

COMMONWEALTH EDISON COMPANY

Load Forecast for Five-Year Planning Period  
June 2011 – May 2016

July 15, 2010

TABLE OF CONTENTS

	<u>Page</u>
<b>I. INTRODUCTION AND SUMMARY .....</b>	<b>1</b>
<b>II. LOAD FORECAST .....</b>	<b>1</b>
<b>A. Purpose and Summary .....</b>	<b>1</b>
<b>B. Development of the Five-Year Load Forecast         (June 1, 2010 – May 31, 2015).....</b>	<b>2</b>
<b>1. Hourly Load Analysis .....</b>	<b>2</b>
<b>a. Multi-year historical analysis of hourly load .....</b>	<b>2</b>
<b>(i) Residential Single-Family Hourly Load                     Profile Analysis.....</b>	<b>5</b>
<b>b. Switching Trends and Competitive Retail                 Market Analysis .....</b>	<b>8</b>
<b>(i) Introduction and Brief Overview of                     Retail Development.....</b>	<b>8</b>
<b>(ii) RES Development .....</b>	<b>9</b>
<b>(iii) Future Trends.....</b>	<b>9</b>
<b>(iv) Forecasted Retail Sales.....</b>	<b>11</b>
<b>c. Known or Projected Changes to Future Load .....</b>	<b>13</b>
<b>d. Growth Forecast by Customer Class .....</b>	<b>13</b>
<b>(i) Introduction.....</b>	<b>13</b>
<b>(ii) ComEd Monthly Zone Model .....</b>	<b>16</b>
<b>(iii) ComEd Monthly Residential Model.....</b>	<b>17</b>
<b>(iv) ComEd Monthly Small C&amp;I Model .....</b>	<b>18</b>
<b>(v) ComEd Monthly Street Light Model .....</b>	<b>19</b>

	<u>Page</u>
(vi) Growth Forecast.....	19
2. Impact of Demand Side and Energy Efficiency Initiatives .....	19
a. Impact of Demand Response Programs, Current and Projected.....	20
(i) Background .....	20
(ii) Legislative Requirement.....	21
(iii) Implementation of Demand Response Measures.....	21
(iv) Impact of Demand Response Programs.....	22
b. Impact of Energy Efficiency Programs .....	22
(i) kWh Targets .....	22
(ii) Projected Overall Goals .....	23
(iii) Impact on Forecasts .....	23
c. Impact of Renewable Energy Resources .....	23
3. Five-Year Monthly Forecast .....	25
III. CONCLUSION .....	28

## **I. INTRODUCTION AND SUMMARY**

The Public Utilities Act (“PUA”) provides that beginning in 2008 electric utilities in Illinois shall provide a range of load forecasts to the Illinois Power Agency (“IPA”) by July 15 of each year. The PUA further provides that these load forecasts shall cover the 5-year planning period for the next procurement plan and shall include hourly data representing high-load, low-load and expected-load scenarios for the load of eligible retail customers (“Eligible Retail Customers”). The electric utility is also to provide supporting data and assumptions (220 ILCS 5/16-111.5(d)(2)). This document presents Commonwealth Edison Company’s (“ComEd) load forecast for the planning period of June 2011 through May 2016. ComEd will provide the supporting data and assumptions in a separate package of materials.

ComEd’s 5-year hourly load forecast (“Forecast”) is based on the PUA’s definition of Eligible Retail Customers. Eligible Retail Customers include residential and non-residential customers who purchase power and energy from ComEd under fixed-price bundled service (“Blended Service”) tariffs, other than those customers whose service has been declared competitive. Because service to certain classes of customers has been declared competitive either by statute or by the Illinois Commerce Commission (“ICC”), only residential and non-residential customers below 100 kW in size are eligible for Blended Service beginning in June 2011.<sup>1</sup>

The Forecast includes the effects of energy efficiency, demand response and renewable energy resources programs. The Forecast anticipates that these programs will be observed in full compliance with the PUA’s requirements, subject to the defined rate impact test.

## **II. LOAD FORECAST**

### **A. Purpose and Summary**

This section of the Forecast provides forecasted energy usage for the Eligible Retail Customers within ComEd’s service territory for the 5-year procurement planning period beginning on June 1, 2011. In accordance with Section 16-111.5(b) of the PUA, the Forecast includes a multi-year historical analysis of hourly loads, a review of switching trends and competitive retail market development, a discussion of known and projected changes to future loads and growth forecasts by customer classes. The Forecast also addresses the impacts of demand response and energy efficiency programs on the forecast. Lastly, this Forecast discusses any supply side needs that are projected to be offset by the purchase of renewable energy resources.

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<sup>1</sup> There is one exception to this statement. The common area accounts for the condominium associations are exempted from this competitive declaration (see Section 16-103.1 of the PUA).

**B. Development of the Five-Year Load Forecast (June 1, 2011 – May 31, 2016)**

The hourly load analysis provides the means to determine the on-peak and off-peak quantities needed in the procurement process. In presenting the Forecast, this document focuses on average usage or load during the 12 monthly on-peak and off-peak periods during a year. For the purposes of this Forecast, the definitions of the on-peak and off-peak periods are consistent with those commonly used in the wholesale power markets, and on trading platforms such as the New York Mercantile Exchange (“NYMEX”) and the Intercontinental Exchange, Inc. (“ICE”). The on-peak period consists of the week day period from 6 a.m. to 10 p.m. CST excluding NERC holidays (this is referred to as the 5X16 peak period). The off-peak period consists of all other hours (this is referred to as the off-peak “wrap”). The Forecast therefore has been summarized as load requirements using the 24 different time periods covered by these standard products. This is the same approach that was presented in past forecasts and approved by the ICC. The hourly load data is being supplied with the supporting data and assumptions materials.

**1. Hourly Load Analysis**

**a. Multi-year historical analysis of hourly load**

The 2010 multi-year historical analysis of hourly load is very similar to the approach used in the 2009 procurement filing. Essentially, the hourly models that were developed last year were updated with another year of customer data and reviewed for fit. The results this year are similar to the previous filing.

The 2010 multi-year historical analysis of load during the 24 monthly on-peak and off-peak periods is based on hourly profile data for the period from January 2004 to December 2009. The profiles are based on statistically significant samples from ComEd’s residential and small commercial and industrial (“C&I”) customer population. These samples provide the only basis for an analysis of actual historical hourly usage of Eligible Retail Customers because the standard meters currently used for these customers do not record usage on an hourly basis. As discussed in greater detail below, the profiles show clear and stable weather-related usage patterns that are indicative of how residential and small C&I customers use electricity. Thus, the customer load profiles provide reliable information on the historical hourly usage of customers.

Using the hourly load profiles and actual customer aggregate usage, Table II-1 depicts the historical on-peak and off-peak hourly usage of the major customer groups within the Eligible Retail Customers for the period from January 2007 to December 2009.

**Table II-1**  
**Load Forecast Table (Historical Detail 2007-2009)**

ComEd Historical Actual Sales											
Historical Energy Sales in MWh for Eligible Retail Customers (Line Loss Adjusted)											
Year	Month	Residential Load		Watt-hour		Small Load (0 to 100kW)		Street Lighting Load		Total Load (MWh)	
		On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak
2007	1	1,454,641	1,466,422	56,816	43,851	585,103	445,043	5,650	13,213	2,102,210	1,968,529
2007	2	1,264,899	1,366,726	36,852	29,464	443,469	346,704	2,790	5,587	1,748,010	1,748,481
2007	2	1,056,312	1,133,373	23,629	18,185	419,067	318,758	2,094	5,529	1,501,102	1,475,846
2007	4	907,618	992,812	19,760	14,937	391,101	298,003	5,341	19,868	1,323,819	1,325,621
2007	5	1,102,833	1,070,531	23,356	16,248	475,941	326,093	3,200	8,839	1,605,329	1,421,712
2007	6	1,437,327	1,431,996	20,937	15,406	503,276	376,160	3,257	8,724	1,964,797	1,832,286
2007	7	1,626,237	1,764,385	28,484	21,961	527,313	418,801	3,543	8,762	2,185,577	2,213,910
2007	8	2,006,712	1,688,002	26,663	16,955	600,226	386,284	3,684	9,420	2,637,285	2,100,661
2007	9	1,241,631	1,493,514	20,909	18,657	458,273	392,427	4,457	8,778	1,725,270	1,913,377
2007	10	1,140,000	1,170,543	21,928	15,034	468,104	313,172	5,538	9,661	1,635,570	1,508,410
2007	11	783,261	842,135	14,879	11,587	292,139	223,172	5,460	9,239	1,095,739	1,086,133
2007	12	1,437,041	1,818,085	27,400	26,147	469,968	439,898	6,886	10,359	1,941,294	2,294,489
<b>Totals</b>		<b>15,458,511</b>	<b>16,238,526</b>	<b>321,614</b>	<b>248,434</b>	<b>5,633,979</b>	<b>4,284,517</b>	<b>51,901</b>	<b>117,979</b>	<b>21,466,005</b>	<b>20,889,455</b>
2008	1	1,411,279	1,483,772	29,148	23,056	466,843	361,907	6,297	10,557	1,913,567	1,879,292
2008	2	1,318,731	1,342,790	26,989	21,401	443,650	337,946	5,615	9,295	1,794,986	1,711,432
2008	3	1,092,187	1,305,371	23,682	21,257	409,987	350,785	4,030	6,004	1,529,885	1,683,417
2008	4	1,011,328	1,006,047	21,714	16,003	427,661	300,578	4,163	8,288	1,464,865	1,330,916
2008	5	886,256	1,047,507	17,377	14,660	392,652	317,448	2,424	3,392	1,298,709	1,383,007
2008	6	1,319,145	1,400,770	21,381	16,263	481,461	364,433	692	7,997	1,822,679	1,789,463
2008	7	1,832,155	1,649,107	24,545	16,852	553,938	391,569	392	2,338	2,411,030	2,059,866
2008	8	1,489,004	1,620,019	23,926	18,615	507,114	406,990	890	4,645	2,020,934	2,050,269
2008	9	1,088,190	1,166,101	19,823	15,684	457,734	341,009	1,268	4,339	1,567,015	1,527,133
2008	10	1,081,333	1,003,909	23,739	16,888	426,681	295,683	1,773	4,603	1,533,526	1,321,083
2008	11	1,021,535	1,335,393	26,766	25,996	381,408	366,260	1,905	4,363	1,431,614	1,732,012
2008	12	1,504,635	1,541,136	31,715	26,073	469,006	382,791	1,848	3,530	2,007,204	1,953,531
<b>Totals</b>		<b>15,055,778</b>	<b>15,901,921</b>	<b>290,805</b>	<b>232,748</b>	<b>5,418,134</b>	<b>4,217,399</b>	<b>31,296</b>	<b>69,352</b>	<b>20,796,014</b>	<b>20,421,420</b>
2009	1	1,457,595	1,620,040	32,711	28,467	456,843	398,061	1,776	3,985	1,948,926	2,050,553
2009	2	1,283,975	1,299,737	30,536	23,728	445,544	347,452	1,511	3,561	1,761,565	1,674,478
2009	3	1,046,850	1,098,294	27,024	21,590	402,786	313,589	1,491	4,207	1,478,151	1,437,679
2009	4	992,489	943,062	24,850	17,767	392,072	279,008	1,165	4,379	1,410,576	1,244,217
2009	5	906,711	1,072,505	23,205	20,883	387,856	334,825	822	4,809	1,318,595	1,433,023
2009	6	1,355,202	1,195,758	24,426	16,273	432,494	295,880	716	4,499	1,812,839	1,512,411
2009	7	1,388,217	1,184,043	27,392	18,030	479,595	314,531	749	4,530	1,895,952	1,521,134
2009	8	1,435,413	1,474,624	26,223	20,498	445,149	353,246	931	4,568	1,907,716	1,852,936
2009	9	1,070,334	1,053,646	23,477	17,827	410,966	303,821	1,194	4,095	1,505,972	1,379,389
2009	10	1,035,954	1,030,812	23,691	18,380	374,658	279,925	1,574	4,063	1,435,876	1,333,179
2009	11	1,050,767	1,162,536	24,791	20,983	347,561	296,046	1,757	3,987	1,424,876	1,483,552
2009	12	1,438,365	1,407,180	28,993	22,673	423,983	338,741	2,027	3,867	1,893,367	1,772,461
<b>Totals</b>		<b>14,461,872</b>	<b>14,542,239</b>	<b>317,318</b>	<b>247,099</b>	<b>4,999,506</b>	<b>3,855,124</b>	<b>15,714</b>	<b>50,549</b>	<b>19,794,410</b>	<b>18,695,010</b>

