: 2009 Q2
D09Q4AxN_Hstock	Interaction Term: New Hampshire Division - Total Housing Stock (Units) x 2009 Q4 and Beyond

N	25
Adjusted R^2	0.994
F statistic	623.610
White Stat	0.170
White Significance (p-value)	0.918

(2) ACF/PACF Graphs – RHC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – RHC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	18,726	18,703
2005Q2	18,849	18,837
2005Q3	18,806	18,757
2005Q4	18,886	18,904
2006Q1	19,198	19,172
2006Q2	19,237	19,281
2006Q3	19,092	19,149
2006Q4	19,201	19,253
2007Q1	19,493	19,470
2007Q2	19,424	19,452
2007Q3	19,293	19,321
2007Q4	19,442	19,416
2008Q1	19,711	19,623
2008Q2	19,649	19,681
2008Q3	19,584	19,578
2008Q4	19,656	19,687
2009Q1	20,005	20,003
2009Q2	19,920	19,920
2009Q3	19,940	19,903
2009Q4	20,186	20,165
2010Q1	20,299	20,368
2010Q2	20,389	20,405
2010Q3	20,258	20,264
2010Q4	20,423	20,367
2011Q1	20,587	20,571

YRQTR	Forecasted
2011Q2	20,622
2011Q3	20,482
2011Q4	20,571
2012Q1	20,772
2012Q2	20,824
2012Q3	20,693
2012Q4	20,797
2013Q1	21,028
2013Q2	21,116
2013Q3	21,022
2013Q4	21,160
2014Q1	21,414
2014Q2	21,520
2014Q3	21,442
2014Q4	21,594
2015Q1	21,861
2015Q2	21,979
2015Q3	21,909
2015Q4	22,065
2016Q1	22,334
2016Q2	22,453
2016Q3	22,383
2016Q4	22,540

b) Residential Heating Use Per Customer Model – New Hampshire Division

(1) Model Statistics – RHUPC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_RHUPC-Model_1	5	.998	.649

ARIMA Model Parameters

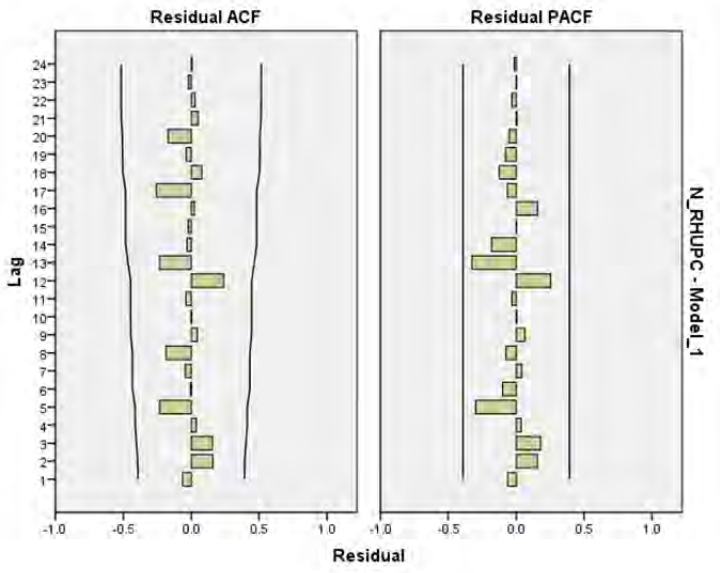
		Estimate	SE	t	Sig.
NH_RHUPC-Model_1	NH_RHUPC Constant	9.163	2.446	3.746	.001
	AR Lag 4	.815	.140	5.844	.000
	N_EDD	.010	.000	36.099	.000
	N_RHNGP	-.384	.155	-2.485	.023
	D2005	1.819	.428	4.248	.000
	Q4XN_EDD	-.003	.000	-6.320	.000
	D06Q1_07Q4	1.410	.468	3.015	.007

Variable Definitions:

AR Lag 4	Autoregressive Term Lag 4
N_EDD	New Hampshire Division - Billing Cycle EDD
N_RHNGP	New Hampshire Division - Residential Heating Natural Gas Price (Real 2010$)
D2005	Dummy Variable: 2005 Q1 to 2005 Q4
Q4XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 4
D06Q1_07Q4	Dummy Variable: 2006 Q1 to 2007 Q4

N	25
Adjusted R^2	0.998
F statistic	1807.599
White Stat	1.638
White Significance (p-value)	0.441

(2) ACF/PACF Graphs – RHUPC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – RHUPC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	45.1	43.9
2005Q2	20.6	21.6
2005Q3	5.8	5.3
2005Q4	17.8	17.7
2006Q1	39.5	39.4
2006Q2	17.3	17.2
2006Q3	5.4	5.0
2006Q4	15.6	15.7
2007Q1	41.6	42.0
2007Q2	19.0	18.8
2007Q3	5.6	5.3
2007Q4	17.8	17.3
2008Q1	40.0	39.4
2008Q2	17.8	18.2
2008Q3	5.1	4.6
2008Q4	17.5	17.6
2009Q1	42.2	42.7
2009Q2	15.6	16.8
2009Q3	5.6	5.7
2009Q4	15.5	16.6
2010Q1	38.6	39.3
2010Q2	14.0	13.6
2010Q3	4.9	4.8
2010Q4	16.6	16.7
2011Q1	41.7	41.7

YRQTR	Forecasted
2011Q2	18.5
2011Q3	5.1
2011Q4	17.0
2012Q1	39.1
2012Q2	18.6
2012Q3	4.9
2012Q4	17.0
2013Q1	39.0
2013Q2	18.5
2013Q3	4.7
2013Q4	17.1
2014Q1	39.0
2014Q2	18.6
2014Q3	4.6
2014Q4	17.2
2015Q1	39.2
2015Q2	18.9
2015Q3	4.7
2015Q4	17.4
2016Q1	39.4
2016Q2	19.0
2016Q3	4.7
2016Q4	17.5

2. Customer Segment: Residential Non-Heating – New Hampshire Division

a) Residential Non-Heating Customer Model – New Hampshire Division

(1) Model Statistics – RRC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_RRC-Model_1	6	.994	8.608

