COMMONWEALTH EDISON COMPANY

Load Forecast for Five-Year Planning Period
June 2022 – May 2027

July 15, 2021

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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 15th 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 2022 through May 2027.

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.[1]

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, 2022. 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.

B. Development of the Five-Year Load Forecast (June 1, 2022 – May 31, 2027)

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

[1] 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).

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 weekday period from 6 a.m. to 10 p.m. CPT 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" period). 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 2021 multi-year historical analysis of hourly load is very similar to the approach used in past procurement filings. The expanding deployment of Advanced Metering Infrastructure ("AMI") within ComEd's service territory has provided the Company with the ability to enhance its standard hourly load profiles. Data from AMI meters were utilized to develop delivery class hourly load profiles for 2015 to 2020. This data was used in the typical hourly models that have been developed and refined over the past few years. These models are performing well.

The 2021 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 2015 to December 2020. These are the same profiles used in ComEd's cost of service studies. As discussed in greater detail below, the profiles show distinct and stable weather-related usage patterns that are indicative of how residential and small non-residential customers use electricity. 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 2018 to December 2020.

Table II-1
Load Forecast Table (Historical Detail 2018-2020)

ComEd Historical Actual Usage

Historical Energy Usage in MWh for Eligible Retail Customers (Line Loss Adjusted)

		Residential Load		Watthour		Small Load (0 to 100kW)		Street Lighting Load		Total Load (MWh)	
Year	Month	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak
2018	1	845,446	908,000	9,125	8,910	238,589	199,127	404	837	1,093,564	1,116,875
2018	2	675,912	725,536	7,737	7,580	204,344	169,455	360	786	888,353	903,357
2018	3	666,262	717,153	7,846	7,675	213,551	175,574	359	922	888,018	901,323
2018	4	575,775	650,242	7,077	7,119	199,371	165,462	259	865	782,482	823,688
2018	5	692,495	747,914	6,902	6,533	215,360	163,818	228	1,022	914,985	919,287
2018	6	883,802	930,057	7,168	6,858	227,497	180,814	165	764	1,118,633	1,118,493
2018	7	1,131,273	1,118,199	8,099	7,770	255,622	207,653	182	855	1,395,175	1,334,477
2018	8	1,158,528	1,097,459	8,651	7,258	269,255	191,479	218	886	1,436,652	1,297,082
2018	9	734,834	870,535	6,582	7,390	211,985	194,183	232	700	953,632	1,072,807
2018	10	634,924	588,775	6,702	5,930	202,351	142,468	373	871	844,349	738,043
2018	11	689,654	731,598	7,313	7,248	197,373	163,574	348	759	894,688	903,178
2018	12	691,785	864,464	7,814	9,115	210,773	209,572	416	774	910,788	1,083,926
	Totals	**9,380,690**	**9,949,932**	**91,015**	**89,386**	**2,646,071**	**2,163,178**	**3,544**	**10,040**	**12,121,320**	**12,212,536**
2019	1	830,679	859,668	8,629	8,391	233,125	192,170	408	839	1,072,841	1,061,068
2019	2	717,754	761,529	7,891	7,780	209,252	171,508	897	1,942	935,793	942,760
2019	3	665,359	793,227	7,868	8,413	214,800	190,316	-163	-430	887,864	991,525
2019	4	563,763	563,665	7,230	6,594	202,848	149,423	245	764	774,085	720,445
2019	5	564,786	595,083	7,129	6,739	200,269	150,686	204	913	772,388	753,422
2019	6	707,371	791,817	6,579	6,794	197,517	165,836	174	857	911,641	965,304
2019	7	1,252,621	1,207,143	8,853	8,036	272,227	203,739	181	788	1,533,882	1,419,707
2019	8	1,011,566	920,696	8,429	7,614	253,554	188,402	205	850	1,273,754	1,117,563
2019	9	771,483	806,075	6,918	7,215	205,625	171,871	254	765	984,279	985,926
2019	10	673,281	618,514	7,451	6,576	202,540	141,896	326	745	883,598	767,731
2019	11	672,180	791,537	7,773	8,572	191,493	172,318	356	753	871,801	973,181
2019	12	747,045	845,208	8,389	9,056	213,918	193,618	409	748	969,762	1,048,629
	Totals	**9,177,888**	**9,554,163**	**93,138**	**91,782**	**2,597,168**	**2,091,782**	**3,496**	**9,534**	**11,871,689**	**11,747,261**
2020	1	765,635	830,757	8,834	8,753	223,327	186,110	366	743	998,162	1,026,363
2020	2	694,399	766,718	8,126	8,473	202,226	177,453	314	675	905,065	953,319
2020	3	651,025	678,495	7,991	8,151	202,356	173,911	310	766	861,681	861,323
2020	4	637,981	589,756	6,989	6,971	153,868	128,565	248	749	799,087	726,041
2020	5	663,183	771,841	6,642	8,099	145,043	147,166	174	776	815,042	927,881
2020	6	1,155,008	933,880	8,702	7,738	199,306	143,689	172	770	1,363,187	1,086,076
2020	7	1,503,208	1,277,450	9,837	8,359	254,336	182,856	197	849	1,767,578	1,469,515
2020	8	1,187,088	1,191,407	8,663	8,878	221,576	190,143	215	866	1,417,542	1,391,293
2020	9	715,690	713,562	7,644	7,657	191,133	155,432	260	749	914,726	877,401
2020	10	657,445	655,487	7,737	7,734	165,834	135,557	297	675	831,312	799,452
2020	11	635,144	729,224	7,853	8,916	161,426	152,014	401	850	804,823	891,004
2020	12	876,113	884,975	9,095	9,173	195,184	168,358	400	709	1,080,793	1,063,216
	Totals	**10,141,918**	**10,023,552**	**98,112**	**98,901**	**2,315,614**	**1,941,254**	**3,353**	**9,178**	**12,558,997**	**12,072,885**

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.

Table II-2

Load Forecast Table (Historical Summary 2018-2020)

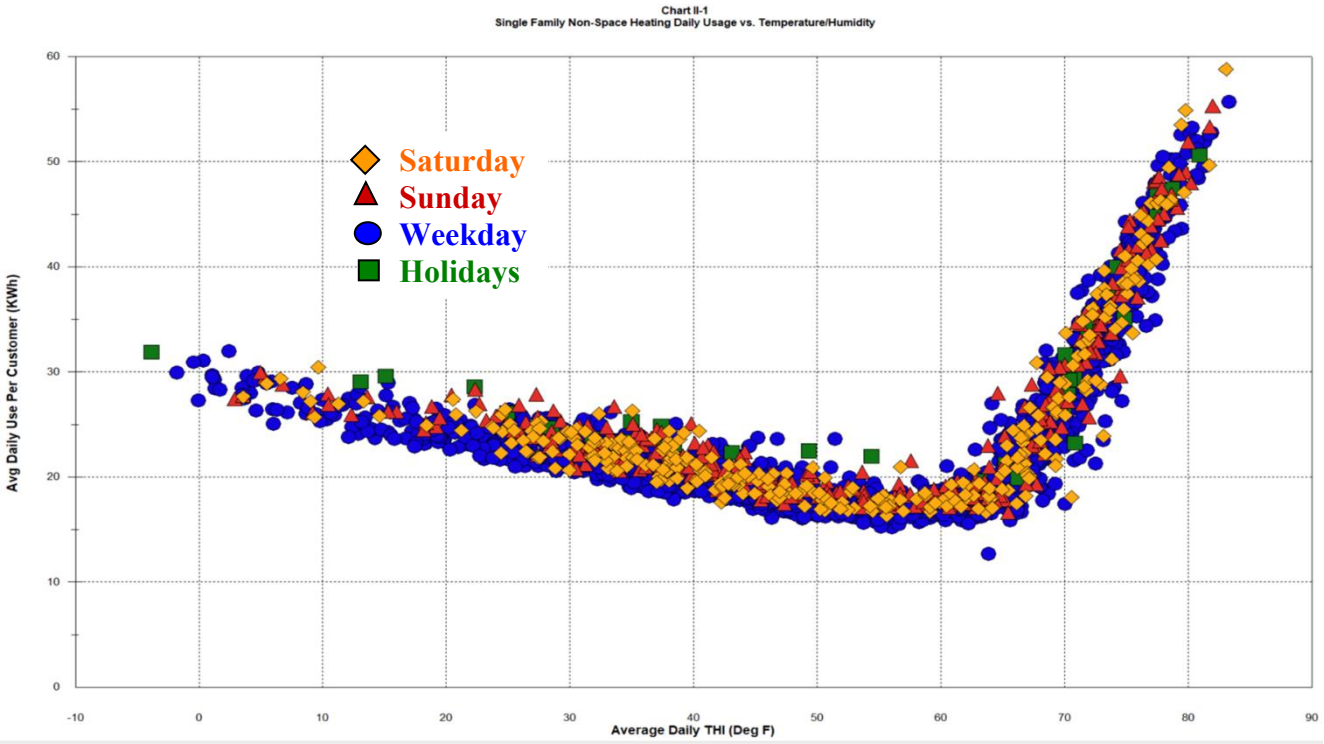
ComEd Historical Actual Usage
Historical Energy Usage for Eligible Retail Customers
(Line Loss Adjusted)