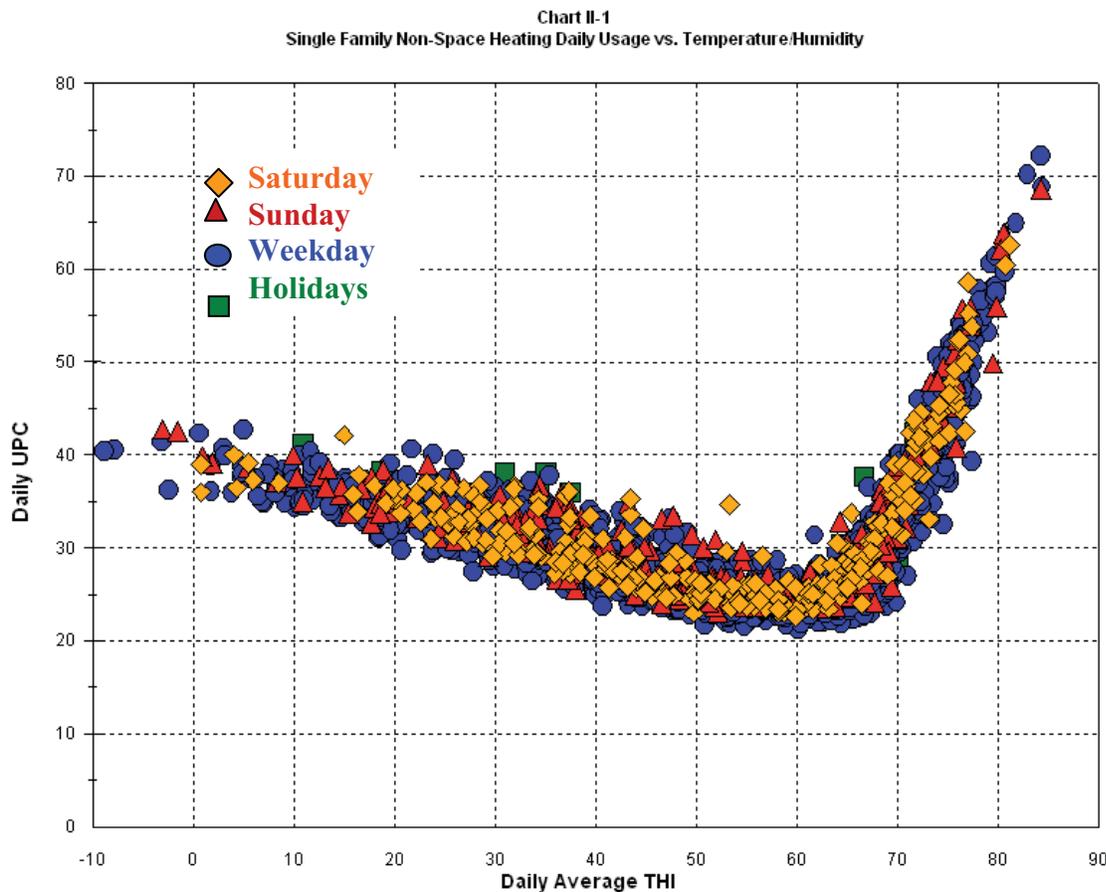
Table II-2 carries forward the total load in MWh from Table II-1 and then provides the average load for each period in MW, which is useful in determining the required volume of standard wholesale energy products.

<b>Table II-2</b>					
<b>Load Forecast Table (Historical Summary 2007-2009)</b>					
<b>ComEd Historical Actual Sales</b>					
<b>Historical Energy Sales for Eligible Retail Customers</b>					
<b>(Line Loss Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2007	1	2,102,210	1,968,529	5,972	5,022
2007	2	1,748,010	1,748,481	5,463	4,967
2007	3	1,501,102	1,475,846	4,264	3,765
2007	4	1,323,819	1,325,621	3,940	3,452
2007	5	1,605,329	1,421,712	4,561	3,627
2007	6	1,964,797	1,832,286	5,848	4,772
2007	7	2,185,577	2,213,910	6,505	5,426
2007	8	2,637,285	2,100,661	7,167	5,587
2007	9	1,725,270	1,913,377	5,675	4,599
2007	10	1,635,570	1,508,410	4,444	4,012
2007	11	1,095,739	1,086,133	3,261	2,828
2007	12	1,941,294	2,294,489	6,067	5,412
<b>Totals</b>		<b>21,466,005</b>	<b>20,889,455</b>		
2008	1	1,913,567	1,879,292	5,436	4,794
2008	2	1,794,986	1,711,432	5,342	4,754
2008	3	1,529,885	1,683,417	4,553	4,126
2008	4	1,464,865	1,330,916	4,162	3,617
2008	5	1,298,709	1,383,007	3,865	3,390
2008	6	1,822,679	1,789,463	5,425	4,660
2008	7	2,411,030	2,059,866	6,850	5,255
2008	8	2,020,934	2,050,269	6,015	5,025
2008	9	1,567,015	1,527,133	4,664	3,977
2008	10	1,533,526	1,321,083	4,167	3,514
2008	11	1,431,614	1,732,012	4,709	4,163
2008	12	2,007,204	1,953,531	5,702	4,983
<b>Totals</b>		<b>20,796,014</b>	<b>20,421,420</b>		
2009	1	1,948,926	2,050,553	5,800	5,026
2009	2	1,761,565	1,674,478	5,505	4,757
2009	3	1,478,151	1,437,679	4,199	3,668
2009	4	1,410,576	1,244,217	4,007	3,381
2009	5	1,318,595	1,433,023	4,121	3,380
2009	6	1,812,839	1,512,411	5,150	4,110
2009	7	1,895,952	1,521,134	5,152	4,046
2009	8	1,907,716	1,852,936	5,678	4,542
2009	9	1,505,972	1,379,389	4,482	3,592
2009	10	1,435,876	1,333,179	4,079	3,401
2009	11	1,424,876	1,483,552	4,453	3,709
2009	12	1,893,367	1,772,461	5,379	4,522
<b>Totals</b>		<b>19,794,410</b>	<b>18,695,010</b>		

ComEd analyzed the hourly load profiles for all the major customer groups within the Eligible Retail Customers. As a result of that analysis, ComEd developed hourly load models for those major customer groups that determined the average percentage of monthly sales that each customer group used in each hour of that month. Those hourly models were then used to develop the monthly on-peak and off-peak usage percentages for the planning periods. These percentages were applied to ComEd’s forecasted monthly sales to obtain the forecasted procurement quantities. In the following section, the hourly analysis of the residential single-family non-space heating customer segment is described. This class represents approximately half of the annual sales of the Eligible Retail Customer segment and provides a good example of how the hourly load profile data were analyzed and modeled.

**(i) Residential Single-Family Hourly Load Profile Analysis**

One of the most significant, and easily understood, determinants of residential energy usage is weather. The “scatter plot” shown below (Chart II-1) demonstrates the significant relationship that exists between weather and usage for the single-family non-space heating residential customer segment.



A scatter plot shows the relationship between two variables. Each point represents a single observation (a day in this case). In this chart, the values shown on the vertical or Y-axis are daily usage per customer (“UPC”). The values shown on the horizontal or X-axis are the daily average temperature-humidity index (“THI”). The graph shows daily UPC based on observations from June 2002 to December 2009 and the average THI on those days. THI, rather than temperature alone, is used because residential usage is sensitive to humidity. Different geometric shapes are used to distinguish points representing weekdays from those depicting Saturday, Sunday or holiday usage.

The scatter plot is very useful in understanding the relationship between customer usage and weather. If there were no relationship between usage and weather, then the graph would not display a clear pattern. However, it is apparent that there is a clear pattern. The right side of the graph at the high end of the horizontal axis shows the days on which THI was the highest. The points at that end of graph indicate that the highest UPC occurred when THI levels were at their peak -- 80 plus degrees. Moving to the left, the points show UPC declining rapidly as the THI decreases until the 60 degree level is reached at which a base usage appears. From that base level, UPC gradually increases as colder temperatures are experienced.

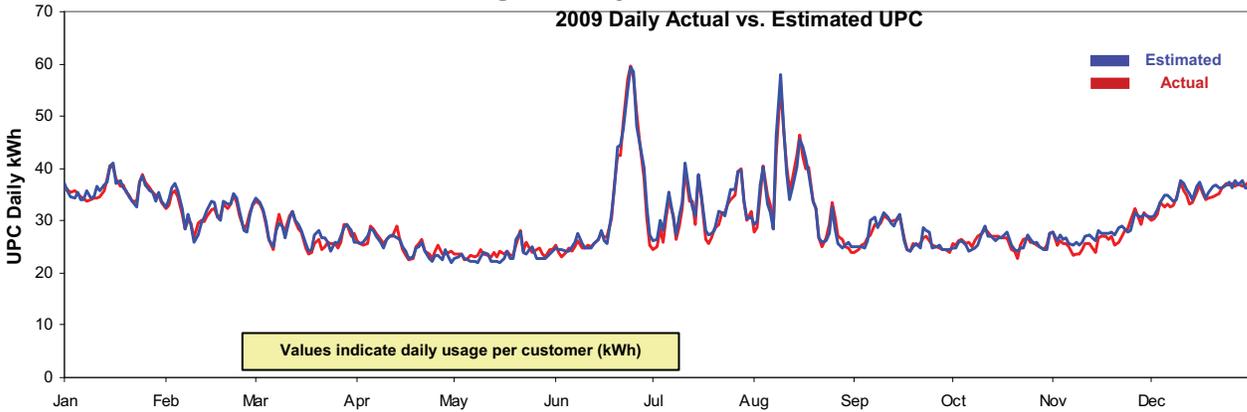
Hourly models were developed to account for the strong weather relationship shown in the graph and to account for numerous other factors that influence residential usage. The models explicitly account for the differing effects of energy use at various temperatures. Variables are included to allow for seasonal usage patterns in water heating, refrigeration and other seasonal uses. Weekend and holiday variables are included to allow for behavioral differences on those days relative to weekdays. The amount of daylight on each day is included to account for seasonal differences in lighting loads. Weather variables for prior days are included in the model to account for the dynamic effects of temperature buildup. The full list of variables included in the residential single-family model is shown in Appendix A-1.

One way to visualize the model’s performance is to look at plots of actual and estimated<sup>2</sup> values for the historical estimation period. The following chart demonstrates the performance of the model over the one-year period from January 2009 through December 2009 at the daily level and zooms in to show the hourly performance in January and July of 2009.

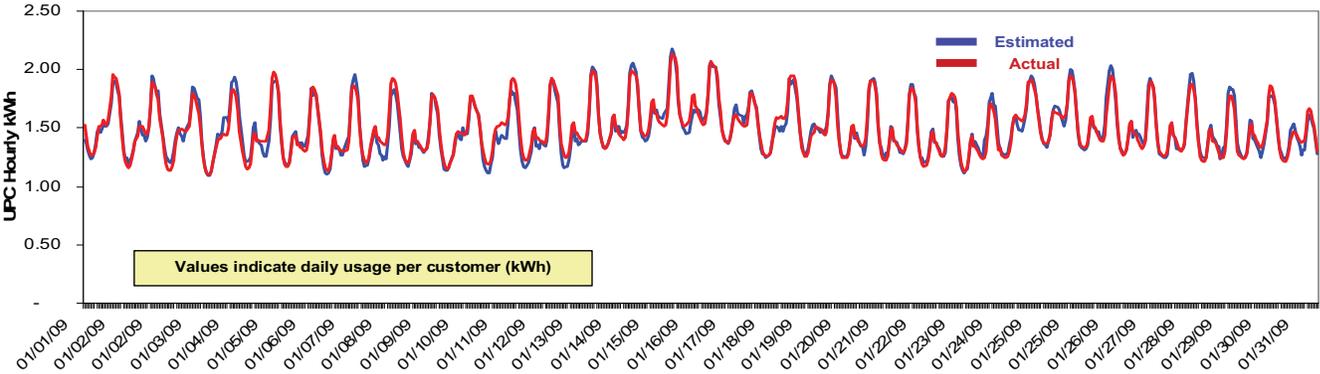
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<sup>2</sup> The estimated data in Chart II-2 is based on the actual weather experienced over the relevant period.

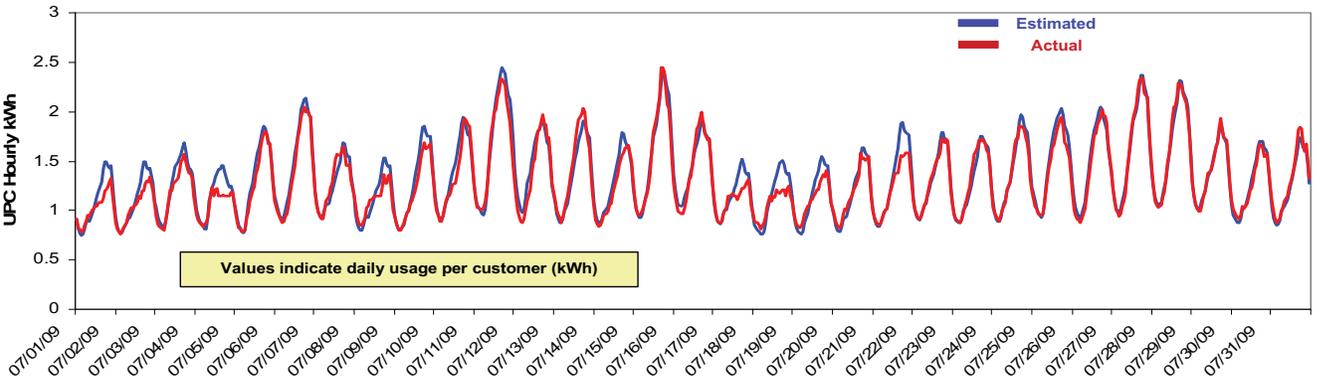
**Chart II-2  
ComEd Single Family Profile: Estimated vs. Actual**



**January 2009 Hourly Actual vs. Estimated UPC**



**July 2009 Hourly Actual vs. Estimated UPC**



In all of the graphs above in Chart II-2, the red line indicates the “actual” load data and the blue line indicates the model’s estimated values, adjusted for actual weather. It is important to understand that the actual load data itself is an estimate based on a statistical sample of single family residential customers, and minor variations do occur in the sample. Despite these variations, the charts demonstrate that the model’s estimated usage is extremely close to the actual usage. The close alignment of the estimated and actual lines on the charts demonstrates that the model is very effective in estimating variations in electrical usage patterns that are significantly influenced by weather conditions.