ARIMA Model Parameters

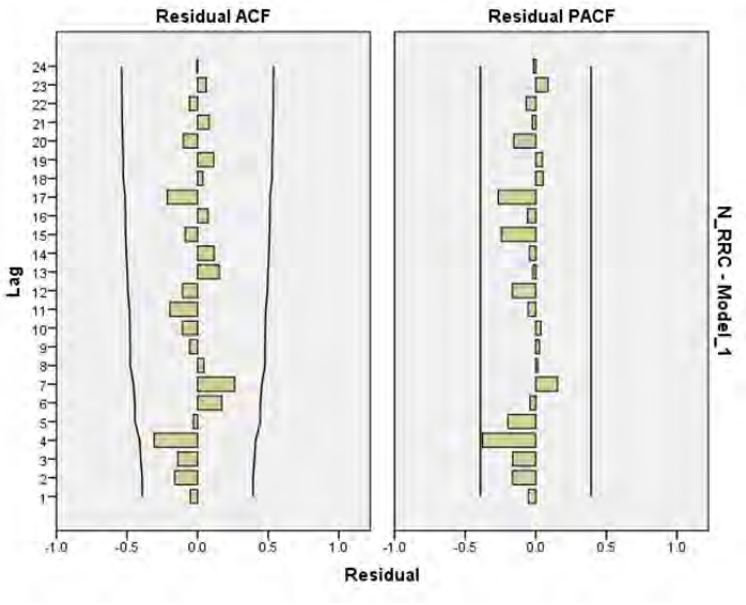
			Estimate	SE	t	Sig.
NH_RRC-	NH_RRC	Constant	1944.435	6.851	283.810	.000
	Q2		41.545	4.371	9.504	.000
	Q3		52.418	4.365	12.008	.000
	D05Q1_D05Q2		29.310	7.770	3.772	.001
	TRENDQ		-14.609	.426	-34.263	.000
	I_10Q1_After		2.730	.252	10.853	.000
	D09_Q4		56.188	9.894	5.679	.000

Variable Definitions:

Q2	Dummy Variable: Quarter 2
Q3	Dummy Variable: Quarter 3
D05Q1_D05Q2	Dummy Variable: 2005 Q1 to 2005 Q2
TRENDQ	Quarterly Trend
I_10Q1_After	Interaction Term: Quarterly Trend x 2010 Quarter 1 and Beyond
D09_Q4	Dummy Variable: 2009 Q4

N	25
Adjusted R^2	0.992
F statistic	485.023
White Stat	0.239
White Significance (p-value)	0.887

(2) ACF/PACF Graphs – RRC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – RRC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	1,909	1,901
2005Q2	1,920	1,928
2005Q3	1,903	1,895
2005Q4	1,831	1,828
2006Q1	1,811	1,813
2006Q2	1,846	1,840
2006Q3	1,824	1,836
2006Q4	1,762	1,769
2007Q1	1,758	1,755
2007Q2	1,788	1,781
2007Q3	1,778	1,778
2007Q4	1,717	1,711
2008Q1	1,692	1,696
2008Q2	1,713	1,723
2008Q3	1,710	1,719
2008Q4	1,651	1,652
2009Q1	1,639	1,638
2009Q2	1,665	1,665
2009Q3	1,674	1,661
2009Q4	1,650	1,650
2010Q1	1,631	1,647
2010Q2	1,682	1,677
2010Q3	1,677	1,676
2010Q4	1,622	1,612
2011Q1	1,599	1,600

YRQTR	Forecasted
2011Q2	1,630
2011Q3	1,629
2011Q4	1,564
2012Q1	1,552
2012Q2	1,582
2012Q3	1,581
2012Q4	1,517
2013Q1	1,505
2013Q2	1,535
2013Q3	1,534
2013Q4	1,469
2014Q1	1,457
2014Q2	1,487
2014Q3	1,486
2014Q4	1,422
2015Q1	1,410
2015Q2	1,440
2015Q3	1,439
2015Q4	1,374
2016Q1	1,362
2016Q2	1,392
2016Q3	1,391
2016Q4	1,327

b) Residential Non-Heating Use Per Customer Model – New Hampshire Division

(1) Model Statistics – RRUPC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_RRUPC-Model_1	8	.993	.169

ARIMA Model Parameters

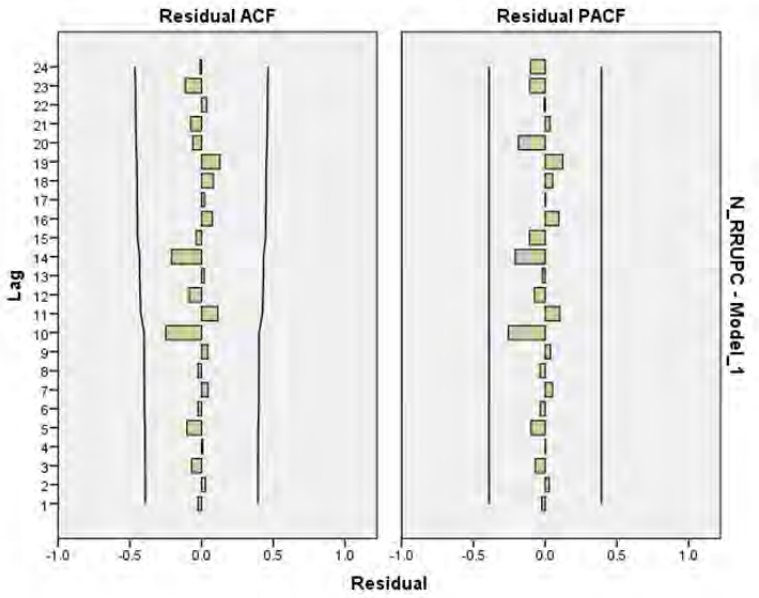
		Estimate	SE	t	Sig.
NH_RRUPC-Model_1	NH_RRUPC Constant	6.108	.442	13.806	.000
	AR Lag 1	-.640	.239	-2.676	.018
	AR Lag 2	-.657	.251	-2.620	.020
	N_RRNGP	-.119	.019	-6.289	.000
	Q1XN_EDD	.001	.000	13.509	.000
	D07Q1_07Q2	.397	.081	4.924	.000
	I_08Q3_After	-.458	.148	-3.102	.008
	I09Q1_AfterXQ1XNGP	-.332	.079	-4.213	.001
	I08Q4_09Q2_AfterXNGP	.016	.005	3.252	.006
	Q2_4XN_EDD	.000	.000	6.290	.000
	I2009Q1_AfterXQ1XEDDs	.002	.000	5.301	.000