Year	Month	Total Load (MWh)		Average Load (MW)	
		On-Peak	Off-Peak	On-Peak	Off-Peak
2018	1	1,093,564	1,116,875	3,107	2,849
2018	2	888,353	903,357	2,776	2,566
2018	3	888,018	901,323	2,523	2,299
2018	4	782,482	823,688	2,329	2,145
2018	5	914,985	919,287	2,599	2,345
2018	6	1,118,633	1,118,493	3,329	2,913
2018	7	1,395,175	1,334,477	4,152	3,271
2018	8	1,436,652	1,297,082	3,904	3,450
2018	9	953,632	1,072,807	3,137	2,579
2018	10	844,349	738,043	2,294	1,963
2018	11	894,688	903,178	2,663	2,352
2018	12	910,788	1,083,926	2,846	2,556
Totals		**12,121,320**	**12,212,536**		
2019	1	1,072,841	1,061,068	3,048	2,707
2019	2	935,793	942,760	2,924	2,678
2019	3	887,864	991,525	2,642	2,430
2019	4	774,085	720,445	2,199	1,958
2019	5	772,388	753,422	2,194	1,922
2019	6	911,641	965,304	2,849	2,413
2019	7	1,533,882	1,419,707	4,358	3,622
2019	8	1,273,754	1,117,563	3,619	2,851
2019	9	984,279	985,926	3,076	2,465
2019	10	883,598	767,731	2,401	2,042
2019	11	871,801	973,181	2,724	2,433
2019	12	969,762	1,048,629	2,886	2,570
Totals		**11,871,689**	**11,747,261**		
2020	1	998,162	1,026,363	2,836	2,618
2020	2	905,065	953,319	2,828	2,535
2020	3	861,681	861,323	2,448	2,197
2020	4	799,087	726,041	2,270	1,973
2020	5	815,042	927,881	2,547	2,188
2020	6	1,363,187	1,086,076	3,873	2,951
2020	7	1,767,578	1,469,515	4,803	3,908
2020	8	1,417,542	1,391,293	4,219	3,410
2020	9	914,726	877,401	2,722	2,285
2020	10	831,312	799,452	2,362	2,039
2020	11	804,823	891,004	2,515	2,228
2020	12	1,080,793	1,063,216	3,070	2,712
Totals		**12,558,997**	**12,072,885**		

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 usage 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 usage 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 usage 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 January 2015 to December 2020 and the average THI on those days. THI, rather than temperature alone, is used because residential usage is sensitive to humidity. Different geometric shapes and colors are used to distinguish points representing weekdays from those depicting Saturday, Sunday, or holiday usage.

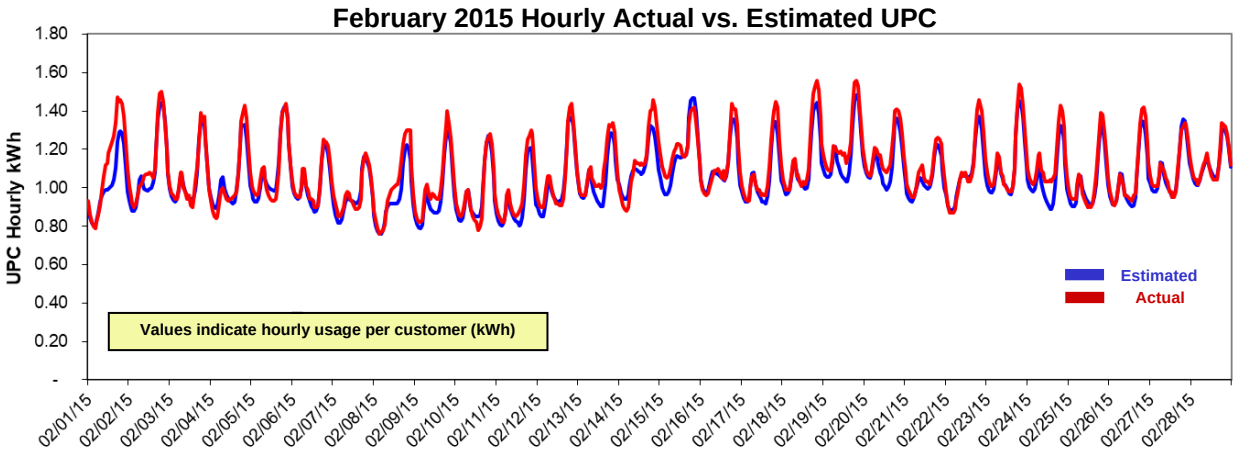
The scatter plot is very useful in understanding the relationship between customer usage and weather. If a relationship between usage and weather did not exist, then the graph would not display a clear pattern. The right side of the graph at the high end of the horizontal axis shows the days on which THI was the highest. The points at that end of the graph indicate that the highest UPC occurred when THI levels were at their peak of 75 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 level appears. From that base level, UPC gradually increases as colder temperatures are experienced.

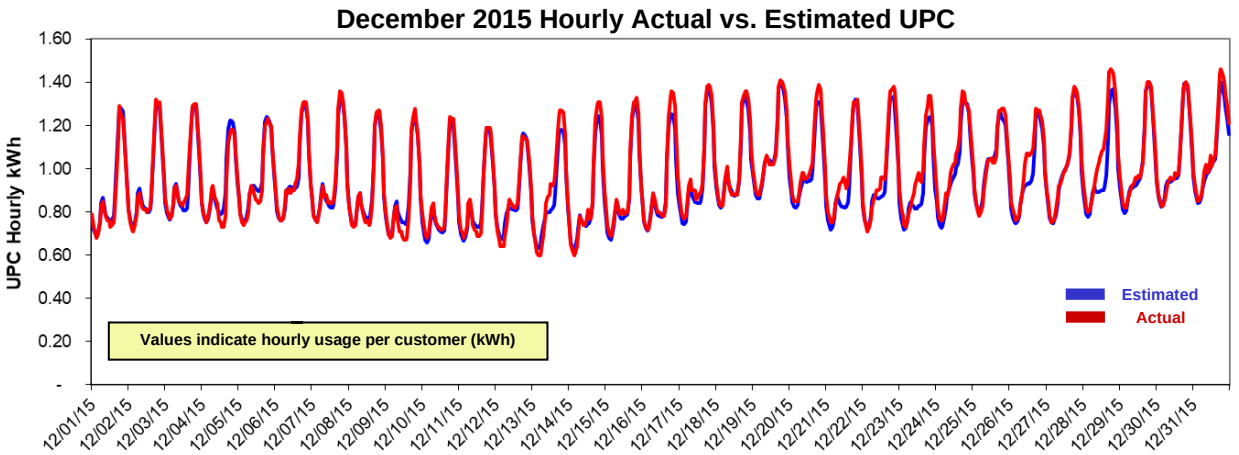
Hourly models were developed to account for the strong weather relationship shown in the graph and to account for numerous other factors that influence residential usage. The models explicitly account for the differing effects of energy use at various temperatures. Variables are included to allow for 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. 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.

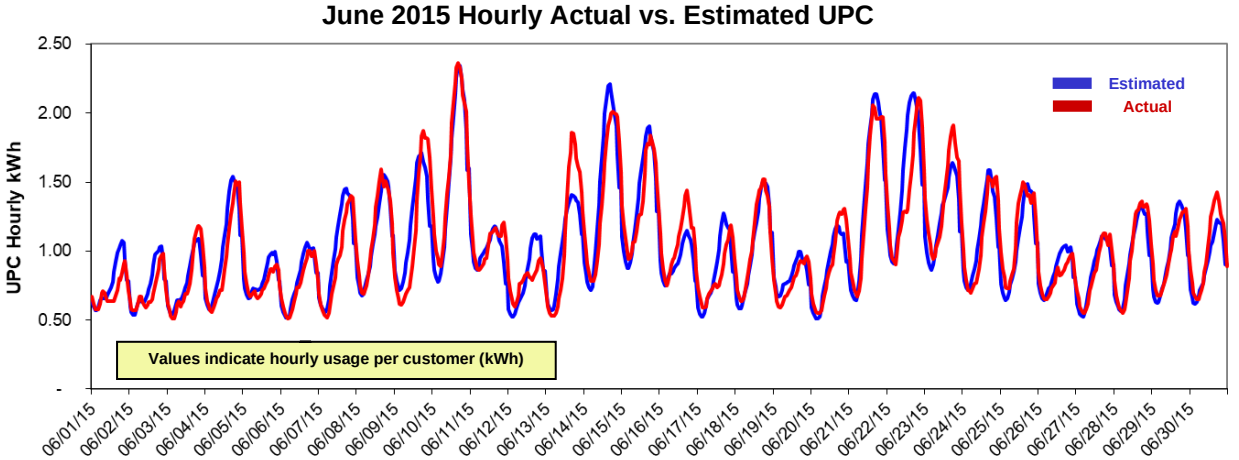
One way to visualize the model's performance is to look at plots of actual and estimated[2] values for the historical estimation period. The following charts demonstrate the performance of the model over four time periods at the hourly level during winter and summer months with warmer or colder than normal weather conditions. The four months are February 2015 (cold winter); December 2015 (warm winter); June 2015 (cool summer) and August 2018 (warm summer). The charts illustrate the model's ability to accurately estimate under varying weather conditions. The heating degree days ("HDD") in February 2015 were 1,405 (above the normal HDD of 1,056) and December 2015 was 800 (below the normal HDD of 1,107). The cooling degree days ("CDD") in June 2015 were 118 (below the normal CDD of 180) and August 2018 was 356 (above the normal CDD of 247).

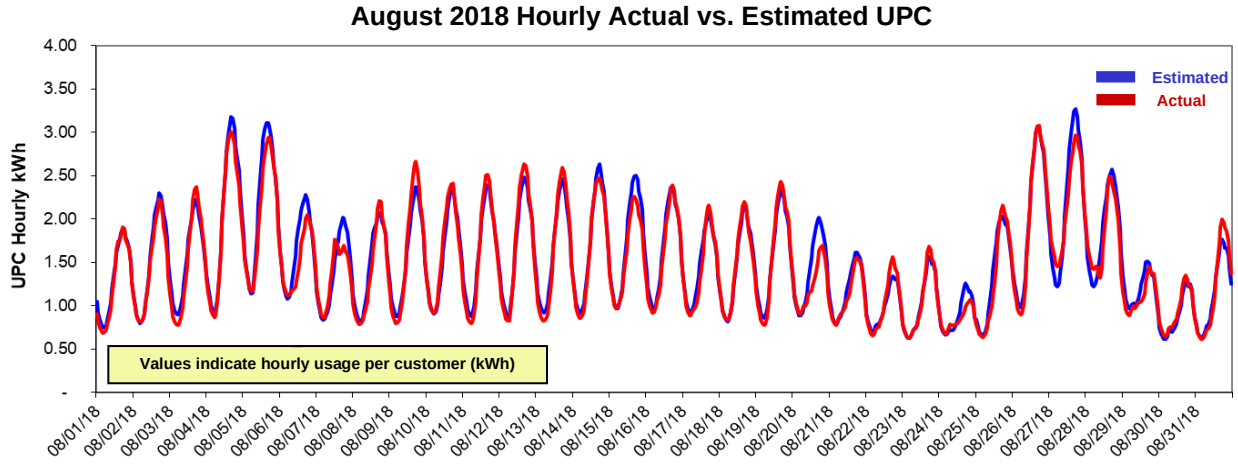
[2] The estimated data in Chart II-2 is based on the actual weather experienced over the relevant period.