**b. Switching Trends and Competitive Retail Market Analysis**

In determining the expected load requirements for which standard wholesale products will be procured, it is important to provide the best possible estimate of the number of Eligible Retail Customers that are likely to switch to alternative providers. That issue is considered in the following discussion, which reviews retail development in ComEd’s service territory, the entry of alternative suppliers, the rate of customer switching in the past, future trends affecting customer choice and ComEd’s 5-year forecast of the percentage of load from various customer segments that will continue to be served with supply procured by ComEd.

**(i) Introduction and Brief Overview of Retail Development**

The already robust retail markets in northern Illinois experienced several positive developments in the past year. First, ComEd experienced a significant net increase in the number of RESs serving its customers. Over the period January 2009 to May 2010 there was a net increase of four RESs serving customers. Further, over that same period, there were six firms that were approved by the ICC to be a RES, but have not yet completed the ComEd RES certification process. Thus, this is effectively a net increase of ten additional RESs since January 2009 that will likely be serving ComEd customers in future years. Another interesting observation is that in the past year one customer has become a Customer Self Manager, which is not a RES, but is an entity that supplies its own load. Second, as noted by various press reports this year, one RES is expanding its efforts to provided service to residential customers. Third, in April 2009 there were 6,790 residential customers taking Hourly Service and as of May 2010 that number has grown to approximately 10,000 residential customers, a nearly 50% increase. Lastly, approximately 85% of ComEd’s non-residential usage is now taking either RES or Hourly Service (based on preliminary June 2010 data). In June 2009 that comparable figure was approximately 80%.

In summary, retail choice continues to successfully develop in the ComEd service territory. This trend depends on a variety of factors, but a healthy retail market is anticipated for the forecast period.

**(ii) RES Development**

The success of retail market competition is the result of the concerted efforts of ComEd, numerous RESs and policy makers. A sign of that success is the continued growth in the number of RESs within the ComEd service territory. This growth is shown in the table below:

**Table II-3  
RES Development in the ComEd Service Territory**

RES Category	January 2009	May 2010
Number of Active RESs <sup>3</sup>	22	26
Number of RESs approved to serve Residential customers	6	9
Number of firms in the RES certification process as of May 2010	N.A.	6

It is interesting to note that during one of the most severe recessions in decades there has been a significant increase in the number of RESs serving ComEd's customers. This growth is inherently a positive sign for the retail market as one would not expect new retailers to be entering a shrinking market.

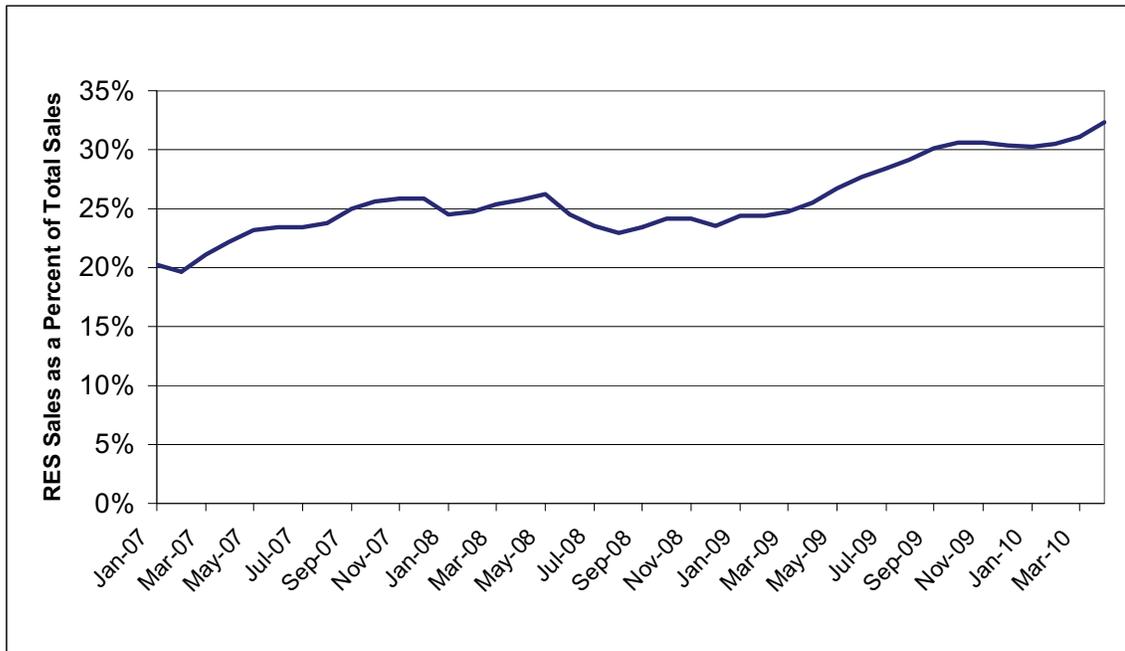
**(iii) Future Trends**

RES sales to the 0 to 100 kW customers have been gradually growing over time. Chart II-3 contains monthly RES percentage of sales from January 2007 through April 2010. RES sales were 25.5% of 0 to 100 kW usage in April 2009. By April 2010 that percentage had risen to 32.4%. The outlook is for the 0 to 100 kW customers to continue to migrate to RES service during the forecast period.

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<sup>3</sup> An "Active RES" is defined as an ICC-approved RES that has passed ComEd's certification process.

Chart II-3



In assessing future small C&I and residential RES sales, consideration needs to be given to the potential impact of the recent amendments to Section 16-118 of the PUA. Those amendments require ComEd to implement a purchase of receivables program (POR). A POR program could result in greater participation by RESs in the residential retail market by lowering a RES' costs. ComEd has filed a tariff to implement such a program. A decision on the tariff by the ICC is expected by the end of 2010.

Another development that has some potential to affect the level of Blended Service supply requirements is Public Act 096-0176. That act went into effect January 1, 2010 and revised the IPA Act by allowing a municipality to adopt an opt-out aggregation program and by requiring the IPA to assist the municipality. While these changes have the potential to reduce Blended Service supply requirements, there is not enough information available at this time to accurately predict those impacts. Therefore, no adjustments for aggregation programs have been made to this Forecast.

**(iv) Forecasted Retail Sales**

The forecast percentages of Blended Service sales are shown below, along with some historical perspective.

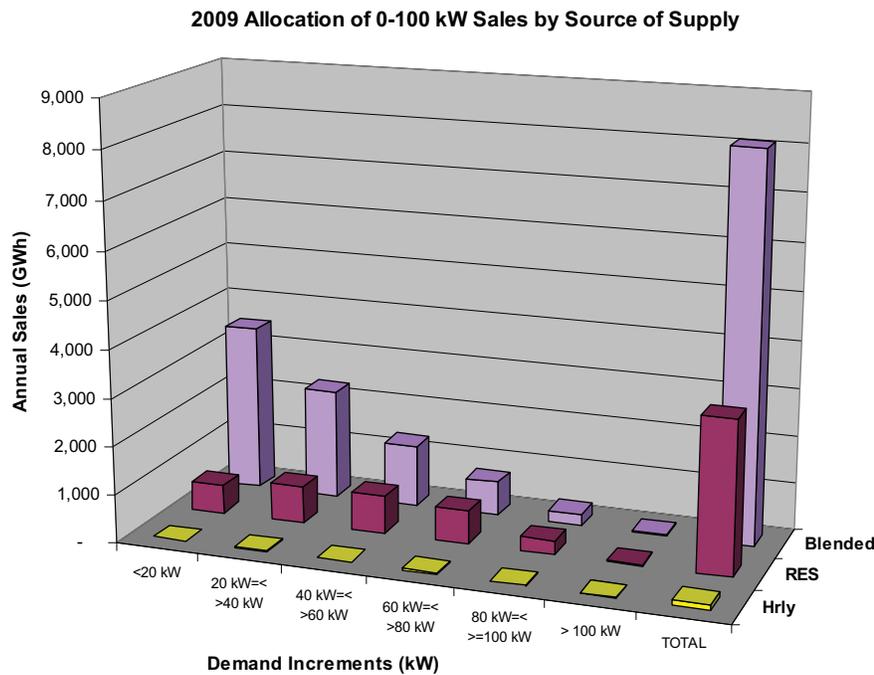
**Table II-4  
Percentage of Blended Service Sales**

<b>Month</b>	<b>Residential</b>	<b>Watt-hour</b>	<b>0-100 kW</b>
Jun-08	99.9%	98.0%	75.2%
Jun-09	99.9%	97.0%	71.3%
Jun-10	99.7%	94.0%	66.5%
Jun-11	99.5%	90.0%	54.9%
Jun-12	99.3%	90.0%	52.0%
Jun-13	99.3%	90.0%	52.0%
Jun-14	99.0%	90.0%	52.0%
Jun-15	99.0%	90.0%	52.0%
Jun-16	99.0%	90.0%	52.0%

The main drivers of this forecast are:

1. The Blended Service supply cost will continue to reflect the pricing of long term agreements that were put into place when market prices were higher. These long term agreements expire in May 2013. If market prices continue to be lower than they have been in the last few years, this may produce some “headroom” for alternative retail suppliers, as well as continued migration to Hourly Service.
2. A gradual increase in RES sales to the non-residential customers below 100 kW is assumed as retailers continue to seek new customers. This has been the pattern for the past decade. However, the increase in RES service to the below 100 kW non-residential customers is limited by the fact that many of the customers in this category are rather small in size (i.e., almost “watt-hour like” in size). Below is a chart depicting the allocation of sales (kWh) to the 0 to 100 kW customer group among Blended, RES and Hourly products for the year 2009. The chart breaks down this customer group by 20 kW increments. A large portion of the Blended usage in this class is in the below 40 kW segments. While RES have been able to obtain customers in the below 40 kW segments, their share accounts for only a small portion of the total below 40 kW sales. Supporting this gradual switching outlook is the fact that Chart II-4 (below) looks very much like the equivalent Chart II-4 from last year’s filing, which was based on 2008 data.

Chart II-4



3. A minor amount of residential switching is assumed to occur gradually over the Forecast period as a result of the POR initiative.

The effects of those drivers by customer group are as follows:

1. The Blended Service portion of the 0 to 100 kW customer load is expected to decline from approximately 66% (as of April 2010) to approximately 55% by June 2011. POR efforts, potential for headroom and RESs seeking new customers causes this percentage to further decline to 52% by June 2012. The percentage is assumed to hold at this level thereafter given the smaller customer size of the remaining Blended customers.
2. Watthour customers are similar in behavior to residential customers when viewed from a choice perspective and their participation in customer choice is expected to generally mimic the residential movement. However, there has been a larger movement to RES service for Watthour customers than for the residential customers. Currently, Blended Service represents approximately 94% of the total sales to Watthour customers and that percentage is expected to decrease to 90% by the beginning of the Forecast period and assumed to remain at that level.
3. Significant residential customer movement to RES service is not assumed for the Forecast period. Instead, only a small amount of switching is anticipated as POR initiatives gain traction.

**c. Known or Projected Changes to Future Load**

Typically, when ComEd forecasts future loads, it considers whether there are any known major customer decisions, such as the relocation of part or all of a business, that would impact load. For the Eligible Retail Customers, other than the factors we have discussed elsewhere, e.g. switching, energy efficiency measures, growth, etc., there is only one known or projected change that ComEd is aware of that is different from past conditions and could affect future loads for this group of customers. This is the residential real-time pricing program (“RRTP”).

In compliance with Section 16-107(b-5) of the PUA, ComEd received ICC approval to implement an RRTP program.<sup>4</sup> ComEd currently has about 10,000 customers on RRTP and is targeting about 12,000 to 13,000 customers by the end of 2010. The program could potentially expand beyond 2010, but is subject to ICC review and approval during 2011. Until the ICC completes its review of the program, ComEd will allow new customers to sign up for service but is discontinuing marketing and promoting the program. Thus, RRTP customer growth is expected in future years, but not at the growth rates of the past few years.

As part of an ICC approved smart meter pilot program, ComEd is in the process of installing 140,000 smart meters in its service territory. Most of those meters have already been installed. These meters would allow customers to take advantage of RRTP without paying any additional metering charges. Thus, there is some potential that additional customers could switch to RRTP over the timeframe of this Forecast. However, since ComEd will not be actively marketing the RRTP program, it is not anticipated that there will be any material switching to RRTP by these customers.

**d. Growth Forecast by Customer Class**

**(i) Introduction**

This section describes ComEd’s growth forecast by customer class for the 5-year procurement planning period beginning on June 1, 2011. Section II(B)(1) discussed the hourly customer load profiles used by ComEd to develop models to present the historical load analysis required by the PUA and to predict UPC. As indicated in this section, in arriving at a growth forecast by customer class, there are additional models beyond those customer-level hourly models that are used to forecast future customer class sales. These other models play an important role in determining expected load during the 5-year planning period among the Eligible Retail Customer groups.