Variable Definitions:

AR Lag 1	Autoregressive Term Lag 1
AR Lag 2	Autoregressive Term Lag 2
N_RRNGP	New Hampshire Division - Residential Non-Heating Natural Gas Price (Real 2010$)
Q1XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 1
D07Q1_07Q2	Dummy Variable: 2007 Q1 to 2007 Q2
I_08Q3_After	Interaction Term: Quarter 3 x 2008 Q3 and Beyond
I09Q1_AfterXQ1XNGP	Interaction Term: New Hampshire Division - Residential Non-Heating Natural Gas Price (Real 2010$) x Quarter 1 x 2009 Q1 and Beyond
I08Q4_09Q2_AfterXNGP	Interaction Term: New Hampshire Division - Residential Non-Heating Natural Gas Price (Real 2010$) x Quarters 2 & 4 x 2008 Q4 and Beyond
Q2_4XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarters 2 & 4
I2009Q1_AfterXQ1XEDDs	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 1 x 2009 Q1 and Beyond

N	25
Adjusted R^2	0.988
F statistic	193.737
White Stat	1.030
White Significance (p-value)	0.598

(2) ACF/PACF Graphs – RRUPC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – RRUPC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	5.5	5.8
2005Q2	4.3	4.3
2005Q3	3.2	3.5
2005Q4	4.0	4.1
2006Q1	5.5	5.6
2006Q2	4.1	3.9
2006Q3	3.2	3.1
2006Q4	3.9	3.9
2007Q1	6.0	6.1
2007Q2	4.4	4.5
2007Q3	3.4	3.3
2007Q4	4.2	4.2
2008Q1	5.8	5.7
2008Q2	4.2	4.2
2008Q3	3.1	3.0
2008Q4	4.6	4.7
2009Q1	7.4	7.5
2009Q2	4.8	4.6
2009Q3	3.0	3.1
2009Q4	4.6	4.8
2010Q1	8.0	8.0
2010Q2	4.6	4.7
2010Q3	3.3	3.3
2010Q4	5.4	5.2
2011Q1	8.9	8.9

YRQTR	Forecasted
2011Q2	4.8
2011Q3	3.6
2011Q4	5.1
2012Q1	8.2
2012Q2	5.0
2012Q3	3.5
2012Q4	5.0
2013Q1	8.1
2013Q2	4.9
2013Q3	3.4
2013Q4	5.1
2014Q1	8.0
2014Q2	4.9
2014Q3	3.4
2014Q4	5.1
2015Q1	8.2
2015Q2	4.9
2015Q3	3.5
2015Q4	5.1
2016Q1	8.3
2016Q2	5.0
2016Q3	3.5
2016Q4	5.1

3. Customer Segment: C&I Low Load Factor – New Hampshire Division

a) C&I LLF Customer Model – New Hampshire Division

(1) Model Statistics – LLFC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_LLFC-Model_1	8	.987	18.860

ARIMA Model Parameters

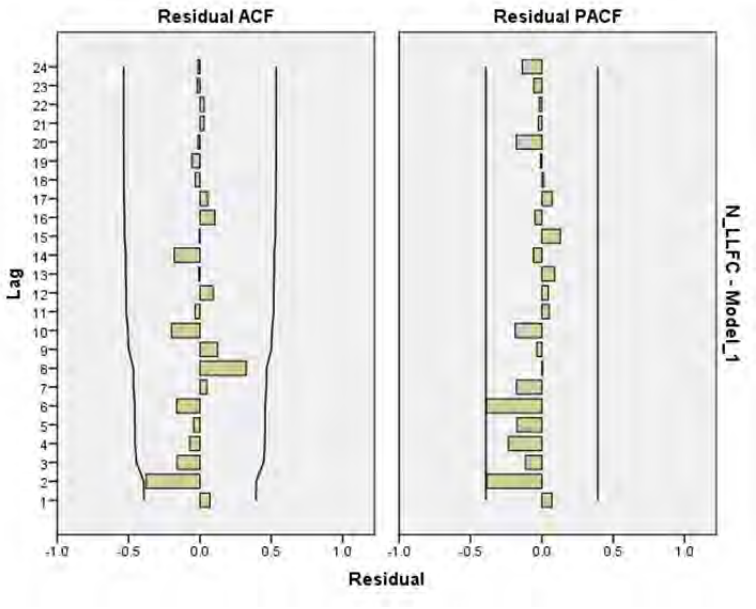
			Estimate	SE	t	Sig.
NH_LLFC-Model_1	NH_LLFC	Constant	2075.068	745.586	2.783	.013
	Q1		62.922	9.171	6.861	.000
	Q3		-76.484	9.715	-7.873	.000
	N_EMP_NM		15.475	4.453	3.475	.003
	D07Q1_07Q3		37.534	15.789	2.377	.030
	D09Q3_10Q1		37.763	15.349	2.460	.026
	I05Q4_07Q3XSVC_Emp		.524	.144	3.631	.002
	I07Q4_08Q4XSVC_Emp		1.238	.200	6.190	.000
	I09Q1_AfterXNM_Emp		1.840	.095	19.377	.000

Variable Definitions:

Q1	Dummy Variable: Quarter 1
Q3	Dummy Variable: Quarter 3
N_EMP_NM	New Hampshire Division - Total Non-manufacturing Employment (Thousands)
D07Q1_07Q3	Dummy Variable: 2007 Q1 to 2007 Q3
D09Q3_10Q1	Dummy Variable: 2009 Q3 to 2010 Q1
I05Q4_07Q3XSVC_Emp	Interaction Term: New Hampshire Division - Total Service Employment (Thousands) x 2005 Q4 to 2007 Q3
I07Q4_08Q4XSVC_Emp	Interaction Term: New Hampshire Division - Total Service Employment (Thousands) x 2007 Q4 to 2008 Q4
I09Q1_AfterXNM_Emp	Interaction Term: New Hampshire Division - Total Non-manufacturing Employment (Thousands) x 2009 Q1 and Beyond