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









In all 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. The charts demonstrate that the model's estimated usage closely mirrors the actual usage and the model is 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 be served by Retail Electric Suppliers ("RES"). That issue is considered in the following discussion, which reviews retail development in ComEd's service territory, the entry of RES, 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

Retail choice is very active within ComEd's service territory as demonstrated in several ways:

1. A very large number of residential customers have participated in customer choice over the past few years. Approximately 950,000 residential customers in the ComEd service territory were taking RES supply as of May 2021 or 26% of total residential customers. RES participation was higher in the past with a monthly average of approximately 2.4 million residential customers taking RES supply from March 2013 to May 2014, which equates to approximately 69% of total residential customers. This high level of engagement denotes meaningful customer choice activity within the ComEd service territory over the past several years.

2. Municipal Aggregation ("Muni Agg") has been an important factor in the expansion of residential RES supply over time. In total there are still approximately 359 governmental entities (i.e., municipalities, townships or counties, hereinafter jointly referred to as "Communities") within the ComEd service territory that had approved a Muni Agg referendum as of June 2021. Approximately 228 of those Communities (or 64% of the total) were being served under a Muni Agg contract as of June 2021. There are no new referendums that we are aware of currently.

3. As noted below, there are a large number of residential retailers in the ComEd service territory.

4. Since 2020 a limited number of residential customers have an additional supply option. The Commission approved Rate RTOUPP (Residential Time of Use Pricing Pilot) on October 2, 2019 in ICC Docket No. 18-1824. This is a four-year pilot program offering an elective time of use residential rate option and is available to no more than 1,900 residential customers. Applicable customers can elect to take service beginning June 1, 2020. While limited in scope and overall impact to procurement volumes, it illustrates the varied supply options available to residential customers.

5. Non-residential customers are actively participating in customer choice including smaller-sized customers. Approximately 92% of ComEd's entire non-residential usage is supplied through either RES or Hourly service as of May 2021. There is also meaningful participation by the smaller-sized non-residential customers as approximately 63% of the 0 to 100 kW non-residential delivery class was taking RES or Hourly supply in May 2021. Both percentages are almost unchanged from last year's report. These large and steady percentages illustrate that customer choice is very active among a variety of non-residential customers within the ComEd service territory.

In summary, customers are actively engaged in retail choice within the ComEd service territory.

(ii) RES Development

There continues to be many RESs within the ComEd service territory. The number of RESs over time is shown in the table below:

Table II-3
RES Development in the ComEd Service Territory

RES Category	May 2015	May 2016	May 2017	May 2018	May 2019	May 2020	May 2021
Number of Active RESs[3]	71	74	81	90	90	91	94
Number of RESs approved to serve Residential customers	56	63	64	74	78	74	79

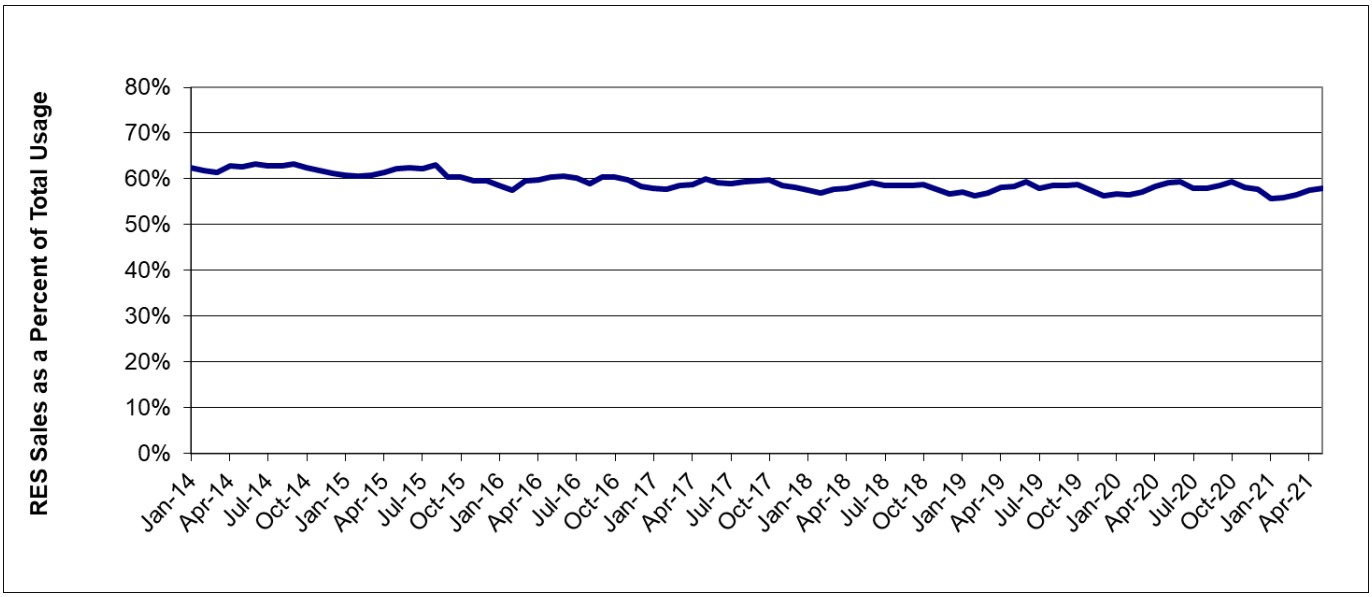
From May 2015 to May 2021 there has been an approximately 32% increase in the number of active RESs in the ComEd service territory. A rather meaningful increase for a market that already had a great deal of switching activity in the year 2013. Also, the increase in the number of RESs approved to serve residential customers has shown a substantial increase over time but has stabilized in recent years. This large number of RESs and overall growth in the number of RESs highlights the active retail market in ComEd's service territory.

(iii) Future Trends

The future trends reflect an active retail market for several reasons. First, RES supply to customers in the 0 to 100 kW class continues to be significant. Chart II-3 contains the monthly percentage of usage by RES customers from January 2014 through May 2021. The RES percentage is at a substantial level with an average of 57.7% RES usage from January 2019 to May 2021. In addition, the percentage of RES usage has been very steady over that time period ranging from a high of 59.3% to a low of 55.7%. It is 58.0% as of May 2021.

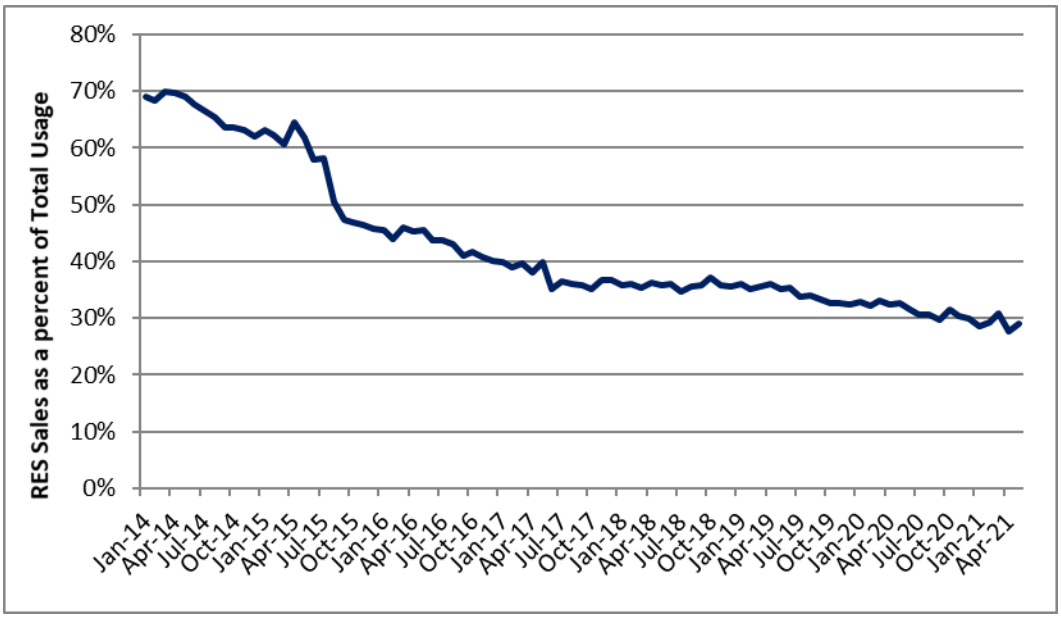
[3] An "Active RES" is defined as an ICC-approved RES that has passed ComEd's certification process.

Chart II-3
0 to 100 kW Switching Statistics



Second, the retail market for residential customers continues to be at a meaningful level. Chart II-4 contains the monthly percentage of usage by RES customers from January 2014 to May 2021. A little under one-third of residential customers (based on usage) are taking RES supply in 2021. This is down from the over two-thirds taking RES supply in late 2013 as various Muni Agg Communities have suspended their programs. However, for the purposes of judging the acceptance and engagement in retail choice by residential customers, Chart II-4 highlights that residential customers have been active participants in the retail markets.

Chart II-4
Residential Switching Statistics



Third, Muni Agg over the past years highlights an engaged customer base related to retail choice. Approximately 359 Communities have passed a Muni Agg referendum within the ComEd service territory. Muni Agg by its very nature requires engagement not only by public officials within each community, but also by the citizens of the community that approve the Muni Agg referendums. This large number of Communities is another indicator of an engaged customer base that is active in retail choice.

For these reasons, we expect retail markets to continue to reflect a meaningful level of engagement during the Forecast period.