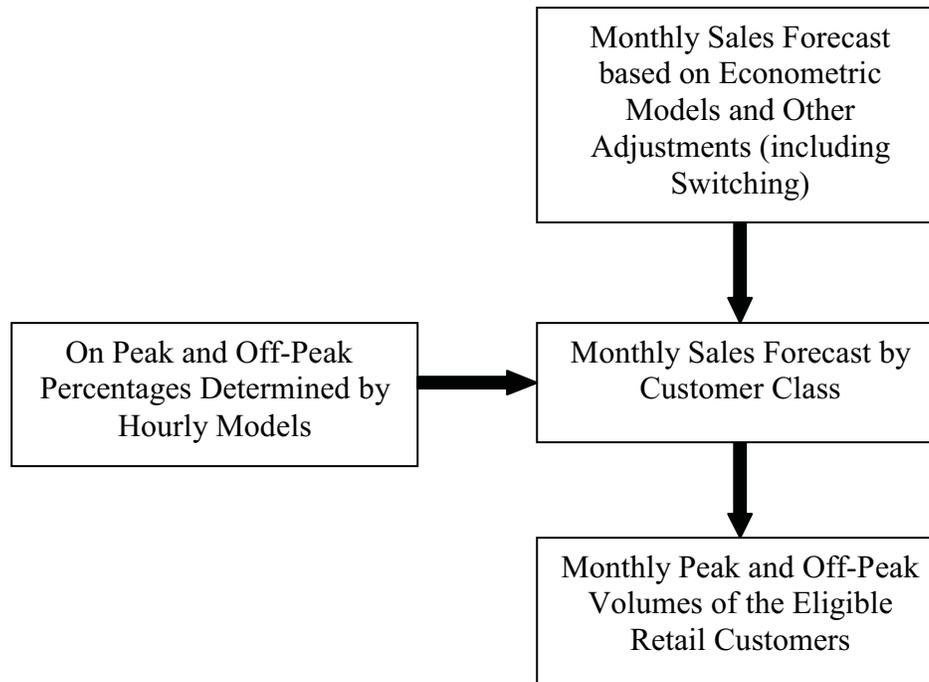
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<sup>4</sup> See ICC Order of December 20, 2006, in Docket No. 06-0617.

The following chart illustrates the steps in the ComEd load forecasting process.

**Chart II-5**

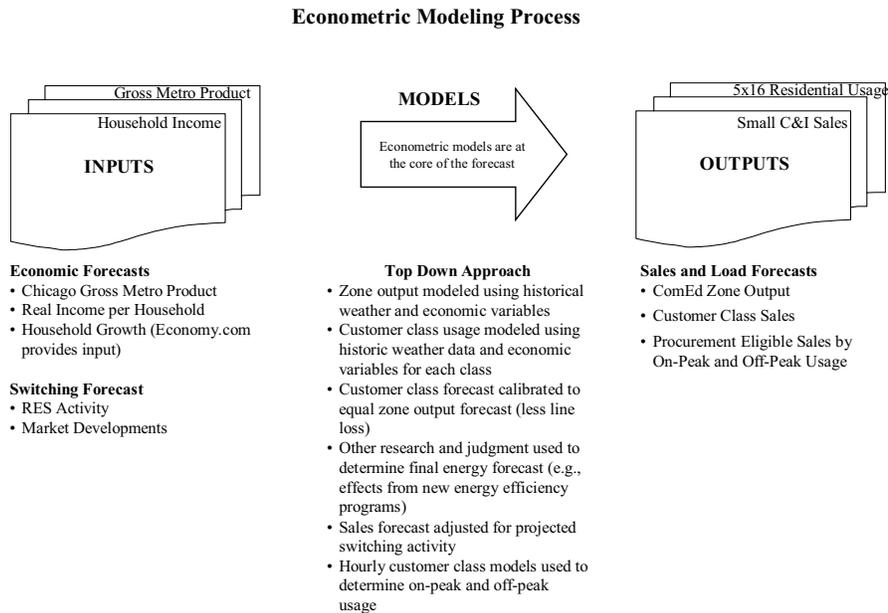
**ComEd Energy Sales Forecast Process**



The forecasting process is model based subject to adjustments and judgment. A suite of econometric models is used to produce monthly sales forecasts for ComEd's revenue customer classes. The two major customer classes applicable to this Forecast are Residential and Small C&I. That monthly forecast is adjusted for other considerations (e.g., switching activity) and allocated to more granular delivery service classes (e.g., the residential customer class is composed of four delivery services classes). The forecast sales are combined with the input from the hourly models to obtain on-peak and off-peak quantities for each month and delivery service class.

The econometric modeling portion of the process is described in the following chart:

**Chart II-6**



As the chart indicates, ComEd’s forecasts of sales for its service territory are based on a “top-down” approach. The top-down approach provides a forecast of total sales for the entire service territory and allocates the sales to various customer classes using the models specific to each class. The “zone” forecast model takes into account a number of economic variables that affect electric energy use. For example, the gross metropolitan product (“GMP”) for the Chicago and Rockford areas is a good measure of economic activity in ComEd’s service territory. As GMP (which is expressed in billions of dollars) increases, use of electric energy rises as well. Section II (B)(1) describes the significant relationship between weather and energy usage, and the zone model contains sophisticated variables to reflect the effects of temperature and humidity, as well as seasonal usage patterns and other factors. The economic assumptions are contained in Table II-5.

Table II-5

Chicago Area Economic Forecasts - Global Insight (April'10)										
Economic Variables	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Gross Metro Product (Billions)	\$ 426	\$ 425	\$ 415	\$ 427	\$ 443	\$ 461	\$ 475	\$ 486	\$ 498	\$ 511
Real Disposable Income (Millions)	\$305,701	\$305,629	\$307,128	\$310,232	\$313,242	\$318,332	\$322,272	\$333,772	\$344,141	\$354,836
# of Households (Thousands)	3,286	3,300	3,317	3,345	3,386	3,424	3,451	3,482	3,505	3,525
Real Income/HH	\$ 93,023	\$ 92,624	\$ 92,587	\$ 92,731	\$ 92,499	\$ 92,973	\$ 93,373	\$ 95,861	\$ 98,183	\$100,671
Total Employment (Thousands)	3,901	3,871	3,665	3,615	3,668	3,750	3,809	3,844	3,876	3,908
Non-Manufacturing	3,451	3,433	3,276	3,232	3,270	3,334	3,381	3,414	3,449	3,482
Manufacturing	450	438	389	383	398	416	428	429	428	425
Growth Rate	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Gross Metro Product	1.9%	(0.3%)	(2.4%)	2.9%	3.7%	4.1%	3.0%	2.3%	2.6%	2.4%
Real Disposable Income	2.1%	(0.0%)	0.5%	1.0%	1.0%	1.6%	1.2%	3.6%	3.1%	3.1%
# of Households	0.7%	0.4%	0.5%	0.9%	1.2%	1.1%	0.8%	0.9%	0.7%	0.6%
Real Income/HH	1.4%	(0.4%)	(0.0%)	0.2%	(0.2%)	0.5%	0.4%	2.7%	2.4%	2.5%
Total Employment	0.7%	(0.8%)	(5.3%)	(1.4%)	1.5%	2.2%	1.6%	0.9%	0.8%	0.8%
Non-Manufacturing	1.0%	(0.5%)	(4.6%)	(1.3%)	1.2%	1.9%	1.4%	1.0%	1.0%	1.0%
Manufacturing	(1.1%)	(2.8%)	(11.0%)	(1.6%)	4.0%	4.6%	2.6%	0.4%	(0.4%)	(0.5%)

Source: Global Insight

All of the variables used in each of the models in the forecasting process are identified in Appendix A-4.<sup>5</sup>

The remainder of this section will provide a brief description of the models, starting with the ComEd Monthly Zone energy usage model and proceeding to the three customer-level models for Monthly Residential bill-cycle energy usage, Monthly Small C&I bill-cycle energy usage and Monthly Street Lighting bill-cycle energy usage.

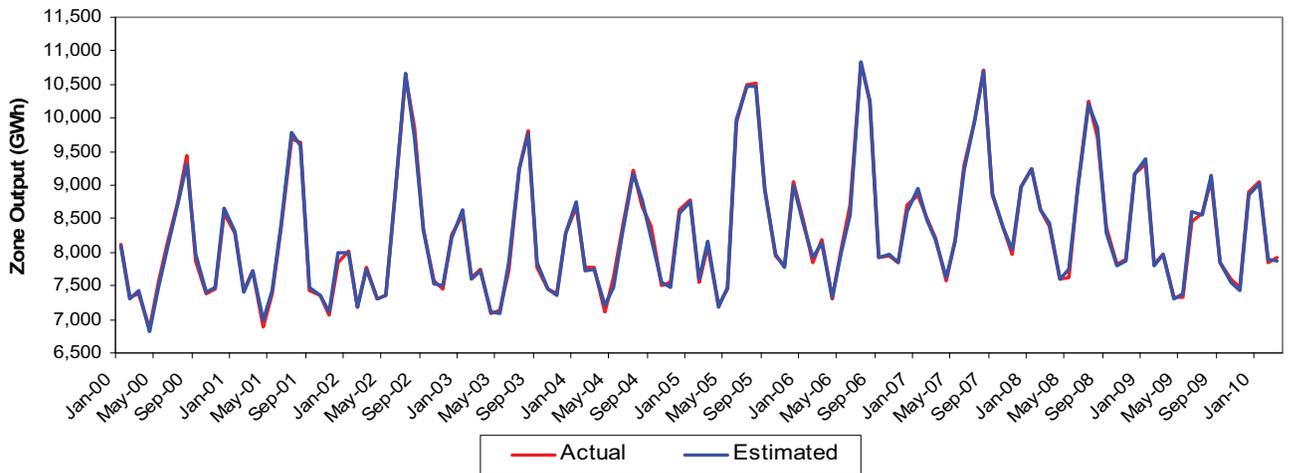
## (ii) ComEd Monthly Zone Model

The Monthly Zone model forecasts energy usage in gigawatt hours (GWh) for the entire ComEd service territory. The following chart shows the performance of the ComEd Monthly Zone model by comparing actual zone output to the estimates<sup>6</sup> from the model for each calendar month from January 2000 through March 2010.

<sup>5</sup> Technical information about the model coefficients and regression statistics are included in Appendix A-2 and A-3.

<sup>6</sup> Once again, for purposes of this Forecast, the estimates used in Charts II-7, II-8 and II-9 are based on actual weather.

**Chart II-7**  
**ComEd Monthly Zone Model: Estimated vs. Actual**

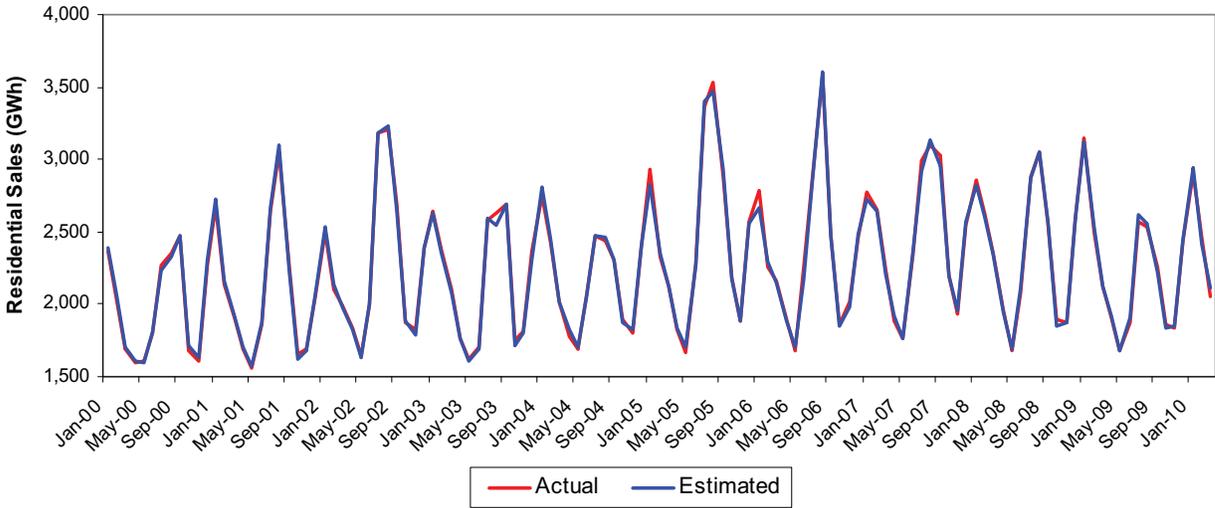


As with customer-level models discussed in Section II(B)(i)(a), the Monthly Zone model is highly useful in understanding energy usage. The graph line depicting the model's estimated usage (based on actual weather) and the line showing actual usage for the period are nearly identical.