N	25
Adjusted R^2	0.980
F statistic	151.820
White Stat	3.273
White Significance (p-value)	0.195

(2) ACF/PACF Graphs – LLFC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – LLFC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	4,708	4,718
2005Q2	4,673	4,669
2005Q3	4,611	4,605
2005Q4	4,761	4,769
2006Q1	4,836	4,830
2006Q2	4,771	4,791
2006Q3	4,712	4,724
2006Q4	4,835	4,802
2007Q1	4,919	4,909
2007Q2	4,834	4,850
2007Q3	4,788	4,781
2007Q4	4,898	4,918
2008Q1	4,988	4,999
2008Q2	4,916	4,934
2008Q3	4,855	4,840
2008Q4	4,933	4,898
2009Q1	5,071	5,064
2009Q2	4,969	4,976
2009Q3	4,920	4,929
2009Q4	5,042	5,024
2010Q1	5,083	5,091
2010Q2	4,997	5,013
2010Q3	4,923	4,929
2010Q4	5,039	5,025
2011Q1	5,111	5,103

YRQTR	Forecasted
2011Q2	5,055
2011Q3	4,989
2011Q4	5,081
2012Q1	5,160
2012Q2	5,108
2012Q3	5,042
2012Q4	5,131
2013Q1	5,203
2013Q2	5,154
2013Q3	5,095
2013Q4	5,189
2014Q1	5,266
2014Q2	5,218
2014Q3	5,157
2014Q4	5,248
2015Q1	5,324
2015Q2	5,275
2015Q3	5,212
2015Q4	5,302
2016Q1	5,378
2016Q2	5,328
2016Q3	5,265
2016Q4	5,354

b) C&I LLF Use Per Customer Model – New Hampshire Division

(1) Model Statistics – LLFUPC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_LLFUPC-Model_1	5	.997	4.853

ARIMA Model Parameters

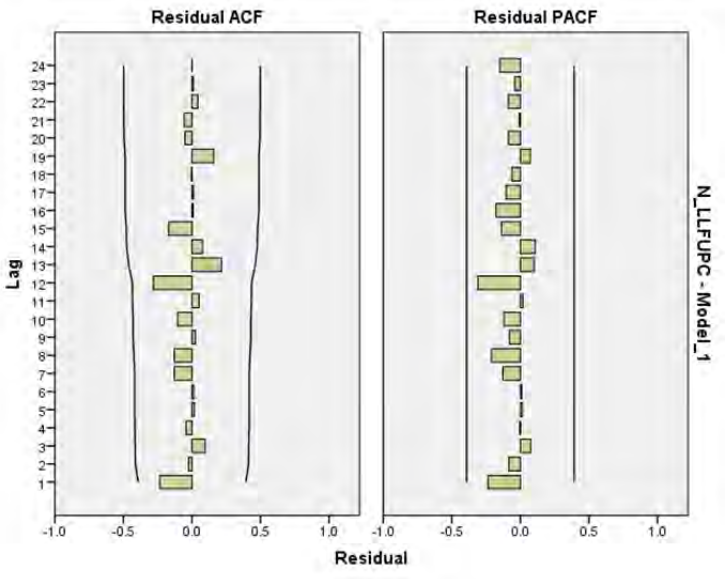
		Estimate	SE	t	Sig.
NH_LLFUPC-Model_1	NH_LLFUP Constant	48.928	11.603	4.217	.000
	N_LLFNGP	-1.971	.747	-2.637	.016
	D08Q1	-13.088	5.231	-2.502	.022
	Q1XN_EDD	.064	.001	44.164	.000
	Q3XN_EDD	.098	.044	2.210	.040
	Q2_4XN_EDD	.051	.003	16.631	.000

Variable Definitions:

N_LLFNGP	New Hampshire Division - C&I LLF Natural Gas Price (Real 2010$)
D08Q1	Dummy Variable: 2008 Q1
Q1XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 1
Q3XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 3
Q2_4XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarters 2 & 4

N	25
Adjusted R^2	0.997
F statistic	1445.501
White Stat	1.108
White Significance (p-value)	0.575

(2) ACF/PACF Graphs – LLFUPC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – LLFUPC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	266	262
2005Q2	102	102
2005Q3	24	26
2005Q4	111	110
2006Q1	231	230
2006Q2	87	86
2006Q3	33	26
2006Q4	91	99
2007Q1	249	248
2007Q2	97	94
2007Q3	24	28
2007Q4	107	112
2008Q1	228	228
2008Q2	91	94
2008Q3	22	26
2008Q4	115	116
2009Q1	254	258
2009Q2	94	88
2009Q3	34	35
2009Q4	122	111
2010Q1	239	242
2010Q2	75	80
2010Q3	33	29
2010Q4	121	120
2011Q1	261	261

YRQTR	Forecasted
2011Q2	100
2011Q3	32
2011Q4	121
2012Q1	244
2012Q2	99
2012Q3	31
2012Q4	120
2013Q1	243
2013Q2	98
2013Q3	30
2013Q4	119
2014Q1	242
2014Q2	98
2014Q3	30
2014Q4	120
2015Q1	243
2015Q2	99
2015Q3	31
2015Q4	120
2016Q1	244
2016Q2	99
2016Q3	31
2016Q4	121

4. Customer Segment: C&I High Load Factor – New Hampshire Division

a) C&I HLF Customer Model – New Hampshire Division

(1) Model Statistics – HLFC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_HLFC-Model_1	7	.979	7.711