(iv) Forecasted Retail Usage

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

Table II-4
Percentage of Blended Service Usage

Month	Residential	Watthour	0-100 kW
Jun-14	31.8%	24.9%	33.9%
Jun-15	41.6%	27.0%	34.4%
Jun-16	55.9%	38.8%	36.6%
Jun-17	64.3%	41.9%	37.5%
Jun-18	63.2%	43.0%	36.9%
Jun-19	63.6%	43.0%	36.9%
Jun-20	67.5%	48.4%	36.6%
May-21	69.6%	48.8%	37.1%
Jun-22	72.0%	50.8%	37.1%
Jun-23	72.0%	50.8%	37.1%
Jun-24	72.0%	50.8%	37.1%
Jun-25	72.0%	50.8%	37.1%
Jun-26	72.0%	50.8%	37.1%

The main drivers of this forecast are:

1. Residential Blended supply is expected to remain rather stable with a slight increase in the near-term reflecting year-to-date activity. The percentage of Residential usage that is Blended supply averaged 69.4% for the three months ending May 2021 and is expected to be slightly higher at 71.8% by December 2021. The monthly Blended percentage has averaged 67.2% for the past two years (June 2019 to May 2021). The status-quo environment of Blended usage in recent years has changed due to higher Watthour Blended service over the last year as well as the popularity of the price to compare contract in Residential, which has the effect of increasing Blended usage and is discussed in more detail on page 14. There are some offsetting dynamics (e.g., a community suspending its Muni Agg program while another renews its previously suspended program, etc.) but the overall net result is a modest increase in the Blended percentage.

   Muni Agg results for the first half of 2021 illustrate this offsetting dynamic. We continue to utilize town-code level data related to Muni Agg Communities with contract renewals in 2021. This data reflects recent Muni Agg Communities usages and decisions as of mid-June 2021 and that data can be found in the spreadsheet entitled "2021 Muni Agg Renewal Tracking.xlsx". Granted, only one-third of Muni Agg decisions have been made so far in the first half of 2021 (based on load) so one needs to be cautious in the use of these early results.

   Approximately 2% of the Muni Agg Communities (based on usage) with a contract renewal in 2021 that have decided as of mid-June 2021 have opted to suspend their program. This is below the percentage for all of 2020 which

was 7%. The assumption for the remainder of 2021 is a 3% suspension rate which is reflective of falling suspension rates over the last few years and early 2021 results.

As was the case last year, some communities have restarted their previously dormant Muni Agg programs in 2021. So far in 2021 there has been approximately 80 GWh of annualized usage from communities that have decided to re-start. Consequently, there is an additional 235 GWh projected in 2021 to re-start Muni Agg for a total of slightly more than 300 GWh to reflect that more than half of the 2021 load in Muni Agg communities have yet to decide.

We continue to assume the City of Chicago will not reactivate its municipal aggregation program with the City's level of Residential switching remaining flat.

A development in 2019 is the increased number of communities that are choosing a pricing option where the Muni Agg pricing is set to match the ComEd price to compare. The benefit to the customers is that the RES purchases renewable energy credits for the eligible customers, with some options offering 100% Green supply. Under this product not all customers are moved to RES supply. On balance, once the program has been implemented, we find the percentage of usage on RES supply drops by approximately 30 percentage points. In other words, it goes from roughly 80% RES usage to 50% RES. This has the effect of increasing Blended usage even though a community is renewing their Muni Agg program. In 2020 approximately 40% of the total usage up for renewal chose this option for the first time. We expect similar activity in 2021. Consequently, approximately 540 GWh of usage is projected to move to Blended supply in 2021 due to this dynamic (30% of the approximately 6,000 GWh of total usage up for renewal will decide on this option with a corresponding 30% movement to Blended usage). This pricing product adds another layer of complexity to the switching forecast and, as in the past, we will continue to monitor it and keep the IPA informed of further developments

The last component is the switching change in non-Muni Agg communities. An examination of 2020 and 2021 data for these communities shows a slight movement to Blended supply which translates to an approximately 1.5% increase in the projected Blended supply percentage due to these communities.

2. The Muni Agg switching environment experienced in 2020 and continuing in the first half of 2021 is expected to persist into the remaining years of the Forecast. The existing population of active Muni Agg Communities have shown a solid preference to continue with their programs, which is demonstrated by the low suspension percentage in 2020 and 2021. However, the popularity of the price to compare option has had the effect of increasing Blended usage over the last few years and is forecasted to be

72.0% by June 2022. Lastly, no Muni Agg referendums are anticipated in the future as there have not been any in the past several years.

3. Non-Muni Agg Residential switching activity is expected to decrease slightly over the Forecast, reflecting their trend in switching data over the past few years. Of the Communities that have never implemented a Muni Agg program approximately 82.0% of their Residential usage was Blended as of May 2021. This is modestly higher than the 79.0% Blended as of May 2020 and the 77.7% Blended in May 2019. Because of this, a slightly increased Residential Blended percentage is anticipated among the customers outside Muni Agg communities going forward.

   Based on these considerations, for the years 2022 and thereafter, an increased Residential Blended percentage is anticipated reflecting the recent dynamic of the price to compare option in Muni Agg contracts as well as lower non-Muni Agg switching activity.

4. Regarding the non-residential customer forecast there are two distinct groups. The 0 to 100 kW customer group is marginally influenced by Muni Agg activity and the Blended percentage has held rather steady the past three years: Blended usage in 2018 averaged 37.9%; 2019 averaged 38.1%; and 2020 averaged 37.5%. An essentially flat forecast of 37.1% Blended is assumed for December 2021 followed by a stable percentage thereafter. The Watt-hour customer group is influenced by Muni Agg activity. The percentage of Blended supplied usage for the watt-hour group often follows the same general pattern as the residential customer group. The Watthour Blended percentage averaged 44.9% for 2019, 47.5% in 2020 and is projected to be 50.8% by December 2021 and largely reflects the anticipated Residential environment.

5. This Forecast is based on a combination of actual results over several years, recent switching activity and granular data (e.g., community level information). ComEd will continue to monitor and analyze Muni Agg activity (along with other switching activities) and keep the IPA informed of any developments. The best approach in forecasting switching activity, especially in a market that is responding to changing conditions, is to provide regular updates. ComEd will provide a forecast update in March 2022 and July 2022. In addition, any meaningful development related to switching activity during the remainder of 2021 will be communicated to the IPA.

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

1. The Blended Service portion of the Residential customer class is expected to be 71.8% by December 2021 with a slight increase from there and stable thereafter.

2. The Blended Service portion of the 0 to 100 kW customer class is expected to be 37.1% by December 2021 and remaining at this level thereafter during the Forecast period.

3. The Blended Service portion of the Watthour customer class is expected to be 50.8% by December 2021 with this percentage holding steady into the future.

c. Known or Projected Changes to Future Load

Typically, when ComEd forecasts future loads it considers whether there are any known major customer decisions that would impact load, such as the relocation of part or all of a business. 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 for a four-year period,[4] and, more recently, to continue the program post-2016.[5] Accordingly, ComEd still anticipates expansion of its marketing for RRTP. The expectation is for RRTP customers to grow from approximately 37,500 in May 2021 to approximately 60,000 by the end of the year 2026. Experience in the past few years is supportive of this outlook as the recent number of Residential RRTP customers have increased by approximately 12% per year over the last two years.

d. Growth Forecast by Customer Class

(i) Introduction

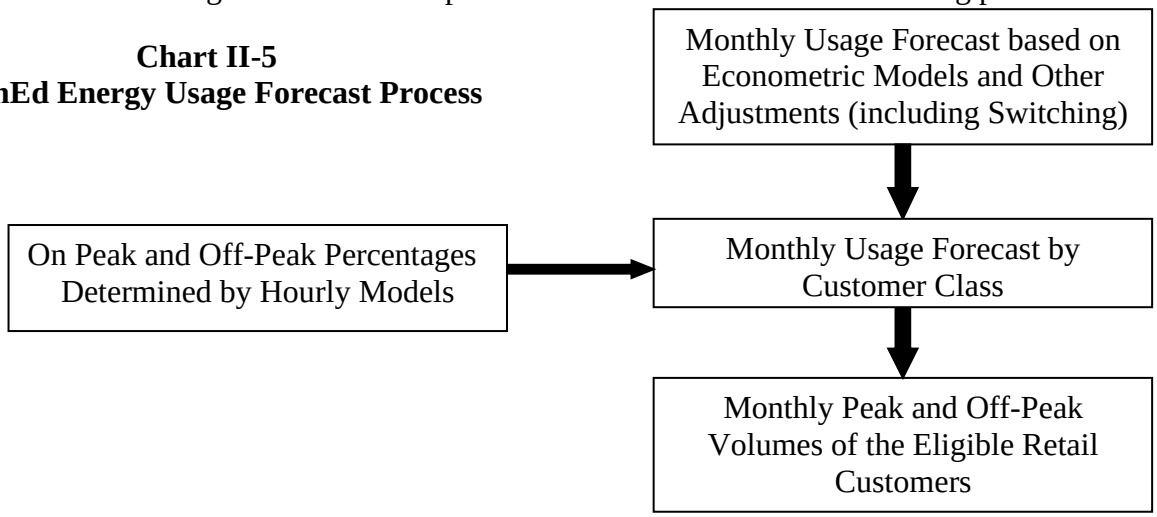
This section describes ComEd's growth forecast by customer class for the 5-year procurement planning period beginning on June 1, 2022. Section II(B)(1) discussed the hourly customer load profiles used by ComEd to develop models to present the historical load analysis required by the PUA and to predict UPC, or usage per customer. 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 usage. These other models play an important role in determining expected load during the 5-year planning period among the Eligible Retail Customer groups.

[4] See ICC Order of December 20, 2006, in Docket No. 06-0617.

[5] See ICC Order of January 20, 2016 in Docket No. 15-0602.