**(iii) ComEd Monthly Residential Model**

The Monthly Residential model forecasts monthly residential bill-cycle sales expressed in kWh per customer per day. The Monthly Residential model is also very useful in understanding energy usage for this customer segment. The following chart compares the monthly energy usage for residential customers estimated by the Monthly Residential model to the actual residential usage for the time period of January 2000 to March 2010. The graph line depicting the model's estimated usage and the line with actual usage for the period are highly correlated

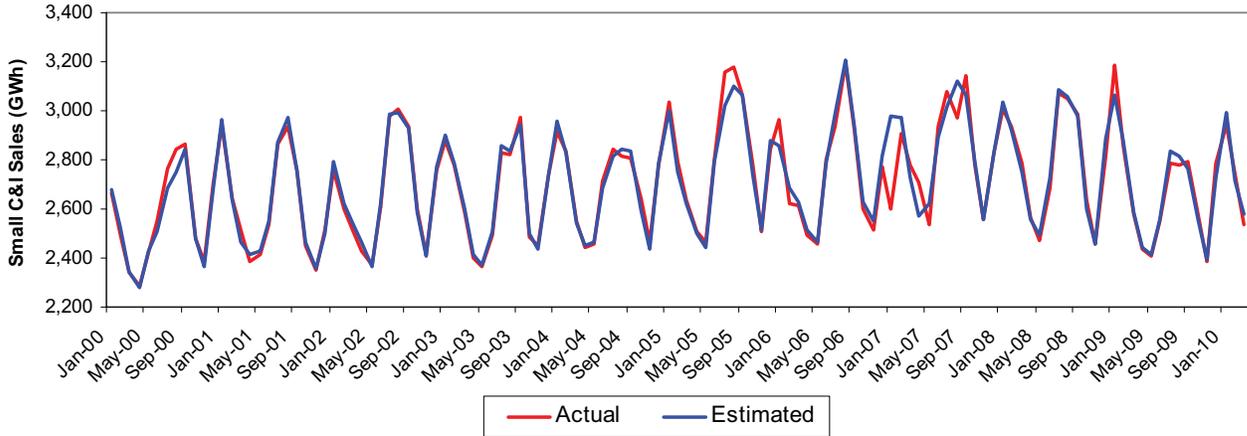
**Chart II-8  
ComEd Monthly Residential Model: Estimated vs. Actual**



**(iv) ComEd Monthly Small C&I Model**

The Monthly Small C&I model forecasts monthly Small C&I bill-cycle sales. Chart II-9 shows an estimated versus actual comparison demonstrating the model’s effectiveness.

**Chart II-9  
ComEd Monthly Small C&I Model: Estimated vs. Actual**



**(v) ComEd Monthly Street Light Model**

The Monthly Street Lighting model forecasts monthly bill-cycle sales related to street lighting. This final model estimates use per day in GWh.

**(vi) Growth Forecast**

ComEd's historical and forecasted weather-adjusted energy sales for the residential and small C&I customer classes are shown in Table II-6.

**Table II-6**

ComEd Weather Adjusted Annual Energy Sales				
Year	Residential		Small C&I	
	Sales (GWh)	Percent Growth	Sales (GWh)	Percent Growth
2002	26,162		31,425	
2003	27,079	3.5%	32,885	4.6%
2004	27,905	3.1%	32,733	(0.5%)
2005	28,290	1.4%	33,057	1.0%
2006	28,516	0.8%	32,958	(0.3%)
2007	28,459	(0.2%)	33,508	1.7%
2008	28,599	0.5%	33,391	(0.3%)
2009	28,202	(1.4%)	32,644	(2.2%)
2010	28,228	0.1%	32,706	0.2%
2011	28,489	0.9%	32,671	(0.1%)
2012	28,613	0.4%	32,839	0.5%
2013	28,542	(0.2%)	32,825	(0.0%)
2014	28,642	0.3%	32,807	(0.1%)
2015	28,725	0.3%	32,796	(0.0%)
2016	28,883	0.5%	32,835	0.1%

Residential sales growth averaged 1.5% per year from 2002 to 2008. The severe recession in 2009 contributed to a 1.1% decline in residential 2009 usage, after adjusting the leap year in 2008. The forecasted annual growth rates in the years 2011 to 2016 are smaller than the growth rates from 2002 to 2008 because the expected growth from economic recovery is largely offset by the implementation of energy efficiency programs; in particular, those required by the PUA. The same is generally true of the Small C&I growth rates. The 2002 to 2008 average growth rate was 1.0% per year. A significant decline in Small C&I usage was experienced in 2009 because of the recession. Energy efficiency programs also influence future sales in this customer class.

**2. Impact of Demand Side and Energy Efficiency Initiatives**

The PUA sets out annual targets for the implementation of cost-effective demand side and energy efficiency measures. ComEd believes these targets are achievable and plans to meet them in planning year 2010. The demand-side and energy efficiency plans for subsequent years have not yet been developed by ComEd or approved by the ICC. For purposes of this forecast we assume that the statutory targets will be met in planning years 2011 and 2012.

However, in planning years 2013 – 2015 the rate cap may limit the total amount of the energy efficiency programs that can be implemented in those years.

**a. Impact of demand response programs, current and projected**

**(i) Background**

ComEd is a strong supporter of the use of demand response to actively manage peak demands. Use of demand response resources grew in the mid to late 1990s, and ComEd has maintained a large portfolio of demand response resources, with participation from residential, commercial, and industrial customers. ComEd is leader in the development and management of demand response resources, and will increase participation in appropriate programs to meet the requirements of the PUA.

The current portfolio of ComEd programs includes the following:

- **Direct Load Control (“DLC”):** ComEd’s residential central air conditioning cycling program is a DLC program with over 65,000 customers with a load reduction potential of 106 MW (ComEd Rider AC).
- **Voluntary Load Reduction (“VLR”) Program:** VLR is an energy based demand response program, providing compensation based on the value of energy as determined by the real-time hourly market run by PJM. This program also provides for transmission and distribution (“T&D”) compensation, based on the local conditions of the T&D network. This portion of the portfolio has roughly 874 MW of potential load reduction (ComEd Rider VLR).
- **Capacity-based Load Response (Rider CLR):** Businesses can participate with Rider CLR even if ComEd is not their energy provider. But Rider CLR is only for businesses that have firm methods for reducing their energy load. Participants willing to commit receive market-based compensation for energy they do not use. Non-performance penalties are assessed to participants not complying with requests for load reductions between June 1<sup>st</sup> and September 30<sup>th</sup>. With Rider CLR, participants can choose from two program plans. Firm Service Level (FSL) or Guaranteed Load Drop (GLD). Under the FSL plan, load management is achieved by a customer reducing its load to a pre-determined level (the Firm Service Level) upon notification. Under the GLD plan, load management is achieved by a customer reducing its load by a pre-determined amount (the guaranteed load drop), upon notification. Rider CLR has 380 participants which provide approximately 315 MW of load reduction potential (ComEd Rider CLR).
- **Residential Real-Time Pricing (RRTP) Program:** All of ComEd’s residential customers have an option to elect an hourly, wholesale market-based rate. The program uses ComEd’s Rate BESH to determine the monthly electricity bills for each RRTP participant. This program has roughly 5 MW of price response potential.

**(ii) Legislative Requirement**

Section 12-103(c) of the PUA establishes a goal to implement demand response measures, providing that:

(c) Electric utilities shall implement cost-effective demand response measures to reduce peak demand by 0.1% over the prior year for eligible retail customers, as defined in Section 16-111.5 of this Act, and for customers that elect hourly service from the utility pursuant to Section 16-107 of this Act, provided those customers have not been declared competitive. This requirement commences June 1, 2008 and continues for 10 years.

Table II-7 shows the estimated annual MWs of demand response measures that will need to be implemented over the Five-year Forecast period to meet the goals set forth in the PUA:

**Table II-7  
Estimated Annual Level of Demand Response Measures**

<b>Planning Year</b>	<b>Peak Load at Meter (Prior Year) (MW)</b>	<b>Annual Goal (0.1%) (MW)</b>	<b>Cumulative Goal (MW)</b>
2011	10,127	10.1	42.9
2012	10,218	10.2	53.1
2013	10,437	10.4	63.6
2014	10,614	10.6	74.2
2015	10,776	10.8	85.0

The cumulative goal includes 11.7 MW for the year 2008, 11.1 MW for 2009 and 10.0 MW for 2010.

**(iii) Implementation of Demand Response Measures**

As required by the PUA (220 ILCS 5/16-103), ComEd filed and received approval for its proposed demand response program for the three-year planning period covering June 2008 through May 2011.<sup>7</sup> The details of that program are provided in the plan that ComEd filed in that docket. ComEd anticipates filing a new plan for the next three-year planning period (i.e., June 2011 through May 2014) sometime in late 2010, as required by the PUA.

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<sup>7</sup> See Order of February 6, 2008 in docket No. 07-0540.

**(iv) Impact of Demand Response Programs**

Demand response programs do not impact ComEd's load forecasts. Load forecasts are made on a weather normalized, unrestricted basis. Since demand response measures are called on days when the temperature is hotter than "normal", the avoided capacity and energy associated with these resources is incremental to the weather normal forecast, and thus is not factored into the load forecasts. In fact, when developing forecasts, any impact on energy usage from actually implementing a demand response measure in a prior year is added back into that prior year's usage data and then weather normalized before being used to assist in the forecasting process. This assures that the forecast represents a complete picture of the unrestricted demands on the system.

**b. Impact of Energy Efficiency Programs**

The PUA requires ComEd to implement cost-effective energy efficiency measures beginning June 1<sup>st</sup>, 2008. The PUA provides annual kWh targets based on a projection of the upcoming years' energy usage for all delivery service customers. Additionally, there is a spending cap that limits the amount of expenditures on energy efficiency measures in any year.

**(i) kWh Targets**

The kWh target for energy efficiency is based on a projection of the amount of energy to be delivered by ComEd to all of its delivery service customers in the upcoming planning year. This percentage increases annually through the year 2015, subject to specified rate impact criteria. The table below shows the target percentages.

**Table II-8  
Target Incremental Percentages to Meet Energy Efficiency Goals**

<b>Year</b>	<b>Annual Percent Reduction in Energy Delivered</b>
2008	0.2%
2009	0.4%
2010	0.6%
2011	0.8%
2012	1.0%
2013	1.4%
2014	1.8%
2015 and each year thereafter	2.0%

**(ii) Projected Overall Goals**

The annual energy efficiency goals were determined based on the kWh targets and the rate impact criteria. As discussed above, ComEd's ICC-approved energy efficiency/demand response plan addressed only the 2008-2010 planning years, as required by the PUA. For purposes of this Forecast, it is assumed that the rate impact criteria will not affect the achievement of the targets, except, as noted above, for planning years 2013 - 2015. Also, for purposes of this Forecast only,<sup>8</sup> the allocation of the energy (kWh) targets to the various customer classes (as shown in Table II-6) was based on several years of historical data and judgment.

The above percentages represent the incremental goal to be achieved by the end of each planning year for all delivery services customers. Since the various energy efficiency measures will be implemented and phased in over the course of each planning year and since Eligible Retail Customers are only a subset of delivery services customers, the actual amount of GWh for Eligible Retail Customers that is impacted in each planning year will be somewhat less (as shown in Table II-9, below).

**(iii) Impact on Forecasts**

Energy efficiency measures directly impact the amount of energy used by customers throughout the year. As such, they will directly impact the forecasts of future load. The following chart depicts the cumulative impacts of these measures on the Forecast:

**Table II-9  
Cumulative Impacts of EE on Load Forecast by Customer Type**

<b>Planning Year</b>	<b>Residential Allocation (GWh)</b>	<b>Watt-Hour Allocation (GWh)</b>	<b>0-100 kW Allocation (GWh)</b>
<b>2011</b>	526.2	5.5	68.1
<b>2012</b>	812.5	8.9	109.7
<b>2013</b>	1,138.0	12.7	157.0
<b>2014</b>	1,463.2	16.5	204.2
<b>2015</b>	1,788.2	20.3	251.4

**C. Impact of Renewable Energy Resources**

Section 1-75(c) of the IPA Act (20 ILCS 3855/1-75(c)) establishes the following goals and cost thresholds for cost effective renewable energy resources:

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<sup>8</sup> The PUA does not prescribe how the kWh targets are to be apportioned among the customer classes, and the energy efficiency plan did not set goals on a customer class basis.

Table II-10

## Renewable Energy Resource Requirements

<b>Delivery Period</b>	<b>Minimum Percentage</b>	<b>Maximum Cost</b>
2011-2012	6% of June 1, 2009 through May 31, 2010 Eligible Retail Customer load	The greater of an additional 0.5% of the amount paid per kilowatt hour by those customers during the year ending May 31, 2010 or 2% of the amount paid per kilowatt hour by those customers during the year ending May 31, 2007.
2012-2013	7% of June 1, 2010 through May 31, 2011 Eligible Retail Customer load	No more than the greater of 2.015% of the amount paid per kilowatt hour by those customers during the year ending May 31, 2007 or the incremental amount per kilowatt hour paid for these resources in 2011.
2013-2014	8% of June 1, 2011 through May 31, 2012 Eligible Retail Customer load	No more than the greater of 2.015% of the amount paid per kilowatt hour by those customers during the year ending May 31, 2007 or the incremental amount per kilowatt hour paid for these resources in 2011.
2014-2015	9% of June 1, 2012 through May 31, 2013 Eligible Retail Customer load	No more than the greater of 2.015% of the amount paid per kilowatt hour by those customers during the year ending May 31, 2007 or the incremental amount per kilowatt hour paid for these resources in 2011.
2015-2016	10% of June 1, 2013 through May 31, 2014 Eligible Retail Customer load	No more than the greater of 2.015% of the amount paid per kilowatt hour by those customers during the year ending May 31, 2007 or the incremental amount per kilowatt hour paid for these resources in 2011.