ARIMA Model Parameters

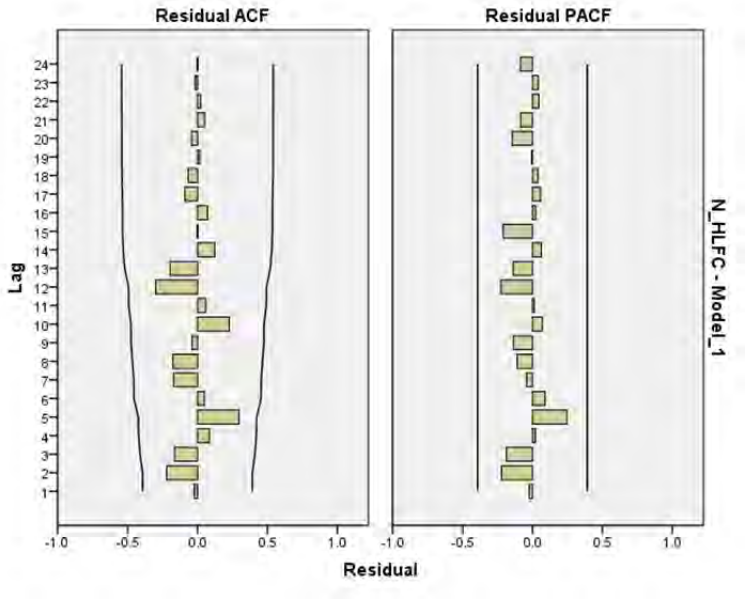
		Estimate	SE	t	Sig.
NH_HLFC-	NH_HLFC Constant	1071.916	38.729	27.677	.000
	N_EMP_MAN_L4Q	7.774	2.026	3.837	.001
	Q2_Q3	48.745	3.784	12.882	.000
	D05Q1	45.526	8.484	5.366	.000
	D05Q2_05Q3	80.837	6.304	12.823	.000
	D06Q3_08Q3	28.316	4.069	6.959	.000
	D05Q4_06Q1	-19.250	6.516	-2.954	.009
	D08Q4_09Q1	-17.942	7.304	-2.456	.025

Variable Definitions:

N_EMP_MAN_L4Q	New Hampshire Division - Total Manufacturing Employment (Thousands) - Lagged 4 Quarters
Q2_Q3	Dummy Variable: Quarter 2 and Quarter 3
D05Q1	Dummy Variable: 2005 Q1
D05Q2_05Q3	Dummy Variable: 2005 Q2 to 2005 Q3
D06Q3_08Q3	Dummy Variable: 2006 Q3 to 2008 Q3
D05Q4_06Q1	Dummy Variable: 2005 Q4 to 2006 Q1
D08Q4_09Q1	Dummy Variable: 2008 Q4 to 2009 Q1

N	25
Adjusted R^2	0.971
F statistic	113.850
White Stat	4.368
White Significance (p-value)	0.113

(2) ACF/PACF Graphs – HLFC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – HLFC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	1,271	1,271
2005Q2	1,352	1,357
2005Q3	1,361	1,357
2005Q4	1,208	1,206
2006Q1	1,204	1,206
2006Q2	1,289	1,275
2006Q3	1,297	1,303
2006Q4	1,255	1,254
2007Q1	1,251	1,253
2007Q2	1,317	1,304
2007Q3	1,315	1,306
2007Q4	1,254	1,260
2008Q1	1,255	1,260
2008Q2	1,310	1,310
2008Q3	1,305	1,310
2008Q4	1,216	1,214
2009Q1	1,216	1,218
2009Q2	1,273	1,284
2009Q3	1,283	1,284
2009Q4	1,240	1,231
2010Q1	1,222	1,222
2010Q2	1,262	1,266
2010Q3	1,250	1,261
2010Q4	1,209	1,211
2011Q1	1,213	1,210

YRQTR	Forecasted
2011Q2	1,259
2011Q3	1,260
2011Q4	1,209
2012Q1	1,212
2012Q2	1,260
2012Q3	1,261
2012Q4	1,214
2013Q1	1,215
2013Q2	1,266
2013Q3	1,267
2013Q4	1,218
2014Q1	1,219
2014Q2	1,268
2014Q3	1,269
2014Q4	1,220
2015Q1	1,221
2015Q2	1,270
2015Q3	1,270
2015Q4	1,222
2016Q1	1,223
2016Q2	1,272
2016Q3	1,272
2016Q4	1,223

b) C&I HLF Use Per Customer Model – New Hampshire Division

(1) Model Statistics – HLFUPC – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_HLFUPC-Model_1	11	.991	12.938

ARIMA Model Parameters

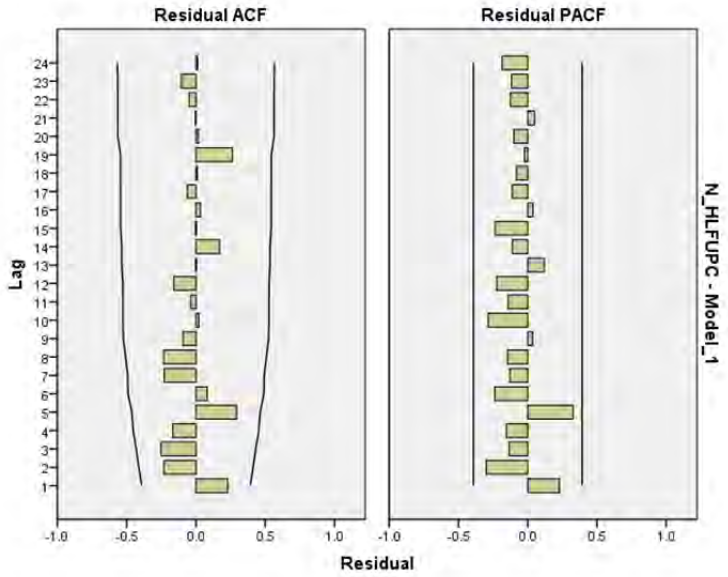
		Estimate	SE	t	Sig.
NH_HLFUPC-Model_1	NH_HLFUP Constant	-80.576	78.367	-1.028	.323
	N_HLFNGP	-18.001	3.978	-4.525	.001
	N_EMP_MAN	19.261	5.476	3.517	.004
	D06Q3_08Q2	96.640	10.105	9.564	.000
	Q1XN_EDD	.080	.013	6.094	.000
	Q2XN_EDD	.127	.031	4.045	.001
	Q3	125.407	43.751	2.866	.013
	Q4XN_EDD	.108	.025	4.377	.001
	D07Q1_07Q2	68.582	16.648	4.120	.001
	D07Q3A	74.468	11.220	6.637	.000
	D07Q4AXN_EDD	.017	.005	3.810	.002
	D08Q4	98.169	17.600	5.578	.000

Variable Definitions:

N_HLFNGP	New Hampshire Division - C&I HLF Natural Gas Price (Real 2010$)
N_EMP_MAN	New Hampshire Division - Total Manufacturing Employment (Thousands)
D06Q3_08Q2	Dummy Variable: 2006 Q3 to 2008 Q2
Q1XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 1
Q2XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 2
Q3	Dummy Variable: Quarter 3
Q4XN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x Quarter 4
D07Q1_07Q2	Dummy Variable: 2007 Q1 to 2007 Q2
D07Q3A	Dummy Variable: 2007 Q3 and Beyond
D07Q4AXN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x 2007 Q4 and Beyond
D08Q4	Dummy Variable: 2008 Q4

N	25
Adjusted R^2	0.983
F statistic	128.257
White Stat	0.938
White Significance (p-value)	0.626

(2) ACF/PACF Graphs – HLFUPC – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values - HLFUPC – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	400	398
2005Q2	289	303
2005Q3	219	224
2005Q4	284	283
2006Q1	349	345
2006Q2	281	255
2006Q3	303	304
2006Q4	344	356
2007Q1	503	510
2007Q2	416	408
2007Q3	363	346
2007Q4	471	467
2008Q1	595	597
2008Q2	468	471
2008Q3	262	266
2008Q4	461	461
2009Q1	465	469
2009Q2	299	314
2009Q3	245	253
2009Q4	362	357
2010Q1	455	464
2010Q2	294	293
2010Q3	264	263
2010Q4	376	373
2011Q1	523	506

YRQTR	Forecasted
2011Q2	365
2011Q3	275
2011Q4	391
2012Q1	489
2012Q2	375
2012Q3	284
2012Q4	398
2013Q1	491
2013Q2	375
2013Q3	284
2013Q4	399
2014Q1	493
2014Q2	379
2014Q3	289
2014Q4	407
2015Q1	505
2015Q2	390
2015Q3	299
2015Q4	414
2016Q1	511
2016Q2	394
2016Q3	304
2016Q4	419

5. Special Contracts – New Hampshire Division

Demand for Northern's four Special Contract customers was forecasted by developing individual models for each customer. Summary historical and forecasted demand by season as well as detailed statistical summaries for each Special Contract customer, including (a) the results of the statistical tests that were performed, (b) historical actual data, (c) historical fitted values, and (d) forecasted values for both Northern's Maine and New Hampshire Divisions are provided below.

a) Special Contract No. 3 – New Hampshire Division

(1) Historical and Forecasted Firm Demand by Season

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACT NO. 3

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	175,790	261,232	437,022	174,701	261,213	435,913
2006/07	214,404	310,891	525,295	215,684	311,172	526,856
2007/08	187,076	293,755	480,830	186,304	293,771	480,075
2008/09	168,736	288,618	457,355	168,286	288,167	456,453
2009/10	216,108	307,705	523,813	216,374	309,009	525,383
2010/11 [1]	212,621	312,808	525,429	212,284	312,808	525,092
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	4.0%	3.7%	3.8%

Forecast Period (Dth) [2]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	211,044	312,808	523,852	211,781	313,142	524,923
2012/13	211,044	312,808	523,852	211,781	313,142	524,923
2013/14	211,044	312,808	523,852	211,781	313,142	524,923
2014/15	211,044	312,808	523,852	211,781	313,142	524,923
2015/16	211,044	312,808	523,852	211,781	313,142	524,923
CAGR (11/12-15/16)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).
[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales and marketing program.

(2) Firm Demand Models – Detailed Statistical Results

(a) Model Statistics – SPC3 – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
SPC3_Dth-Model_1	7	.892	4482.371

ARIMA Model Parameters

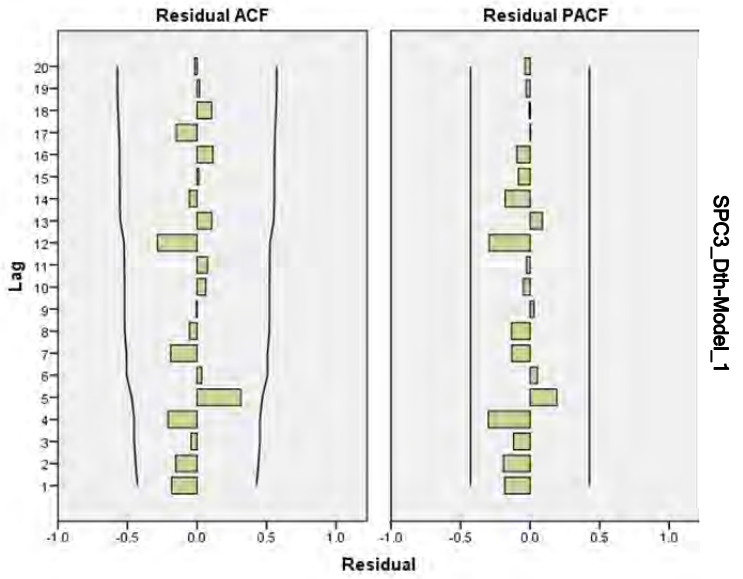
			Estimate	SE	t	Sig.
SPC3_Dth-Model_1	SPC3_Dth	Constant	120035.126	1805.747	66.474	.000
	Q4		-17352.528	3675.793	-4.721	.000
	D06Q2		-14987.326	4832.429	-3.101	.008
	D06Q4_07Q3		11681.160	2753.130	4.243	.001
	D09Q1		-23317.809	5313.244	-4.389	.001
	Q1XN_EDD_CAL		-3.678	1.227	-2.998	.010
	I06Q4_AfterXCal_EDDs		4.026	1.460	2.757	.016
	D09Q4_After		11407.361	2487.743	4.585	.001

Variable Definitions:

Q4	Dummy Variable: Quarter 4
D06Q2	Dummy Variable: 2006 Q2
D06Q4_07Q3	Dummy Variable: 2006 Q4 to 2007 Q3
D09Q1	Dummy Variable: 2009 Q1
Q1XN_EDD_CAL	Interaction Term: New Hampshire Division - Calendar Cycle EDD x Quarter 1
I06Q4_AfterXCal_EDDs	Interaction Term: New Hampshire Division - Calendar Cycle EDD x 2006 Q4 and Beyond
D09Q4_After	Dummy Variable: 2009 Q4 and Beyond

N	21
Adjusted R^2	0.833
F statistic	15.277
White Stat	3.558
White Significance (p-value)	0.169