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

Chart II-5
ComEd Energy Usage Forecast Process

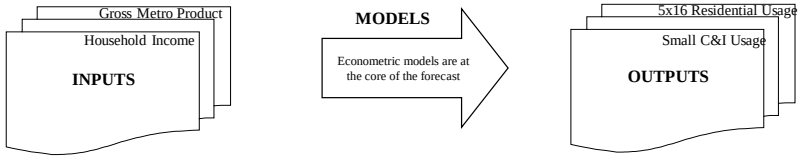


The forecasting process is model-based subject to adjustments and judgment. A suite of econometric models is used to produce monthly usage forecasts for ComEd's revenue customer classes. The two major customer classes applicable to this Forecast are Residential and Small C&I. That monthly forecast is 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 service classes). The forecast usage is 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

Econometric Modeling Process



Economic Forecasts
- Chicago Gross Metro Product
- Real Income per Household
- Household Growth

Switching Forecast
- RES Activity
- Market Developments

Top Down Approach
- Zone output modeled using historical weather and economic variables
- Customer class usage modeled using historic weather data and economic variables for each class
- Customer class forecast calibrated to equal zone output forecast (less line loss)
- Other research and judgment used to determine final energy forecast (e.g., effects from new energy efficiency programs)
- Usage forecast adjusted for projected switching activity
- Hourly customer class models used to determine on-peak and off-peak usage

Sales and Load Forecasts
- ComEd Zone Output
- Customer Class Usage
- Procurement Eligible Usage by On-Peak and Off-Peak Usage

As the chart indicates, ComEd's forecasts of usage for its service territory are based on a "top-down" approach. The top-down approach provides a forecast of total usage for the entire service territory and allocates the usage to various customer classes using the models specific to each class. The allocation is achieved by reducing the forecasted zone usage by the inherent difference between zone and customer class usage (in particular, line loss) and then calibrating the forecasted customer class usage to equal that system-wide at the meter usage. The econometric models are based on monthly data and have very robust characteristics. Subsequent sections describe the significant relationship between energy usage and other independent variables. For example, the zone model contains sophisticated variables to reflect the effects of temperature and humidity, as well as seasonal usage patterns and other factors. The zone model includes an energy efficiency variable to capture the relationship of ComEd's energy efficiency efforts in reducing usage. Economic variables are also included. Again, by way of example, the gross metropolitan product ("GMP") for the Chicago and other metropolitan areas within ComEd's service territory is a useful measure of economic activity of the service territory. As GMP (which is expressed in billions of dollars) increases, use of electric energy rises as well. There are other economic variables used in the econometric models and those are described below. The economic assumptions (i.e., economic outlook) related to the economic variables are shown in Table II-5.

The COVID-19 pandemic led the Company to adjust its forecast methodology presented in last year's submission to account for the unprecedented changes in load. Because of the short period of load history impacted by COVID-19 at the time of the 2020 filing our typical modelling would not accurately capture the dramatic fluctuations seen year to date. Now with over a year's worth of load observations over the COVID-19 pandemic, the Company was able to include new independent variables within the traditional models used in filings before 2020 which estimate the GWh impact by customer class from dynamics like social distancing, mandated business closures, and remote work. The COVID-19 forecast impacts leveraged our experience in actual load over 2020 and year to date May 2021 with projections tapering from current levels to overall load recovery as economic conditions recover from the previous recession.

Table II-5

Chicago Area Economic Forecasts - IHS Markit (May 2021)

Economic Variables	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Gross Metro Product (Billions)	$ 546	$ 560	$ 576	$ 577	$ 583	$ 597	$ 599	$ 575	$ 616	$ 645	$ 652	$ 663	$ 675	$ 686	$ 697
# of Households (Thousands)	3,355	3,358	3,379	3,396	3,401	3,435	3,443	3,420	3,457	3,490	3,505	3,521	3,539	3,557	3,574
Total Employment (Thousands)	4,306	4,374	4,456	4,513	4,548	4,587	4,611	4,263	4,368	4,552	4,596	4,637	4,669	4,679	4,685
Non-Manufacturing	3,900	3,969	4,047	4,105	4,139	4,171	4,197	3,870	3,975	4,151	4,191	4,234	4,267	4,278	4,284
Manufacturing	405	405	409	408	409	416	415	393	393	402	405	403	401	401	401
U.S. GDP	16,495	16,912	17,432	17,731	18,144	18,688	19,092	18,426	19,663	20,588	20,969	21,434	21,901	22,347	22,819
Growth Rate	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Gross Metro Product	0.2%	2.7%	2.8%	0.2%	1.0%	2.4%	0.4%	(4.1%)	7.1%	4.7%	1.1%	1.7%	1.8%	1.6%	1.7%
# of Households	0.5%	0.1%	0.6%	0.5%	0.1%	1.0%	0.3%	(0.7%)	1.1%	1.0%	0.4%	0.5%	0.5%	0.5%	0.5%
Total Employment	1.6%	1.6%	1.9%	1.3%	0.8%	0.9%	0.5%	(7.6%)	2.5%	4.2%	1.0%	0.9%	0.7%	0.2%	0.1%
Non-Manufacturing	1.8%	1.8%	2.0%	1.4%	0.8%	0.8%	0.6%	(7.8%)	2.7%	4.4%	1.0%	1.0%	0.8%	0.3%	0.1%
Manufacturing	(0.4%)	(0.1%)	1.0%	(0.2%)	0.3%	1.6%	(0.2%)	(5.2%)	(0.0%)	2.2%	0.7%	(0.4%)	(0.4%)	(0.1%)	(0.0%)
U.S. GDP	1.8%	2.5%	3.1%	1.7%	2.3%	3.0%	2.2%	(3.5%)	6.7%	4.7%	1.9%	2.2%	2.2%	2.0%	2.1%

Source: IHS Markit

All the variables used in each of the models in the forecasting process are identified in Appendix A-4.[6]

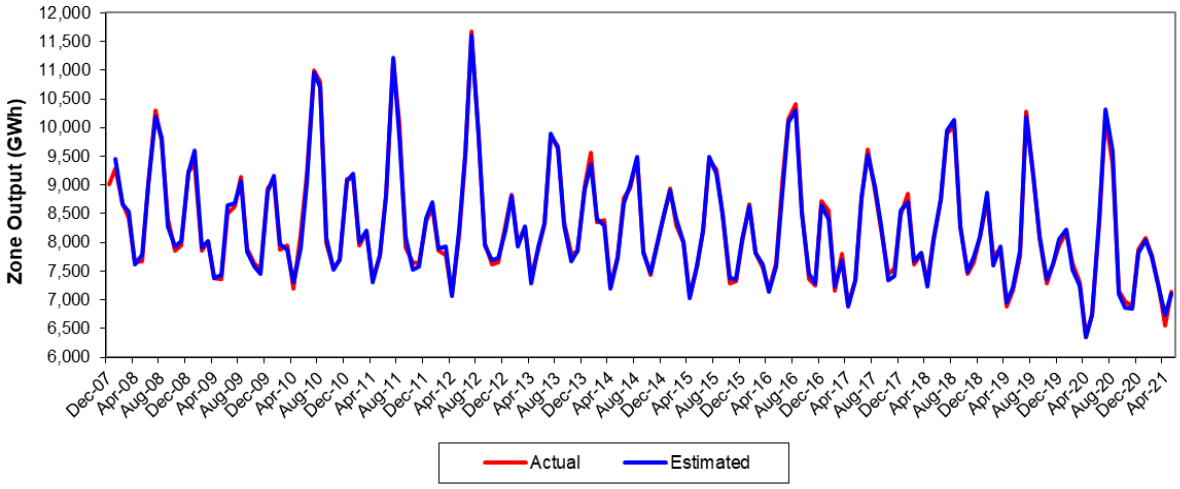
The remainder of this section will provide a brief description of the models, starting with the ComEd's Monthly Zone energy usage model ("Monthly Zone Model") and proceeding to the three customer-level models for Monthly Residential bill-cycle energy usage ("Monthly Residential Model"), Monthly Small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

(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[7] from that model for each calendar month from January 2008 through May 2021.

Chart II-7

ComEd Monthly Zone Model: Estimated vs. Actual



The graph line depicting the Monthly Zone Model's estimated usage (based on actual weather) and the line showing actual usage for the period are nearly identical.

[6] Technical information about the model coefficients and regression statistics are included in Appendix A-2 and A-3.

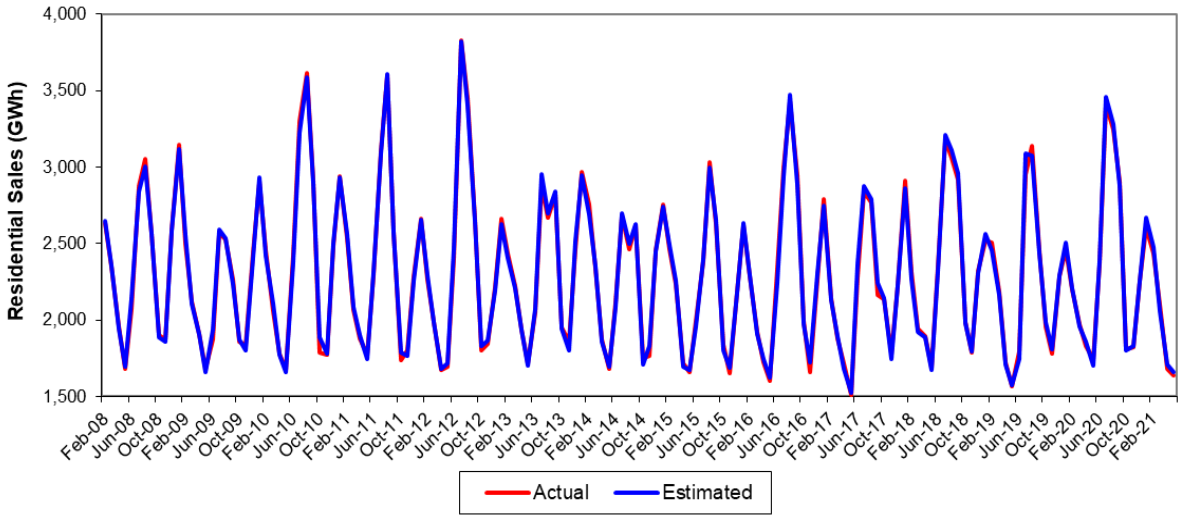
[7] Once again, for purposes of this Forecast, the estimates used in Charts II-7, II-8 and II-9 are based on actual weather.