Based on the above, Table II-11 shows the amount of renewable energy resources that need to be procured for planning year 2011 and the maximum amount that may be spent acquiring such resources:

Table II-11

<b>Delivery Period</b>	<b>Targeted REC Purchases (MWh)</b>	<b>REC Budget (\$M)</b>	<b>Maximum ACP Rate (\$/MWh)</b>
2011-2012	2,117,054	77.1	2.158

Since renewable energy resources do not affect demand or consumption, these targets will have no impact on the Forecast. The purchase of renewable energy resources could impact ComEd’s supply side needs if physical renewable energy resources were procured. However, to date, ComEd has been approved by the ICC to procure only RECs or to enter into financial arrangements for the procurement of renewable energy resources. Neither of these procurement approaches affects ComEd’s supply side needs for energy.

In accordance with Public Act 96-0159, since June 1, 2010, ComEd has been collecting Alternative Compliance Payments (“ACP”) from its Hourly Service Customers. Beginning in 2011, ComEd must include in its Forecast the amount of ACP that is collected in the prior year ending May 31. The IPA is then to increase it’s spending for renewable energy resources for the next planning year by the amount collected. These statutory changes will also have no impact on this Forecast or on the amount of renewable energy resources that the IPA is to procure for planning year 2011.

**3. Five-Year Monthly Load Forecast**

Based on all of the factors discussed in this section, ComEd has developed the following forecast of projected energy sales to Eligible Retail Customers for the period from June 1, 2011 through May 31, 2012:

**Table II-12**

<b>ComEd Procurement Period Load Forecast (Expected Load)</b>					
<b>Projected Energy Sales and Average Demand For Eligible Retail Customers</b>					
<b>(Weather Normal, Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2011	6	1,851,927	1,553,489	5,261	4,221
2011	7	2,101,193	2,241,182	6,566	5,286
2011	8	2,248,679	1,823,215	6,111	4,849
2011	9	1,538,391	1,466,300	4,579	3,818
2011	10	1,314,273	1,350,807	3,912	3,311
2011	11	1,457,566	1,436,711	4,338	3,741
2011	12	1,699,468	1,791,473	5,058	4,391
2012	1	1,712,873	1,829,337	5,098	4,484
2012	2	1,589,745	1,499,038	4,731	4,164
2012	3	1,492,749	1,461,870	4,241	3,729
2012	4	1,276,826	1,257,106	3,800	3,274
2012	5	1,382,300	1,294,226	3,927	3,302
<b>Totals</b>		<b>19,665,990</b>	<b>19,004,754</b>		

The forecast set forth above shows ComEd’s expected load for the 2011 planning year. The PUA requires that the forecast cover a 5-year planning period. The forecast for ComEd’s expected load for the 5-year planning period is set forth in Appendix B-1. The PUA also requires ComEd to provide low-load and high-load scenarios. That information for the 2011

planning year is set forth in Tables II-13 and II-14. The low-load and high-load scenarios for the 5-year planning period are set forth in Appendix B-2 and Appendix B-3, respectively. In all of the forecasted sales tables, “line loss” refers only to distribution losses.

**Table II-13**

<b>ComEd Procurement Period Load Forecast (Low Load)</b>					
<b>Projected Energy Sales and Average Demand For Eligible Retail Customers</b>					
<b>(Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2011	6	1,652,440	1,308,884	4,694	3,557
2011	7	1,753,031	1,782,551	5,478	4,204
2011	8	1,793,739	1,402,963	4,874	3,731
2011	9	1,399,912	1,340,305	4,166	3,490
2011	10	1,139,143	1,191,841	3,390	2,921
2011	11	1,257,224	1,255,231	3,742	3,269
2011	12	1,517,796	1,625,311	4,517	3,984
2012	1	1,543,088	1,672,162	4,593	4,098
2012	2	1,373,044	1,332,355	4,086	3,701
2012	3	1,240,939	1,235,774	3,525	3,152
2012	4	1,099,890	1,072,179	3,273	2,792
2012	5	1,152,816	1,134,844	3,275	2,895
<b>Totals</b>		<b>16,923,062</b>	<b>16,354,400</b>		

**Table II-14**

<b>ComEd Procurement Period Load Forecast (High Load)</b>					
<b>Projected Energy Sales and Average Demand For Eligible Retail Customers</b>					
<b>(Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2011	6	2,237,702	1,827,611	6,357	4,966
2011	7	2,657,953	2,650,701	8,306	6,252
2011	8	3,165,424	2,531,751	8,602	6,733
2011	9	1,697,642	1,582,190	5,053	4,120
2011	10	1,454,003	1,483,917	4,327	3,637
2011	11	1,722,106	1,703,063	5,125	4,435
2011	12	1,898,762	1,998,774	5,651	4,899
2012	1	1,859,230	1,998,461	5,533	4,898
2012	2	1,799,912	1,724,142	5,357	4,789
2012	3	1,650,256	1,618,847	4,688	4,130
2012	4	1,470,597	1,446,574	4,377	3,767
2012	5	1,498,235	1,372,158	4,256	3,500
<b>Totals</b>		<b>23,111,822</b>	<b>21,938,189</b>		

The low-load and the high-load scenarios are based upon a change to three of the main variables impacting load: weather, switching and load growth.

The low-load scenario assumes that the summer weather is cooler than normal, that load growth occurs at a rate 2% less than the Expected Load Forecast and that Hourly service and RES sales increase relative to the Expected Load Forecast shown in Table II-12. In the low-load scenario additional residential customers are assumed to opt for RRTP slowly over time. In the Expected Load Forecast the number of RRTP customers in January 2014 is just under 17,000 customers while it is just over 22,000 in low-load scenario. Plus, this scenario assumes that residential RES sales increase over time related to favorable market conditions for the RES. For example, January 2014 RES sales reach 6% of total single-family sales in this scenario. Likewise, similar dynamics occur for the 0 to 100 kW customer group, but with a faster movement. The percentage of 0 to 100 customers taking Blended service in January 2012 is 53.5% in the Expected Load Forecast, but it is approximately 40% in this scenario.

The high-load scenario assumes that the summer weather is much hotter than normal (the scenario uses data from 1995, which is the warmest summer in the last 30 years), that load growth occurs at a rate 2% more than is expected, and that switching decreases. The number of residential RRTP customers in the high-load scenario is just over 8,000 by January 2014 (this is less than the current number of RRTP customers) and residential RES sales do not exist. Also, the expected movement of the 0 to 100 kW customers to RES service not only does not occur, but some opt to return to Blended Service. The January 2012 0 to 100 kW Blended percentage is approximately 72% in the high-load scenario vs. the Expected Load Forecast assumption of 53.5%.

The +/- 2% load growth assumption in both scenarios reflects, in part, the economic uncertainty that currently exists. That uncertainty is succinctly described by Global Insight in its U.S. Executive Summary dated June 2010:

“... the latter half of 2010 will witness a tug of war between two opposing forces. On the one hand, pent-up demand should help revive employment, consumer spending, and business equipment/software spending. On the other, headwinds from anemic nonresidential construction, weak homes sales, and constrained credit access will continue to weigh down on domestic growth, while slower foreign growth and a stronger dollar restrain export growth. How strongly can growth be sustained once the inventory boosts fades and government stimulus winds down? Is the upturn in growth the precursor of a V-shaped recovery, or a ‘false dawn’ in a double-dip recession?”

ComEd’s intention is to keep the IPA informed of significant changes in its forecast during the procurement proceeding.

**III. CONCLUSION**

For all of the reasons described here, ComEd believes that its Forecast for the period June 1, 2011 through May 31, 2016 is consistent with the requirements of the PUA and provides an appropriate approach to develop the procurement plan to acquire supply for the Eligible Retail Customers.

**Appendices**

A. Load Forecast Models

1. Residential Single Family Model (Hour 16)
2. ComEd Model Coefficients
3. ComEd Model Regression Statistics
4. Detailed Description of Variables Used In Forecast Models

B. Five-Year Load Forecast

1. Expected load
2. Low Load
3. High Load

## Appendix A-1

<b>Residential Single Family Model (Hour 16)</b>			
<b>Variable</b>	<b>Coefficient</b>	<b>T-Stat</b>	<b>Notes</b>
CONSTANT	1.806	15.071	Constant term
Monday Binary	-0.093	-7.218	
Tuesday Binary	-0.116	-9.088	
Wednesday Binary	-0.129	-10.150	
Thursday Binary	-0.140	-10.963	
Friday Binary	-0.122	-9.492	
Saturday Binary	-0.025	-2.327	
MLK Binary	0.026	0.469	Martin Luther King's Day
PresDay Binary	0.070	1.289	President's Day
GoodFri Binary	0.055	0.986	Good Friday
MemDay Binary	0.178	3.172	Memorial Day
July4th Binary	0.011	0.186	July 4th.
LaborDay Binary	0.258	4.578	Labor Day
Thanks Binary	0.118	2.053	Thanksgiving Day
FriAThanks Binary	0.031	0.546	Friday after Thanksgiving Day
XMasWkB4 Binary	0.149	2.388	Week before Christmas
XMasEve Binary	0.401	5.070	Christmas Eve
XMasDay Binary	0.243	3.469	Christmas Day
XMasWk Binary	0.143	2.120	Christmas Week
NYEve Binary	0.144	1.737	New Year's Eve Day
NYDay Binary	0.172	2.586	New Year's Day
XMasLights Binary	0.0001	0.092	Christmas Lights
DLSav Binary	-0.458	-4.808	Day-Light Sayings
Sun.FracDark6	0.398	5.391	Fraction of hour 6 am that is dark
Sun.FracDark7	0.208	3.792	Fraction of hour 7 am that is dark
Sun.FracDark8	0.305	3.847	Fraction of hour ending 8 am that is dark
Sun.FracDark17	0.108	1.798	Fraction of hour ending 5 pm that is dark
Sun.FracDark18	-0.164	-2.574	Fraction of hour ending 6 pm that is dark
Sun.FracDark19	-0.226	-4.003	Fraction of hour ending 7 pm that is dark
Sun.FracDark20	-0.271	-4.518	Fraction of hour ending 8 pm that is dark
Sun.FracDark21	-0.616	-6.330	Fraction of hour ending 9 pm that is dark
Binary Feb	-0.038	-0.773	
Binary Mar	0.022	0.419	
Binary Apr	-0.018	-0.313	
Binary May	0.040	0.614	
Binary Jun	0.144	2.131	
Binary Jul	0.225	3.427	
Binary Aug	0.227	3.897	
Binary Sep	0.225	4.054	

Binary Oct	0.194	3.333	
Binary Nov	0.061	1.229	
Binary Dec	0.113	2.419	
Usage Trend	-0.028	-7.158	
Fall HDD Spline	0.004	2.150	HDD Spline for September and October
November HDD Spline	0.005	3.838	HDD Spline for November
December HDD Spline	0.004	3.684	HDD Spline for December
January HDD Spline	0.006	6.563	HDD Spline for January
February HDD Spline	0.008	6.981	HDD Spline for February
March HDD Spline	0.005	4.128	HDD Spline for March
Spring HDD Spline	0.007	4.932	HDD Spline for April and May
Day lag of HDD Spline	-0.001	-1.027	
Two day lag of HDD Spline	0.0003	0.585	
Weekend HDD Spline	0.001	1.574	
Trend HDD Spline	0.001	5.048	
April THI Spline	0.033	1.193	THI (Temperature Humidity Index) Spline for April
May THI Spline	0.137	21.362	THI (Temperature Humidity Index) Spline for May
June THI Spline	0.155	45.661	THI (Temperature Humidity Index) Spline for June
July THI Spline	0.149	42.941	THI (Temperature Humidity Index) Spline for July
August THI Spline	0.157	43.211	THI (Temperature Humidity Index) Spline for August
September THI Spline	0.183	36.593	THI (Temperature Humidity Index) Spline for September
October THI Spline	0.164	20.372	THI (Temperature Humidity Index) Spline for October
Day lag of THI Spline	0.015	5.189	
Two day lag of THI Spline	0.013	5.785	
Weekend THI Spline	0.008	3.037	
THI Spline for Trend	-0.0002	-0.300	
2007 Plus Dummy	0.080	6.599	An End Shift to describe usage for 2007 and beyond

The coefficients provide the effect that each variable has on the hourly usage for a single hour (Hour 16 which includes the load from 3 p.m. to 4 p.m. in the afternoon). The “T-Stat” provides the statistical significance of the variable, with a value generally greater than +/- two (2) indicating that the coefficient is significantly different from zero.

The hourly model for Hour 16 has an adjusted R-squared of 0.94, which means that 94% of the variance in the hourly data is being explained by the model. At the daily level, the mean average percent error (“MAPE”) for the model is 3.2%. The 3.2% daily MAPE means

that the average percentage difference on a daily basis between the usage predicted by the model and the actual usage for that period was very small. In other words, the model can explain usage with almost a 97% accuracy rate. Such a high accuracy rate is particularly noteworthy because the model is dealing with very short time frames in which many factors may come into play. The high accuracy rate, the low MAPE and the high R-squared indicate that the model captures the vast majority of factors that affect electrical usage.