(b) ACF/PACF Graphs – SPC3 – New Hampshire Division



(c) Actual, Fitted, and Forecasted Values – SPC3 – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	105,463	*N/A*
2005Q2	111,252	*N/A*
2005Q3	92,812	*N/A*
2005Q4	106,984	*N/A*
2006Q1	109,384	108,394
2006Q2	105,048	105,048
2006Q3	113,667	120,035
2006Q4	124,251	122,568
2007Q1	132,670	132,961
2007Q2	134,029	136,112
2007Q3	133,056	132,364
2007Q4	106,113	112,381
2008Q1	124,768	121,218
2008Q2	132,207	123,940
2008Q3	121,572	120,663
2008Q4	110,735	112,759
2009Q1	97,977	97,977
2009Q2	120,845	123,976
2009Q3	125,045	120,969
2009Q4	125,353	123,740
2010Q1	133,484	132,538
2010Q2	134,616	134,389
2010Q3	128,841	131,841
2010Q4	128,960	123,965
2011Q1	127,908	132,690

YRQTR	Forecasted
2011Q2	135,500
2011Q3	132,110
2011Q4	123,596
2012Q1	132,646
2012Q2	135,500
2012Q3	132,110
2012Q4	123,596
2013Q1	132,646
2013Q2	135,500
2013Q3	132,110
2013Q4	123,596
2014Q1	132,646
2014Q2	135,500
2014Q3	132,110
2014Q4	123,596
2015Q1	132,646
2015Q2	135,500
2015Q3	132,110
2015Q4	123,596
2016Q1	132,646
2016Q2	135,500
2016Q3	132,110
2016Q4	123,596

b) Special Contract No. 4 – New Hampshire Division

(1) Historical and Forecasted Firm Demand by Season

NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION
FIRM DEMAND BY CUSTOMER SEGMENT
SPECIAL CONTRACT NO. 4

Historical Period (Dth)

Split Year (11/1 - 10/31)	ACTUAL			NORMAL		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2005/06	313,976	396,781	710,757	315,246	396,865	712,111
2006/07	276,827	361,792	638,619	277,878	362,140	640,018
2007/08	260,312	345,892	606,204	259,636	345,912	605,548
2008/09	235,915	318,518	554,433	234,627	318,461	553,089
2009/10	240,707	285,318	526,026	241,204	285,778	526,982
2010/11 [1]	207,517	295,983	503,500	207,237	295,983	503,220
CAGR (05/06-10/11)	*N/A*	*N/A*	*N/A*	-8.0%	-5.7%	-6.7%

Forecast Period (Dth) [2]

Split Year (11/1 - 10/31)	NORMAL			DESIGN 1-in-33		
	Heating Season	Non-Heating Season	Total Split Year	Heating Season	Non-Heating Season	Total Split Year
2011/12	208,551	297,599	506,150	209,404	297,711	507,116
2012/13	214,688	310,933	525,621	215,541	311,046	526,587
2013/14	226,419	324,055	550,474	227,273	324,167	551,440
2014/15	232,884	330,626	563,510	233,738	330,738	564,476
2015/16	236,065	332,118	568,183	236,919	332,230	569,149
CAGR (11/12-15/16)	3.1%	2.8%	2.9%	3.1%	2.8%	2.9%

Notes:
[1] 2010/11 has 5 months of actual data (i.e., November through March) and 7 months of forecast data (i.e., April through October).
[2] Demand forecast results are before adjustments for energy efficiency savings, losses and unbilled sales and marketing program.

(2) Firm Demand Models – Detailed Statistical Results

(a) Model Statistics – SPC4 – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
SPC4_Dth-Model_1	10	.981	4155.481

ARIMA Model Parameters

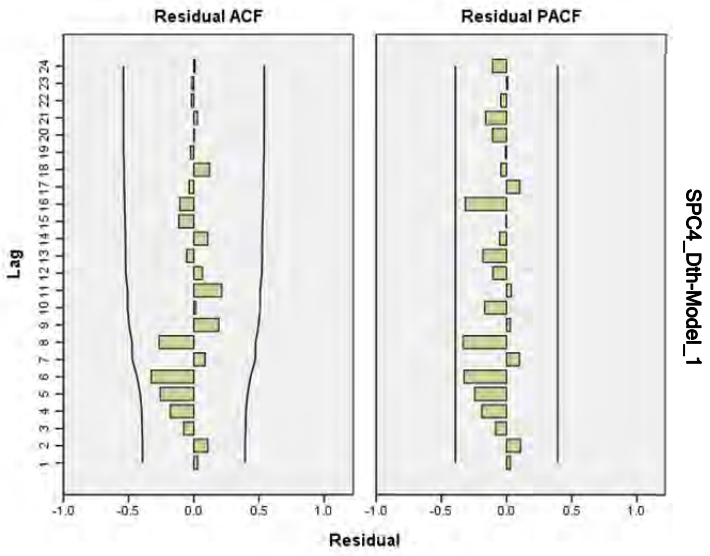
		Estimate	SE	t	Sig.
SPC4_Dth-Model_1	SPC4_Dth Constant	118807.022	3055.525	38.883	.000
	AR Lag 1	-.641	.214	-2.992	.010
	Q4	-5818.673	2423.232	-2.401	.032
	N_EDD_CAL	4.978	.720	6.915	.000
	HST_L4Q_ALL	934.433	104.225	8.965	.000
	D05Q1	-14500.483	4956.965	-2.925	.012
	D06Q2_Before	23661.163	1799.487	13.149	.000
	D08Q4	-22101.240	4849.655	-4.557	.001
	D10Q1_After	-8163.559	2357.305	-3.463	.004
	CAl_EDD_09Q3_After	-3.558	1.217	-2.924	.012
	D08Q3	10817.509	4347.073	2.488	.027
	D10Q1	31874.536	4832.035	6.597	.000

Variable Definitions:

AR Lag 1	Autoregressive Term Lag 1
Q4	Dummy Variable: Quarter 4
N_EDD_CAL	New Hampshire Division - Calendar Cycle EDD
HST_L4Q_ALL	Maine, New Hampshire and Massachusetts Regional - Housing Starts, Total Private, Lag 4 Quarters (i.e., 1 Year)
D05Q1	Dummy Variable: 2005 Q1
D06Q2_Before	Dummy Variable: 2006 Q2 and Earlier
D08Q4	Dummy Variable: 2008 Q4
D10Q1_After	Dummy Variable: 2010 Q1 and Beyond
CAl_EDD_09Q3_After	Interaction Term: New Hampshire Division - Calendar Cycle EDD x 2009 Q3 and Beyond
D08Q3	Dummy Variable: 2008 Q3
D10Q1	Dummy Variable: 2010 Q1