(iii) ComEd Monthly Residential Model

The Monthly Residential Model forecasts monthly residential bill-cycle usage 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 2008 to May 2021. 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

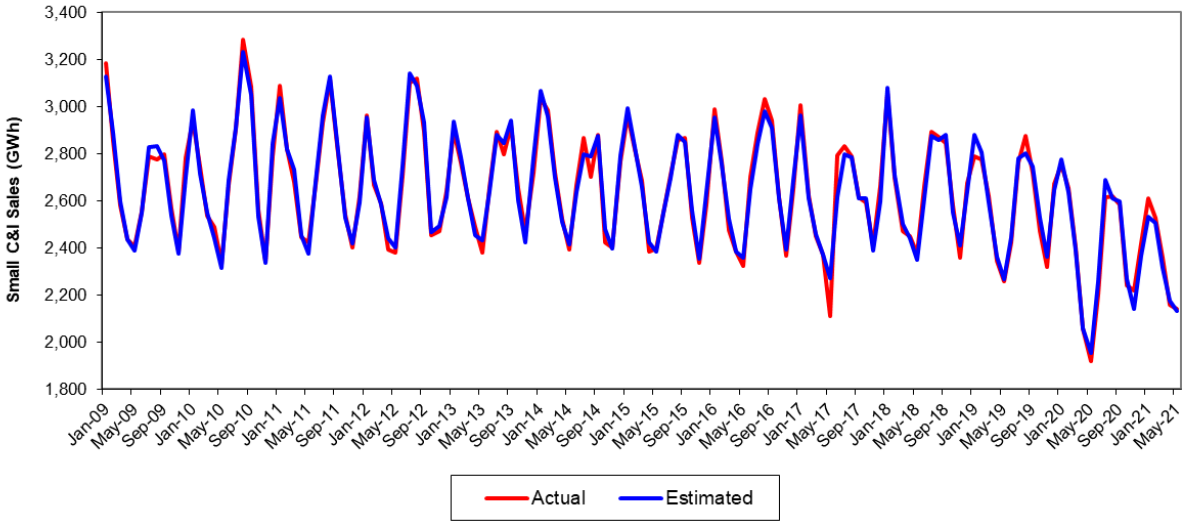


(iv) ComEd Monthly Small C&I Model

The Monthly Small C&I Model forecasts monthly Small C&I bill-cycle usage. 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 usage related to street lighting. This final model estimates use per day in GWh.

(vi) Growth Forecast

The forecast reflects the above assumptions and a progressively greater adoption of solar generation in the coming years.

In the case of forecasting solar adoption by retail customers, the approach is to consider as many factors as reasonably possible while acknowledging that solar penetration is still in the early stages within the ComEd service territory. Along these lines, ComEd's solar forecast uses the System Dynamics model to account for various factors influencing solar adoption (this is the same model used in the March 2021 forecast update provided to the IPA). The model captures inputs related to recent IPA decisions, federal tax reform; and expected PV costs. Building upon the first point, the IPA has made various decisions in the past year that have been very helpful in providing more clarity to the economics of solar adoption. Given these various factors and decisions, the resulting forecast of solar impacts for the Residential and Small C&I customer classes is shown in Table II-5(a). Community solar remains a large portion of the solar outlook. Technically, community solar does not reduce customer usage, but for the purposes of this Forecast it was included as a reduction to usage to reflect the ultimate quantities the IPA needs to procure.

Table II-5(a)

	Residential Solar (GWh)			Small C&I Solar (GWh)		
Calendar Year	Rooftop	Community	Total Solar	Rooftop	Community	Total Solar
2021	229.4	103.4	332.8	94.7	17.2	112.0
2022	254.2	147.9	402.1	109.7	24.7	134.4
2023	271.7	169.2	440.8	123.7	28.2	151.8
2024	283.0	169.7	452.7	136.1	28.3	164.3
2025	308.3	169.2	477.5	151.4	28.2	179.6
2026	354.9	173.6	528.5	170.5	28.9	199.4
2027	413.8	204.2	617.9	197.8	34.0	231.8

ComEd's historical and forecasted weather-adjusted energy usage for the Residential and Small C&I customer classes are shown in Table II-5(b) and include the above solar assumptions.

Table II-5(b)

ComEd Weather Adjusted Annual Energy Usage				
	Residential		Small C&I	
Year	Usage (GWh)	Percent Growth	Usage (GWh)	Percent Growth
2012	27,361	(0.6%)	32,297	0.2%
2013	27,353	(0.0%)	32,149	(0.5%)
2014	27,447	0.3%	32,046	(0.3%)
2015	27,038	(1.5%)	31,771	(0.9%)
2016	26,888	(0.6%)	31,664	(0.3%)
2017	26,637	(0.9%)	31,455	(0.7%)
2018	26,573	(0.2%)	31,460	0.0%
2019	26,671	0.4%	30,853	(1.9%)
2020	26,894	0.8%	28,529	(7.5%)
2021	27,057	0.6%	29,728	4.2%
2022	27,008	(0.2%)	29,887	0.5%
2023	27,083	0.3%	29,406	(1.6%)
2024	27,282	0.7%	29,361	(0.2%)
2025	27,395	0.4%	29,122	(0.8%)
2026	27,654	0.9%	28,982	(0.5%)
2027	27,931	1.0%	28,855	(0.4%)

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.

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 a 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 2021-2022 (i.e., 6/1/21 to 5/31/22) portfolio of ComEd programs includes the following:

- **Direct Load Control ("DLC"):** ComEd's residential central air conditioning cycling program includes two DLC switch options (i.e., 50% and 100% options) with 67,000 customers. The total reduction potential for the program is estimated to be 67 MW

- **Voluntary Load Reduction ("VLR") Program:** VLR is a demand response program that provides fixed compensation amounts to customers for the energy (kWh) they reduce during curtailment events. This program provides for transmission and distribution ("T&D") compensation based on the local conditions of the T&D network. The portfolio has 856 MW of potential load reduction (ComEd Rider VLR).

- **Hourly Pricing (formerly known as Residential Real-Time Pricing - RRTP) Program:** ComEd residential supply customers have the option to select Hourly Pricing (i.e., Rate BESH), provided they have a smart meter. The Hourly Pricing program gives customers access to hourly electricity prices that are based on the Residual ComEd Zone PJM wholesale market prices. These prices vary from hour to hour and day to day according to the actual market price of power. This program has 37,500 customers and a load reduction potential of 15 MW.

- **Peak Time Savings (PTS) Program:** This program is required by Section 16-108.6(g) of the PUA and was approved by the ICC in Docket No. 12-0484. The PTS program is an opt-in, market-based demand response program for customers with smart meters. Under the program, customers receive bill credits for kWh usage reduction during curtailment periods. Enrollment in Peak Time Savings has grown to more than 312,000 customers enabling ComEd to clear 80 MW of summer only capacity from the program into the PJM capacity auction for the 2021-2022 Delivery Year, and 135 MW for the total portfolio in the 2022-2023 Planning Year.

(ii) Legislative Requirement

Section 8-103B(f)(4.5) of the PUA establishes a goal to implement demand response measures, providing that:

> (c) 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 continues until December 31, 2026.

Section 1-10 of the Illinois Power Agency Act defines demand response as "measures that decrease peak demand or shifts demand from peak to off-peak periods."

Table II-6 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-6
Estimated Annual Level of Demand Response Measures

Planning Year	Peak Load (Prior Year) (MW)	Annual Goal	Annual Goal (MW)
2022[8]	7,415	0.1%	7.41
2023	7,780	0.1%	7.78
2024	7,843	0.1%	7.84
2025	7,878	0.1%	7.88
2026	7,898	0.1%	7.90

(iii) 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 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.

[8] ComEd's filed Energy Efficiency Plan in ICC Docket 17-0312 is a four-year plan, 2018-2021. For 2022 through 2026, which is not covered in the Plan, the goal is projected in a manner consistent with the Plan.

b. Impact of Energy Efficiency Programs

The PUA has several provisions regarding various types of energy efficiency programs. This section discusses the impact of each of these programs on the Forecast.

(i) Section 8-103B Energy Efficiency Measures

As of June 1, 2018, Section 8-103 of the PUA is superseded by Section 8-103B which has new energy efficiency requirements for ComEd. Section 8-103B requires ComEd to implement cost-effective energy efficiency measures beginning January 1, 2018. This provision 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.

(A) 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 its delivery service customers (except for some very large customers) in the upcoming Planning Year. Previously, the kWh target was an annual goal based on first year savings. Starting in 2018 under Section 8-103B, the kWh targets will be based on cumulative persisting annual savings ("CPAS") which is defined as the total electric energy savings in a given year from measures installed in that year or in previous years, but no earlier than January 1, 2012, that are still operational and providing savings in that year because the measures have not yet reached the end of their useful lives. The table below shows the target percentages:

Table II-7
Target Cumulative Persisting Annual Savings ("CPAS") Percentages to Meet Energy Efficiency Goals

Year	Annual CPAS Percent Reduction in Energy Delivered
2018	7.8%
2019	9.1%
2020	10.4%
2021	11.8%
2022	13.1%
2023	14.4%
2024	15.7%
2025	17.0%
2026	17.9%
2027	18.8%
2028	19.7%
2029	20.6%
2030	21.5%

(B) Projected Overall Goals

The annual energy efficiency goals were determined based on the kWh targets and the rate impact criteria. ComEd has filed its first plan under Section 8-103B on June 30, 2017 (Docket 17-0312) and was approved by the ICC on September 11, 2017. Also, for purposes of this Forecast only,[9] the allocation of the energy (kWh) targets to the various customer classes (as shown in Table II-8) was based on several years of historical data and judgment.

The above percentages represent the CPAS goal to be achieved by the end of each year for all delivery services customers (excluding some very large 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 service customers, the actual amount of GWh for Eligible Retail Customers that is impacted in each Planning Year is somewhat offsetting between customer types (as shown in Table II-8, below).