## Appendix A-2

## ComEd Model Coefficients

ComEd Zone Model			
Variable	Coefficient	StdErr	T-Stat
CONST	115.241	384.22	0.3
CalVars.Jan	-104.249	20.312	-5.132
CalVars.Feb	-162.068	42.722	-3.794
CalVars.Mar	-305.405	29.293	-10.43
CalVars.Apr	-454.522	41.579	-10.93
CalVars.May	-427.928	48.169	-8.884
CalVars.Jun	-321.108	53.568	-5.994
CalVars.Jul	-284.338	59.862	-4.75
CalVars.Aug	-114.671	56.584	-2.027
CalVars.Sep	-154.318	47.841	-3.226
CalVars.Oct	-244.948	40.422	-6.06
CalVars.Nov	-157.069	32.29	-4.864
CalVars.Yr05Plus	111.592	31.758	3.514
CalHDD.HDDSpline	1.878	0.063	29.841
CalHDD.HDDSplineTrend	0.056	0.008	7.155
CalCDD.SpringTDD	11.7	0.761	15.382
CalCDD.SummerTDD	14.349	0.281	51.145
CalCDD.FallTDD	13.674	1.263	10.828
CalCDD.TDDTrend	0.394	0.04	9.89
CalCDD.Yr06Plus_TDDShift	-1.888	0.293	-6.432
Monthly.EconIndex4	4.045	0.211	19.214
CalVars.Oct08Plus	-127.251	30.3	-4.2
AR(1)	0.539	0.071	7.608

Residential Customer Class Model			
Variable	Coefficient	StdErr	T-Stat
Monthly.Jan	12.646	1.647	7.676
Monthly.Feb	11.189	1.6	6.992
Monthly.Mar	10.371	1.564	6.631
Monthly.Apr	9.585	1.524	6.288
Monthly.May	9.138	1.512	6.042
Monthly.Jun	9.477	1.601	5.919
Monthly.Jul	10.653	1.761	6.049
Monthly.Aug	10.226	1.776	5.757
Monthly.Sep	10.317	1.709	6.037
Monthly.Oct	9.725	1.535	6.336
Monthly.Nov	10.218	1.526	6.695
Monthly.Dec	11.741	1.596	7.357
Monthly.Yr2004Plus	0.597	0.13	4.608
Monthly.July07Plus	-0.484	0.144	-3.37
CycVars.IncPerHH	0.077	0.015	5.187
CycWthrT.ResHDD	0.2	0.011	18.25
CycWthrT.ResHDDTrend	0.003	0.001	3.602
CycWthrT.ResCDD_Spring	1.242	0.293	4.236
CycWthrT.ResCDD_Jun	2.157	0.121	17.834
CycWthrT.ResCDD_Jul	2.35	0.069	34.173
CycWthrT.ResCDD_Aug	2.53	0.053	47.667
CycWthrT.ResCDD_Sep	2.522	0.086	29.407
CycWthrT.ResCDD_Fall	2.618	0.15	17.414
CycWthrT.ResCDDTrend	0.073	0.005	14.251
CycWthrT.Yr06Plus_ResCDDShift	-0.349	0.046	-7.55
XVars.NewMonthlyBill	-0.017	0.012	-1.351
AR(1)	0.382	0.076	5.009

Small C&I Customer Class Model			
Variable	Coefficient	StdErr	T-Stat
Monthly.Jan	-41.143	7.068	-5.821
Monthly.Feb	-37.716	7.071	-5.334
Monthly.Mar	-38.189	7.016	-5.443
Monthly.Apr	-39.001	6.952	-5.61
Monthly.May	-39.724	6.887	-5.768
Monthly.Jun	-40.134	6.831	-5.876
Monthly.Jul	-40.11	6.795	-5.903
Monthly.Aug	-37.574	6.799	-5.527
Monthly.Sep	-37.335	6.809	-5.483
Monthly.Oct	-36.412	6.861	-5.307
Monthly.Nov	-38.562	6.927	-5.567
Monthly.Dec	-40.561	7.035	-5.766
Monthly.July07Plus	-2.051	0.526	-3.899
Monthly.Oct08Plus	-1.765	0.652	-2.708
CycVars.ResCust	0.031	0.003	11.611
CycWthrT.SCI_HDD	0.465	0.043	10.81
CycWthrT.SCI_HDDTrend	0.01	0.003	2.838
CycWthrT.SCI_CDD	1.968	0.121	16.257
CycWthrT.SCI_CDDTrend	0.027	0.009	3.174
XVars.Emp_NonManuf	0.004	0.002	2.152
AR(1)	0.315	0.077	4.113

StreetLighting Class Model			
Variable	Coefficient	StdErr	T-Stat
Monthly.Jan	-5.438	0.881	-6.175
Monthly.Feb	-5.441	0.88	-6.186
Monthly.Mar	-5.676	0.879	-6.461
Monthly.Apr	-5.774	0.88	-6.561
Monthly.May	-5.924	0.879	-6.74
Monthly.Jun	-5.922	0.878	-6.741
Monthly.Jul	-5.925	0.878	-6.748
Monthly.Aug	-5.852	0.877	-6.669
Monthly.Sep	-5.743	0.878	-6.542
Monthly.Oct	-5.643	0.879	-6.424
Monthly.Nov	-5.513	0.88	-6.265
Monthly.Dec	-5.425	0.88	-6.167
Monthly.Yr2007Plus	-0.013	0.038	-0.341
CycVars.ResCust	0.002	0	8.441
AR(1)	0.36	0.098	3.697

## Appendix A-3

<b>ComEd Model Regression Statistics</b>
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<b>Regression Statistics</b>	<b>ZONE</b>	<b>Residential</b>	<b>Small C&amp;I</b>	<b>StreetLighting</b>
Iterations	15	16	11	12
Adjusted Observations	169	166	151	102
Deg. of Freedom for Error	146	139	130	87
R-Squared	0.996	0.994	0.973	0.932
Adjusted R-Squared	0.995	0.993	0.968	0.921
AIC	8.519	-1.949	0.613	-5.105
BIC	8.945	-1.443	1.033	-4.719
Log-Likelihood	-936.67	-46.77	-239.57	130.6
Model Sum of Squares	150,294,657.71	2,873.76	7,513.47	6.29
Sum of Squared Errors	644,877.85	17.07	211.13	0.46
Mean Squared Error	4,416.97	0.12	1.62	0.01
Std. Error of Regression	66.46	0.35	1.27	0.07
Mean Abs. Dev. (MAD)	48.8	0.25	0.9	0.05
Mean Abs. % Err. (MAPE)	0.61%	1.17%	1.03%	2.77%
Durbin-Watson Statistic	218.60%	191.50%	189.40%	200.30%
Ljung-Box Statistic	31.7	24.34	38.73	30.6
Prob (Ljung-Box)	0.1346	0.4425	0.0291	0.1656
Prob (Jarque-Bera)	0.4546	0.0043	0.0002	0.0003

**Appendix A-4  
Detailed Description Of Variables  
Used In Forecast Models**

The econometric models are statistical multi-variant regressions that determine the correlation between electrical usage (dependent variable) and weather, economic and monthly factors (independent variables). Consistent with its recent delivery services rate case filing, ComEd's weather normals are based on the 30-year time period of 1977 to 2006. The following models are used in producing the energy sales forecast (GWh) for the eligible customers:

- Monthly Zone energy usage for the ComEd zone
- Monthly Residential bill-cycle energy usage
- Monthly Small C&I bill-cycle energy usage
- Monthly Street Lighting bill-cycle energy usage

ComEd's Load Forecasting group with the input of industry experts developed the models. The following sections describe each model and its specifications. Appendices A-2 and A-3 contain the coefficients and other regression statistics for the models.

**ComEd's Monthly Zone Model**

The dependent variable in the zone model is monthly zone energy usage for the ComEd service territory. The monthly zone usage is in GWh units. The performance of the model is shown in the Chart II-7 in Section II B 1 d (ii) (estimated<sup>9</sup> vs. actual) for the January 2000 to March 2010 time period.

The independent variables within the model are:

- The monthly binary variables reflect monthly usage patterns. Customer electrical usage is a function of other items besides cooling and heating (e.g., lighting). This other usage is not constant per month and the monthly binary variables are used to account for this variability. December is excluded from the monthly binaries, as the constant term establishes December as the base from which the monthly binary variables are adjusted.
- The EconIndex4 variable is a composite economic variable that weights the contributions of GMP, total number of residential customers, and non-manufacturing employment in the ComEd service territory. Previously, GMP and residential customers were the economic drivers within this model. The number of non-manufacturing employees was added to give the model a larger perspective of the economic conditions within the service territory; especially

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<sup>9</sup> As noted in the body of the Forecast, the estimated data used in Charts II-7, II-8 and II-9 is based on actual weather

given that non-manufacturing employment is used in the Small C&I model. GMP is the gross metropolitan product for the Chicago metropolitan area and also includes Rockford. This variable measures economic activity for the ComEd service territory. The GMP is adjusted for inflation and is obtained from Global Insight. Further, the variable is adjusted for the number of weekends (and holidays) and weekdays within a calendar month because overall energy usage for a given month is a function of those daily influences. The variable's units are billions of dollars. The residential customers component is the total number of residential customers within the ComEd service territory. This economic variable reflects the effect of a growing customer base on energy sales and is driven by household formations. This variable is also adjusted for the number of weekends, holidays and weekdays within a calendar month. The non-manufacturing employment is defined below in the Small C&I model. The three economic variables are weighted based on an exponential formula with each of the economic variable roughly receiving a one-third weighting.

- The temperature and humidity degree day (“TDD”) variables are weather variables designed to capture the effect on usage from cooling equipment. The TDD variable is similar in design to a cooling degree day (“CDD”) variable. A CDD weather variable is often used in energy models. The standard CDD measures the difference in the average daily temperature above a specific threshold (typically 65 degrees as that is a common point at which cooling activity begins). The TDD variable provides several enhancements to the typical CDD variable as delineated below:

The average daily temperature is the 24-hour average instead of the average of the maximum and minimum temperatures for the day. This captures frontal movements within the day.

Humidity is included in the TDD variable as humidity does influence electrical usage.

The TDD variable uses multiple degree bases instead of just a 65 degree-base. This captures the change in the rate at which customers use electricity at different temperature levels.

The TDD variable is interacted with seasonal binary variables (i.e., Spring, Summer and Fall) to reflect the seasonal usage pattern related to cooling equipment.

The TDD variable is in degree-day units.

The TDD trend variable is a weather variable that captures the changing relationship of cooling equipment over time. Simply put, the effect of a TDD changes over time as customers' usage patterns change over time.

For example, as homes have become larger over time the amount of cooling load associated with a change in temperature will also change.

The TDD trend variable essentially captures the growing influence of cooling equipment over time within the service territory. The TDD trend variable is designed to capture this changing relationship by interacting the TDD variable with a linear time series variable. The TDD trend variable is in degree-day units.

The TDD shift variable is a weather variable akin to the TDD trend variable. This variable is interacted with a binary variable for all years greater than or equal to 2006. The negative sign in the variable's coefficient acknowledges the reduction in cooling effect over the past few years compared to years prior to 2006.

- The HDD Spline variable is a weather variable that measures the relationship on electrical usage from space heating equipment (e.g., natural gas furnace fans and electrical space-heating equipment). The HDD Spline variable is similar in concept to the industry-standard heating degree day ("HDD") weather variable. The HDD Spline provides a couple of enhancements to the HDD weather variable:

The average daily temperature is the 24-hour average instead of the average of the maximum and minimum temperatures for the day. This captures frontal movements within the day.

The HDD Spline uses multiple degree bases instead of just a 65 degree-base. This captures the change in the rate at which customers use electricity at different temperature levels.

The HDD Spline variable is in degree-day units.

The HDD Spline trend variable is a weather variable that reflects the changing relationship of heating equipment over time. This variable is conceptually similar to the TDD trend variable. The HDD spline variable is in degree-day units.

- The Year 2005 and October 2008 Shift Plus variables are binary variables designed to capture very recent usage activity within the model. For example, the 2005 Shift Plus variable is a binary variable with the unit one for all months beginning with January 2005 and thereafter. By forcing all of the residuals to sum to zero for the months January 2005 to present, the variable is causing the model to be closely aligned with recent usage activity. This variable is useful for forecasting purposes as it ensures that the forecasted usage is also closely aligned with the most recent pattern of electrical usage.

The coefficient values and the standard measurements of significance within the model (e.g., t-stats) and the overall model performance (e.g., R-squared and MAPE) are contained in Appendices A-2 and A-3. Chart II-7 contains a plot of the model's estimated monthly usage vs. actual monthly usage from January 2000 to March 2010. The two curves are tightly aligned, which speaks to the accuracy of the model.

### **ComEd Residential Model**

The dependent variable is residential use per customer per day and the units are kWh per customer per day. Chart II-7 shows the model's performance (estimated vs. actual monthly sales for the January 2000 to March 2010 time period), which reflects a close fit.

The independent variables are noted below. (Because many of the variables follow the same purpose and logic as in the Monthly Zone model, please see the Monthly Zone model description for additional information.)

- The monthly binary variables reflect monthly usage patterns.
- The Real Income per Household variable is the disposable personal income for the Chicago metropolitan area and Rockford (adjusted for inflation) divided by the number of households for the same area. The data is obtained from Global Insight. This variable captures the rising household incomes within ComEd's service territory and the correlation it has with consumer purchases of electronic equipment and housing stock. The variable is in dollars per household units.
- The Monthly Bill variable is a typical monthly residential electricity bill assuming historical tariff charges and weather normal customer usage for the year 2002 (adjusted for inflation). Specifically, the historical tariff charges for a single-family and multi-family (both non-space heat) were multiplied by the weather adjusted billing units from the year 2002 for both residential groups. The monthly bills for both residential groups were weighted, based on energy sales, to form a single monthly bill. The monthly bill was also adjusted for the Chicago CPI-U. This variable reflects the influence of electricity charges/prices over time related to consumer behavior.
- Weather variables used in the residential model are similar in concept to the weather variables described in the Monthly Zone model section and will not be repeated here.
- The Year 2004 Plus and July 2007 Plus binary variables are similar in concept to the same variables used in the Monthly Zone model.