N	25
Adjusted R^2	0.966
F statistic	62.188
White Stat	1.220
White Significance (p-value)	0.543

(b) ACF/PACF Graphs – SPC4 – New Hampshire Division



(c) Actual, Fitted, and Forecasted Values – SPC4 – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	175,473	178,949
2005Q2	186,338	183,136
2005Q3	175,996	173,459
2005Q4	186,624	186,032
2006Q1	192,382	196,124
2006Q2	185,504	186,819
2006Q3	158,154	158,215
2006Q4	154,558	157,711
2007Q1	175,392	174,111
2007Q2	151,732	155,777
2007Q3	153,761	149,891
2007Q4	146,851	147,273
2008Q1	169,761	165,346
2008Q2	153,064	146,022
2008Q3	149,633	150,220
2008Q4	126,967	126,050
2009Q1	152,144	153,576
2009Q2	141,902	144,217
2009Q3	130,555	137,890
2009Q4	132,603	131,005
2010Q1	154,165	153,639
2010Q2	122,846	123,667
2010Q3	123,434	122,467
2010Q4	119,021	118,751
2011Q1	127,534	128,271

YRQTR	Forecasted
2011Q2	127,436
2011Q3	125,581
2011Q4	123,067
2012Q1	128,450
2012Q2	127,352
2012Q3	126,657
2012Q4	124,853
2013Q1	133,424
2013Q2	132,007
2013Q3	132,861
2013Q4	131,944
2014Q1	140,541
2014Q2	138,269
2014Q3	138,223
2014Q4	136,235
2015Q1	144,213
2015Q2	141,409
2015Q3	140,858
2015Q4	138,514
2016Q1	145,910
2016Q2	142,442
2016Q3	141,276
2016Q4	138,631

6. Company Use – New Hampshire Division

a) Company Use Demand Model – New Hampshire Division

(1) Model Statistics – COUSE – New Hampshire Division

Model Statistics

Model	Number of Predictors	Model Fit statistics	
		R-squared	RMSE
N_COUSE-Model_1	6	.984	43.474

ARIMA Model Parameters

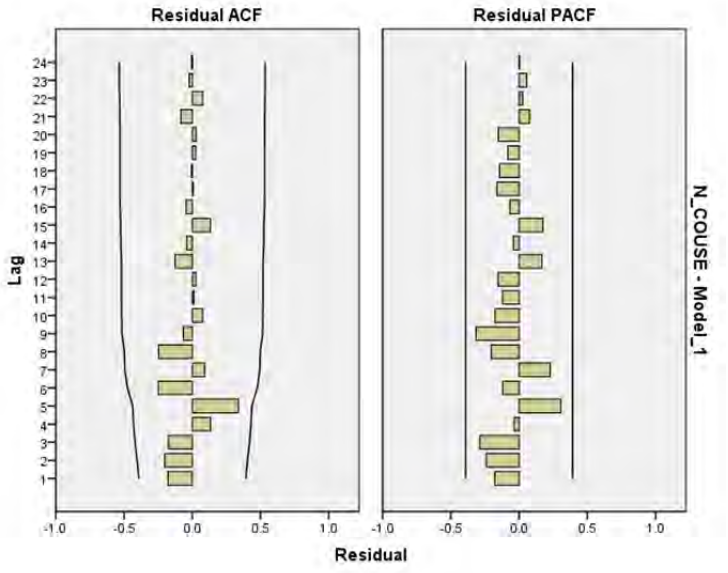
		Estimate	SE	t	Sig.
NH_COUSE-Model_1	NH_COUSE Constant	-54.994	27.307	-2.014	.059
	Q3	259.597	33.545	7.739	.000
	N_EDD	.114	.012	9.320	.000
	D05Q1_06Q2	91.386	22.958	3.981	.001
	D05Q1_09Q2xN_EDD	.141	.009	15.162	.000
	D09Q3AxQ3	-208.273	38.056	-5.473	.000
	D06Q1	124.850	49.689	2.513	.022

Variable Definitions:

Q3	Dummy Variable: Quarter 3
N_EDD	New Hampshire Division - Billing Cycle EDD
D05Q1_06Q2	Dummy Variable: 2005 Q1 to 2006 Q2
D05Q1_09Q2xN_EDD	Interaction Term: New Hampshire Division - Billing Cycle EDD x 2009 Q2 and Earlier
D09Q3AxQ3	Interaction Term: Quarter 3 x 2009 Q3 and Beyond
D06Q1	Dummy Variable: 2006 Q1

N	25
Adjusted R^2	0.978
F statistic	180.417
White Stat	4.674
White Significance (p-value)	0.097

(2) ACF/PACF Graphs – COUSE – New Hampshire Division



(3) Actual, Fitted, and Forecasted Values – COUSE – New Hampshire Division

YRQTR	Actual	Fitted
2005Q1	992	998
2005Q2	411	452
2005Q3	397	314
2005Q4	462	498
2006Q1	1,012	1,012
2006Q2	393	392
2006Q3	237	232
2006Q4	410	361
2007Q1	875	863
2007Q2	408	339
2007Q3	165	237
2007Q4	392	422
2008Q1	866	830
2008Q2	359	325
2008Q3	211	226
2008Q4	367	445
2009Q1	889	907
2009Q2	325	305
2009Q3	12	18
2009Q4	141	154
2010Q1	330	337
2010Q2	80	72
2010Q3	9	4
2010Q4	139	161
2011Q1	390	369

YRQTR	Forecasted
2011Q2	119
2011Q3	7
2011Q4	165
2012Q1	339
2012Q2	119
2012Q3	7
2012Q4	165
2013Q1	339
2013Q2	119
2013Q3	7
2013Q4	165
2014Q1	339
2014Q2	119
2014Q3	7
2014Q4	165
2015Q1	339
2015Q2	119
2015Q3	7
2015Q4	165
2016Q1	339
2016Q2	119
2016Q3	7
2016Q4	165