(C) 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-8
Cumulative Impacts of EE on Load Forecast by Customer Type[10]

Planning Year	Residential Allocation (GWh)	Watt-Hour Allocation (GWh)	0-100 kW Allocation (GWh)
2022	3,326	47	1,093
2023	3,247	51	1,179
2024	3,217	54	1,260
2025	3,210	57	1,330
2026	3,158	59	1,384

c. Impact of Renewable Energy Resources

Section 1-75(c) of the IPA Act (20 ILCS 3855/1-75(c)) establishes goals and cost thresholds for cost effective renewable energy resources. However, other than the impact of DG solar which was discussed earlier in this document and the energy prices hedging impact related to the 2010 Long Term Renewable contracts, there is no impact on the amount of energy ComEd must procure for Eligible Retail Customers.

[9] 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.

[10] These amounts are cumulative from 2008, when the statutory program began.

3. Five-Year Monthly Load Forecast

Based on all the factors discussed in this section, ComEd has developed the following forecast of projected energy usage of Eligible Retail Customers for the period from June 1, 2022 through May 31, 2023:

Table II-9

ComEd Procurement Period Load Forecast (Expected Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Weather Normal, Line Loss and DSM Adjusted)					
Year	**Month**	**Total Load (MWh)**		**Average Load (MW)**	
		On-Peak	**Off-Peak**	**On-Peak**	**Off-Peak**
2022	6	1,229,280	1,047,826	3,492	2,847
2022	7	1,342,794	1,465,754	4,196	3,457
2022	8	1,448,756	1,194,230	3,937	3,176
2022	9	969,580	972,213	2,886	2,532
2022	10	827,109	890,031	2,462	2,181
2022	11	925,135	955,541	2,753	2,482
2022	12	1,075,367	1,189,082	3,200	2,914
2023	1	1,112,463	1,240,488	3,311	3,040
2023	2	987,075	1,005,805	3,085	2,857
2023	3	1,001,470	950,986	2,721	2,536
2023	4	759,940	872,659	2,375	2,182
2023	5	867,200	863,263	2,464	2,202
Totals		**12,546,169**	**12,647,878**		

The forecast set forth above shows ComEd's expected load for the 2022 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 2022 Planning Year is set forth in Tables II-10 and II-11. 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 the forecasted usage tables, "line loss" refers only to distribution losses.

Table II-10

ComEd Procurement Period Load Forecast (Low Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)					
Year	**Month**	**Total Load (MWh)**		**Average Load (MW)**	
		On-Peak	**Off-Peak**	**On-Peak**	**Off-Peak**
2022	6	1,115,608	880,653	3,169	2,393
2022	7	1,148,406	1,183,887	3,589	2,792
2022	8	1,172,421	918,357	3,186	2,442
2022	9	929,696	932,539	2,767	2,428
2022	10	776,860	832,431	2,312	2,040
2022	11	856,039	872,800	2,548	2,267
2022	12	1,023,862	1,133,372	3,047	2,778
2023	1	1,095,434	1,215,485	3,260	2,979
2023	2	937,193	952,318	2,929	2,705
2023	3	918,488	853,855	2,496	2,277
2023	4	717,935	805,637	2,244	2,014
2023	5	802,310	803,920	2,279	2,051
Totals		**11,494,252**	**11,385,254**		

Table II-11

ComEd Procurement Period Load Forecast (High Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)					
Year	**Month**	**Total Load (MWh)**		**Average Load (MW)**	
		On-Peak	**Off-Peak**	**On-Peak**	**Off-Peak**
2022	6	1,263,270	1,153,602	3,589	3,135
2022	7	1,627,283	1,684,725	5,085	3,973
2022	8	1,759,356	1,431,975	4,781	3,808
2022	9	1,028,846	913,967	3,062	2,380
2022	10	858,116	911,586	2,554	2,234
2022	11	956,865	1,000,227	2,848	2,598
2022	12	1,223,322	1,314,117	3,641	3,221
2023	1	1,202,896	1,342,738	3,580	3,291
2023	2	1,057,947	1,073,481	3,306	3,050
2023	3	1,036,132	957,222	2,816	2,553
2023	4	783,508	898,649	2,448	2,247
2023	5	1,031,692	925,552	2,931	2,361
Totals		**13,829,233**	**13,607,841**		

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 Forecast assumes that the summer weather is cooler than normal, that load growth occurs at a rate 2% less than the Expected Load Forecast and higher RES service relative to the Expected Load Forecast shown in Table II-9. In this scenario for switching purposes, Residential, Watt-Hour and 0 to 100 kW Blended usage is reduced by a total of four percentage points over the course of the calendar years 2022 and 2023. This switching change equates to approximately (700) GWh for Program Year 2022 and (1,400) GWh for Program Year 2023. The percentage of Eligible Retail Customers taking Blended Service in this switching scenario is 58% (based on usage) as of December 2023 compared to 62% in the Expected Load Forecast.

The High-Load Forecast assumes that the summer weather is hotter than normal, that load growth occurs at a rate 2% more than is expected, and lower RES service. In this scenario for switching purposes, Residential, Watt-Hour and 0 to 100 kW Blended usage is increased by a total of four percentage points over the course of the calendar years 2022 and 2023. This switching change equates to approximately 700 GWh for Program Year 2022 and 1,400 GWh for Program Year 2023. The percentage of Eligible Retail Customers taking Blended Service in this switching scenario is 66% as of December 2023 compared to 62% in the Expected Load Forecast.

The +/- 2% load growth assumption in both scenarios reflects the current economic uncertainty.

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

III. CONCLUSION

For all the reasons described here, ComEd believes that its Forecast for the period June 1, 2022 through May 31, 2027 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

Residential Single Family Model (Hour 16)			
Variable	**Coefficient**	**T-Stat**	**Notes**
Constant	0.837	21.77	Constant term
Monday Binary	-0.101	-8.55	Daily Binary - Monday
Tuesday Binary	-0.104	-8.11	Daily Binary - Tuesday
Wednesday Binary	-0.101	-7.68	Daily Binary - Wednesday
Thursday Binary	-0.110	-8.35	Daily Binary - Thursday
Friday Binary	-0.111	-8.63	Daily Binary - Friday
Saturday Binary	-0.031	-3.53	Daily Binary - Saturday
MLK Binary	0.089	1.69	Martin Luther King's Day
Presidents Day Binary	0.084	1.59	President's Day
GoodFriday Binary	0.007	0.15	Good Friday
Memorial Day Binary	0.164	3.06	Memorial Day
July4th Binary	0.119	1.86	July 4th.
LaborDay Binary	0.306	5.64	Labor Day
Thanksgiving Binary	0.163	2.98	Thanksgiving Day
FriAThanks Binary	0.072	1.26	Friday after Thanksgiving Day
XMasWeek Before Binary	0.071	1.06	Week before Christmas
XMasEve Binary	0.229	2.88	Christmas Eve
XMasDay Binary	0.163	2.61	Christmas Day
XMasWeek Binary	0.099	1.40	Christmas Week
New Years Eve Binary	0.133	1.52	New Year's Eve Day
New Years Day Binary	0.104	1.56	New Year's Day
Feb Binary	-0.047	-1.11	Monthly Binary - February
Mar Binary	-0.118	-2.89	Monthly Binary - March
MarDLS Binary	0.001	0.02	Day That Daylight Savings Begins In March
Apr Binary	-0.111	-2.58	Monthly Binary - April
May Binary	-0.163	-3.66	Monthly Binary - May
Jun Binary	0.169	3.67	Monthly Binary - June
Jul Binary	0.208	4.21	Monthly Binary - July
Aug Binary	0.300	6.25	Monthly Binary - August
Sep Binary	0.104	2.20	Monthly Binary - September
Oct Binary	-0.003	-0.06	Monthly Binary - October
NovDLS Binary	0.021	0.43	Day That Daylight Savings Ends In November
Nov Binary	-0.113	-2.45	Monthly Binary - November
Dec Binary	0.000	-0.01	Monthly Binary - December
JanWalk	-0.001	-0.71	Monthly Time Trend - January
FebWalk	-0.002	-1.45	Monthly Time Trend - February
MarWalk	0.001	0.25	Monthly Time Trend - March
AprWalk	0.000	0.30	Monthly Time Trend - April
MayWalk	0.008	5.24	Monthly Time Trend - May
JunWalk	0.000	-0.20	Monthly Time Trend - June

JulWalk	0.001	0.53	Monthly Time Trend - July
AugWalk	-0.005	-3.21	Monthly Time Trend - August
SepWalk	-0.002	-1.04	Monthly Time Trend - September
OctWalk	-0.002	-1.69	Monthly Time Trend - October
NovWalk	0.005	2.68	Monthly Time Trend - November
DecWalk	0.002	0.87	Monthly Time Trend - December
SeasonHDD	0.007	10.51	Seasonal Heating Degree Days Spline
LagHDD	0.000	0.01	1 Day Lag Seasonal Heating Degree Days Spline
Lag2HDD	0.001	1.37	2 Day Lag Seasonal Heating Degree Days Spline
SeasonTDD	0.154	72.41	Seasonal Cooling Degree Days Spline
LagTDD	0.002	0.94	1 Day Lag Seasonal Cooling Degree Days Spline
Lag2TDD	0.014	6.77	2 Day Lag Seasonal Cooling Degree Days Spline
HDDWkEnd	0.000	0.80	Weekend Seasonal Heating Degree Days Spline
TDDWkEnd	0.001	0.41	Weekend Seasonal Cooling Degree Days Spline
Shift2016	0.037	3.18	An End Shift to describe usage for 2016
Shift2017	0.001	0.09	An End Shift to describe usage for 2017
Shift2020	0.027	2.34	An End Shift to describe usage for 2020
AR(1)	0.331	15.95	Autoregressive Term

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 0.95, which means that 95% of the variance in the hourly data is being explained by the model.