### **ComEd Small C&I Model**

The dependent variable is Small C&I use per day and the units are GWh per day. The independent variables within the model are:

- The monthly binary variables, weather variables and shift variables are similar in concept to the Monthly Zone model and will not be repeated here.
- The residential customers variable is the total number of residential customers within the ComEd service territory. This economic variable reflects the influence of a growing service territory (i.e., residential customers) on Small C&I energy usage. The units are in thousands of customers.
- The Employment variable is an economic variable that measures the total non-manufacturing employment in the Chicago area. Job growth is correlated to Small C&I development and growth.
- The July 2006 Shift Plus binary variable is similar in concept to the Monthly Zone model.

### **ComEd Street Light Model**

The dependent variable is Street Lighting use per day and the units are GWh per day. The independent variables are:

- Monthly binary variables and a shift variable that are similar in concept to the Monthly Zone model.
- The residential customers variable is the total number of residential customers within the ComEd service territory. This economic variable reflects the relationship of a growing service territory (measured by the number of residential customers) and street lighting sales.

## Appendix B-1

<b>ComEd Procurement Period Load Forecast (Expected Load) Projected Energy Sales and Average Demand For Eligible Retail Customers (Weather Normal, Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2011	6	1,851,927	1,553,489	5,261	4,221
2011	7	2,101,193	2,241,182	6,566	5,286
2011	8	2,248,679	1,823,215	6,111	4,849
2011	9	1,538,391	1,466,300	4,579	3,818
2011	10	1,314,273	1,350,807	3,912	3,311
2011	11	1,457,566	1,436,711	4,338	3,741
2011	12	1,699,468	1,791,473	5,058	4,391
2012	1	1,712,873	1,829,337	5,098	4,484
2012	2	1,589,745	1,499,038	4,731	4,164
2012	3	1,492,749	1,461,870	4,241	3,729
2012	4	1,276,826	1,257,106	3,800	3,274
2012	5	1,382,300	1,294,226	3,927	3,302
2012	6	1,754,034	1,617,539	5,220	4,212
2012	7	2,209,367	2,145,187	6,575	5,258
2012	8	2,231,981	1,823,774	6,065	4,850
2012	9	1,370,867	1,571,351	4,509	3,777
2012	10	1,431,746	1,223,736	3,891	3,255
2012	11	1,446,176	1,411,890	4,304	3,677
2012	12	1,597,860	1,844,815	4,993	4,351
2013	1	1,785,338	1,748,506	5,072	4,460
2013	2	1,494,489	1,458,271	4,670	4,143
2013	3	1,404,947	1,503,241	4,181	3,684
2013	4	1,323,024	1,186,400	3,759	3,224
2013	5	1,364,882	1,277,753	3,878	3,260
2013	6	1,667,633	1,700,540	5,211	4,251
2013	7	2,338,424	2,063,912	6,643	5,265
2013	8	2,143,946	1,912,326	6,091	4,878
2013	9	1,452,023	1,496,784	4,538	3,742
2013	10	1,423,870	1,216,313	3,869	3,235
2013	11	1,362,688	1,469,902	4,258	3,675
2013	12	1,679,913	1,776,472	5,000	4,354
2014	1	1,782,457	1,748,792	5,064	4,461
2014	2	1,488,920	1,457,315	4,653	4,140
2014	3	1,399,091	1,502,819	4,164	3,683
2014	4	1,316,233	1,184,503	3,739	3,219
2014	5	1,294,450	1,334,476	3,853	3,271

<b>ComEd Procurement Period Load Forecast (Expected Load) Projected Energy Sales and Average Demand For Eligible Retail Customers (Weather Normal, Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2014	6	1,762,146	1,635,536	5,244	4,259
2014	7	2,362,385	2,072,456	6,711	5,287
2014	8	2,055,434	2,003,395	6,117	4,910
2014	9	1,536,700	1,424,959	4,574	3,711
2014	10	1,423,425	1,215,966	3,868	3,234
2014	11	1,287,917	1,527,670	4,237	3,672
2014	12	1,764,182	1,709,853	5,012	4,362
2015	1	1,699,035	1,821,545	5,057	4,465
2015	2	1,493,710	1,451,921	4,668	4,125
2015	3	1,472,676	1,443,025	4,184	3,681
2015	4	1,312,571	1,186,151	3,729	3,223
2015	5	1,227,657	1,392,653	3,836	3,285
2015	6	1,860,914	1,572,400	5,287	4,273
2015	7	2,487,294	1,984,632	6,759	5,278
2015	8	2,063,563	2,016,857	6,142	4,943
2015	9	1,535,889	1,425,067	4,571	3,711
2015	10	1,352,217	1,269,265	3,842	3,238
2015	11	1,356,939	1,469,489	4,240	3,674
2015	12	1,768,413	1,708,561	5,024	4,359
2016	1	1,617,298	1,893,364	5,054	4,465
2016	2	1,574,823	1,481,267	4,687	4,115
2016	3	1,543,853	1,385,764	4,195	3,686
2016	4	1,244,675	1,237,047	3,704	3,221
2016	5	1,299,643	1,337,576	3,868	3,278
<b>Totals</b>		<b>97,533,708</b>	<b>94,347,790</b>		

## Appendix B-2

<b>ComEd Procurement Period Load Forecast (Low Load) Projected Energy Sales and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2011	6	1,652,440	1,308,884	4,694	3,557
2011	7	1,753,031	1,782,551	5,478	4,204
2011	8	1,793,739	1,402,963	4,874	3,731
2011	9	1,399,912	1,340,305	4,166	3,490
2011	10	1,139,143	1,191,841	3,390	2,921
2011	11	1,257,224	1,255,231	3,742	3,269
2011	12	1,517,796	1,625,311	4,517	3,984
2012	1	1,543,088	1,672,162	4,593	4,098
2012	2	1,373,044	1,332,355	4,086	3,701
2012	3	1,240,939	1,235,774	3,525	3,152
2012	4	1,099,890	1,072,179	3,273	2,792
2012	5	1,152,816	1,134,844	3,275	2,895
2012	6	1,417,032	1,352,031	4,217	3,521
2012	7	1,660,337	1,705,765	4,941	4,181
2012	8	1,672,115	1,367,897	4,544	3,638
2012	9	1,197,388	1,372,935	3,939	3,300
2012	10	1,200,350	1,022,252	3,262	2,719
2012	11	1,200,422	1,177,362	3,573	3,066
2012	12	1,369,464	1,612,947	4,280	3,804
2013	1	1,550,807	1,547,582	4,406	3,948
2013	2	1,256,190	1,258,032	3,926	3,574
2013	3	1,130,770	1,235,353	3,365	3,028
2013	4	1,102,870	992,706	3,133	2,698
2013	5	1,147,213	1,069,409	3,259	2,728
2013	6	1,265,663	1,416,176	3,955	3,540
2013	7	1,676,529	1,618,412	4,763	4,129
2013	8	1,514,284	1,426,187	4,302	3,638
2013	9	1,220,966	1,272,535	3,816	3,181
2013	10	1,147,399	987,477	3,118	2,626
2013	11	1,095,548	1,178,975	3,424	2,947
2013	12	1,385,504	1,507,478	4,124	3,695
2014	1	1,516,290	1,483,296	4,308	3,784
2014	2	1,204,177	1,225,289	3,763	3,481
2014	3	1,086,974	1,196,551	3,235	2,933
2014	4	1,042,012	979,298	2,960	2,661
2014	5	1,050,743	1,083,465	3,127	2,656

<b>ComEd Procurement Period Load Forecast (Low Load) Projected Energy Sales and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Average Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2014	6	1,316,875	1,298,679	3,919	3,382
2014	7	1,654,192	1,552,584	4,699	3,961
2014	8	1,371,069	1,471,588	4,081	3,607
2014	9	1,253,483	1,169,412	3,731	3,045
2014	10	1,102,033	960,950	2,995	2,556
2014	11	988,727	1,195,738	3,252	2,874
2014	12	1,407,965	1,405,418	4,000	3,585
2015	1	1,399,525	1,492,435	4,165	3,658
2015	2	1,173,391	1,176,311	3,667	3,342
2015	3	1,108,256	1,110,207	3,148	2,832
2015	4	1,000,184	956,546	2,841	2,599
2015	5	960,338	1,103,015	3,001	2,601
2015	6	1,375,938	1,189,122	3,909	3,231
2015	7	1,743,370	1,396,585	4,737	3,714
2015	8	1,373,057	1,405,056	4,086	3,444
2015	9	1,218,196	1,144,518	3,626	2,981
2015	10	1,017,008	981,525	2,889	2,504
2015	11	1,006,499	1,135,287	3,145	2,838
2015	12	1,368,511	1,386,481	3,888	3,537
2016	1	1,300,816	1,525,445	4,065	3,598
2016	2	1,218,536	1,158,357	3,627	3,218
2016	3	1,146,715	1,032,669	3,116	2,746
2016	4	941,687	960,732	2,803	2,502
2016	5	1,009,877	1,024,372	3,006	2,511
<b>Totals</b>		<b>77,490,357</b>	<b>76,676,842</b>		

## Appendix B-3

<b>ComEd Procurement Period Load Forecast (High Load) Projected Energy Sales and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2011	6	2,237,702	1,827,611	6,357	4,966
2011	7	2,657,953	2,650,701	8,306	6,252
2011	8	3,165,424	2,531,751	8,602	6,733
2011	9	1,697,642	1,582,190	5,053	4,120
2011	10	1,454,003	1,483,917	4,327	3,637
2011	11	1,722,106	1,703,063	5,125	4,435
2011	12	1,898,762	1,998,774	5,651	4,899
2012	1	1,859,230	1,998,461	5,533	4,898
2012	2	1,799,912	1,724,142	5,357	4,789
2012	3	1,650,256	1,618,847	4,688	4,130
2012	4	1,470,597	1,446,574	4,377	3,767
2012	5	1,498,235	1,372,158	4,256	3,500
2012	6	2,247,964	1,967,737	6,690	5,124
2012	7	2,855,070	2,674,999	8,497	6,556
2012	8	3,263,794	2,629,860	8,869	6,994
2012	9	1,557,906	1,779,562	5,125	4,278
2012	10	1,640,635	1,405,734	4,458	3,739
2012	11	1,765,926	1,753,466	5,256	4,566
2012	12	1,854,425	2,134,327	5,795	5,034
2013	1	2,025,868	1,957,844	5,755	4,995
2013	2	1,798,275	1,690,321	5,620	4,802
2013	3	1,589,441	1,747,857	4,730	4,284
2013	4	1,590,746	1,413,031	4,519	3,840
2013	5	1,533,266	1,411,342	4,356	3,600
2013	6	2,218,732	2,143,917	6,934	5,360
2013	7	3,075,785	2,700,790	8,738	6,890
2013	8	3,300,798	2,797,950	9,377	7,138
2013	9	1,746,860	1,721,409	5,459	4,304
2013	10	1,711,212	1,434,232	4,650	3,814
2013	11	1,738,175	1,883,422	5,432	4,709
2013	12	2,022,509	2,123,696	6,019	5,205
2014	1	2,090,035	2,034,381	5,938	5,190
2014	2	1,852,920	1,759,062	5,790	4,997
2014	3	1,645,206	1,811,574	4,896	4,440
2014	4	1,638,046	1,473,966	4,654	4,005
2014	5	1,497,577	1,546,167	4,457	3,790

<b>ComEd Procurement Period Load Forecast (High Load) Projected Energy Sales and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)</b>					
<b>Year</b>	<b>Month</b>	<b>Total Load (MWh)</b>		<b>Load (MW)</b>	
		<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>
2014	6	2,362,326	2,137,634	7,031	5,567
2014	7	3,199,117	2,751,536	9,088	7,019
2014	8	3,297,287	2,952,646	9,813	7,237
2014	9	1,845,042	1,713,208	5,491	4,461
2014	10	1,758,715	1,453,927	4,779	3,867
2014	11	1,684,193	2,002,600	5,540	4,814
2014	12	2,157,529	2,102,610	6,129	5,364
2015	1	2,034,263	2,158,732	6,054	5,291
2015	2	1,864,703	1,821,557	5,827	5,175
2015	3	1,792,341	1,749,206	5,092	4,462
2015	4	1,656,087	1,518,604	4,705	4,127
2015	5	1,442,038	1,649,171	4,506	3,890
2015	6	2,534,119	2,108,746	7,199	5,730
2015	7	3,472,693	2,653,485	9,437	7,057
2015	8	3,404,508	3,020,679	10,132	7,404
2015	9	1,874,327	1,755,018	5,578	4,570
2015	10	1,701,850	1,555,222	4,835	3,967
2015	11	1,798,753	1,985,648	5,621	4,964
2015	12	2,204,124	2,148,762	6,262	5,482
2016	1	1,968,561	2,294,591	6,152	5,412
2016	2	1,987,714	1,923,056	5,916	5,342
2016	3	1,955,888	1,673,838	5,315	4,452
2016	4	1,615,670	1,604,045	4,809	4,177
2016	5	1,568,863	1,600,235	4,669	3,922
<b>Totals</b>		<b>122,553,704</b>	<b>116,269,591</b>		