At the daily level, the mean absolute percent error ("MAPE") for the summation of the hourly models is 3.2%. The 3.2% daily MAPE means that the average absolute 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 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	2114.292	592.998	3.565
CalVars.Jan	75.543	32.678	2.312
CalVars.Feb	-204.177	64.350	-3.173
CalVars.Mar	-344.177	83.342	-4.130
CalVars.Apr	-495.523	71.945	-6.888
CalVars.May	-401.645	78.756	-5.100
CalVars.Jun	-240.353	80.135	-2.999
CalVars.Jul	-86.310	93.854	-0.920
CalVars.Aug	-26.941	85.006	-0.317
CalVars.Sep	-288.445	72.069	-4.002
CalVars.Oct	-309.946	76.368	-4.059
CalVars.Nov	-298.049	85.237	-3.497
CalVars.WkEndHols	-13.082	7.568	-1.729
CalHDD.HDD_Spring	2.304	0.197	11.706
CalHDD.HDD_Fall	2.296	0.231	9.920
CalHDD.HDD_Winter	1.826	0.098	18.722
CalCDD.SpringTDD	12.052	1.056	11.414
CalCDD.SummerTDD	13.282	0.339	39.144
CalCDD.FallTDD	9.874	3.052	3.236
Monthly.EconIndex15	5995.640	566.038	10.592
EE_Savings.Total	-0.980	0.053	-18.584
AR(1)	0.535	0.072	7.390

Residential Customer Class_Model			
Variable	**Coefficient**	**StdErr**	**T-Stat**
Monthly.Jan	19.229	0.953	20.174
Monthly.Feb	18.154	0.962	18.875
Monthly.Mar	17.629	0.909	19.401
Monthly.Apr	16.927	0.881	19.212
Monthly.May	16.912	0.837	20.201
Monthly.Jun	17.956	0.830	21.638
Monthly.Jul	20.235	0.831	24.361
Monthly.Aug	20.433	0.837	24.401
Monthly.Sep	19.606	0.854	22.959
Monthly.Oct	18.467	0.832	22.203
Monthly.Nov	17.886	0.901	19.853
Monthly.Dec	18.544	0.901	20.578
CycWthrT.ResHDD_Spring	0.270	0.028	9.499
CycWthrT.ResHDD_Fall	0.230	0.040	5.808
CycWthrT.ResHDD_Winter	0.249	0.012	20.308
CycWthrT.ResCDD_Spring	2.357	0.570	4.134
CycWthrT.ResCDD_Jun	2.648	0.138	19.137
CycWthrT.ResCDD_Jul	2.244	0.060	37.431
CycWthrT.ResCDD_Aug	2.370	0.065	36.615
CycWthrT.ResCDD_Sep	2.441	0.091	26.838
CycWthrT.ResCDD_Fall	2.556	0.159	16.091
CycVars.ResEE_PerDay	-0.517	0.040	-12.970
CycVars.ResBill_MA_Index	-1.342	0.737	-1.822
Monthly.Yr2018Plus	-0.539	0.143	-3.777
Monthly.Res_COVID_Impact_PerDay	0.238	0.062	3.811
AR(1)	0.431	0.082	5.264

Small C&I Customer Class Model			
Variable	**Coefficient**	**StdErr**	**T-Stat**
Monthly.Jan	43.777	7.759	5.642
Monthly.Feb	46.864	7.784	6.021
Monthly.Mar	46.347	7.772	5.963
Monthly.Apr	45.412	7.747	5.862
Monthly.May	43.759	7.747	5.648
Monthly.Jun	43.986	7.791	5.646
Monthly.Jul	45.151	7.854	5.749
Monthly.Aug	48.568	7.869	6.172
Monthly.Sep	47.861	7.832	6.111
Monthly.Oct	47.329	7.809	6.061
Monthly.Nov	44.716	7.804	5.730
Monthly.Dec	42.655	7.815	5.458
CycWthrT.SCI_HDD	0.518	0.039	13.226
CycWthrT.SCI_CDD	2.520	0.172	14.610
CycWthrT.SCI_CDDTrend_2021_Cap	-0.048	0.010	-4.953
CycVars.SCI_Econ_Index3	36.309	8.091	4.487
SCI.DelayedBill2	-0.024	0.003	-8.282
CycVars.SCI_EEPerDay	-0.490	0.066	-7.471
Monthly.SCI_COVID_Impact_PerDay	0.506	0.168	3.010
AR(1)	0.147	0.085	1.736

StreetLighting Class Model			
Variable	**Coefficient**	**StdErr**	**T-Stat**
Monthly.Jan	2.802	0.038	73.200
Monthly.Feb	2.711	0.040	67.232
Monthly.Mar	2.290	0.041	56.377
Monthly.Apr	2.111	0.039	54.557
Monthly.May	1.848	0.040	46.791
Monthly.Jun	1.847	0.039	47.675
Monthly.Jul	1.697	0.037	45.562
Monthly.Aug	1.824	0.037	49.754
Monthly.Sep	2.042	0.036	56.478
Monthly.Oct	2.191	0.036	61.104
Monthly.Nov	2.404	0.036	66.591
Monthly.Dec	2.576	0.035	73.060
CycVars.SL_DelayedBillsPerDay	-0.824	0.132	-6.224
CycVars.SL_DelayedBillsPerDayLag	1.014	0.047	21.566
CycVars.SL_EEPerDay	-0.603	0.073	-8.261
Monthly.Yr2019Plus	-0.181	0.054	-3.341

Appendix A-3

ComEd Model Regression Statistics

Regression Statistics	Zone	Residential	Small C&I	Street Lighting
Iterations	11	16	13	1
Adjusted Observations	161	155	158	90
Deg. of Freedom for Error	139	129	138	74
R-Squared	0.992	0.995	0.974	0.97
Adjusted R-Squared	0.991	0.994	0.970	0.964
AIC	9.161	-2	0.544	-4.645
BIC	9.582	-1.489	0.932	-4.2
Log-Likelihood	-943.94	-38.94	-247.18	97.3
Model Sum of Squares	149,263,265	3,102.42	7,843.24	19.44
Sum of Squared Errors	1,166,424.94	15	211.36	0.61
Mean Squared Error	8,391.55	0.12	1.53	0.01
Std. Error of Regression	91.61	0.34	1.24	0.09
Mean Abs. Dev. (MAD)	68.32	0.26	0.97	0.06
Mean Abs. % Err. (MAPE)	0.82%	1.22%	1.12%	3.15%
Durbin-Watson Statistic	2.097	1.850	1.984	1.23
Ljung-Box Statistic	22.07	20.69	14.54	28.38
Prob (Ljung-Box)	0.5751	0.6567	0.9335	0.2444
Prob (Jarque-Bera)	0.6938	0.4679	0.3642	0.7898

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). ComEd's weather normals are based on the 30-year time period of 1991 to 2020 for the forecast years of 2022 to 2026. The following models are used in producing the energy usage 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 Monthly Zone Model is monthly zone energy usage for the ComEd service territory. The monthly zone usage is in GWh units.

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 WkEndHols variable informs the model of the number of weekend days and holidays within each calendar month

- The EconIndex15 variable is a composite economic variable that weights the contributions of GMP, US Gross Domestic Product ("GDP"), households, manufacturing employment and non-manufacturing employment in the ComEd service territory. GMP is the gross metropolitan product for the Chicago metropolitan area and includes other metropolitan areas within ComEd's service territory. The variable measures economic activity for the ComEd service territory. Both the GMP and GDP are adjusted for inflation and obtained from IHS Economics. Further, the variables are 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 variables' units are billions of dollars. The households component is the total number of households

within the ComEd service territory. This economic variable reflects the effect of a growing customer base on energy usage. This variable is also adjusted for the number of weekends, holidays, and weekdays within a calendar month. Both manufacturing and non-manufacturing employment are measured for the ComEd service territory and are also adjusted for the number of weekdays, weekends, and holidays. The five economic variables are each indexed to January 2008 and then weighted based on an exponential formula with each of these economic variables receiving a roughly one-fifth weighting.

- The EE_Savings.Total variable is composed of estimated monthly cumulative gross energy efficiency savings across ComEd's Residential, Small C&I, Large C&I and Streetlighting customer class programs. This variable is intended to capture the overall trend of energy efficiency activity in the ComEd service territory by ComEd sponsored programs (e.g., lightbulbs, home energy reports).

- 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 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 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.

ComEd Residential Model

The dependent variable in the Residential Model is residential use per customer per day and the units are kWh per customer per day.

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 Monthly Bill (Moving Average) Index 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 usage, to form a single monthly bill. The monthly bill was also adjusted for the Chicago CPI-U. A 12-month moving average is calculated for each month (average of the current month and the 11 preceding months). Lastly, this variable is indexed to January 2008. This variable reflects the influence of electricity charges/prices over time related to consumer behavior.
- See EE_Savings.Total variable in the Zone Model section above for description. The ResEE_PerDay variable is a measure of gross energy efficiency savings on a per customer per day basis for the Residential customer class.
- The Year 2018 Plus variable is a binary variable designed to capture the most recent usage activity within the model. It is a binary variable with the unit one for all months beginning with January 2018 and thereafter. By forcing all the residuals to sum to zero for the months January 2018 to present, this variable is useful for

forecasting purposes as it ensures that the forecasted usage is closely aligned with the most recent usage pattern.

- The Res_COVID_Impact_PerDay variable is designed to capture the impacts of the COVID-19 pandemic on Residential usage. It is an estimate of the GWh impact on a per day basis from social distancing measures and other dynamics like mandated business closures and remote work over this last year.

- 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.

ComEd Small C&I Model

The dependent variable in the Small C&I Model 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 Small C&I Economic Index variable is a composite economic variable that weights the contributions of GMP and non-manufacturing employment in the ComEd service territory. These economic variables are each indexed to January 2008 and then weighted based on an exponential formula with a weighting of employment (80%) and GMP (20%). The GMP variable is defined in the Zone model description above and 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

- See EE_Savings.Total variable in the Zone Model section above for description. The SCI_EEPerDay variable is a measure of gross energy efficiency savings on a per day basis for the Small C&I customer class

- See Res_COVID_Impact_PerDay variable in the Residential Model section above for description. The SCI_COVID_Impact_PerDay variable is designed to capture the impacts of the COVID-19 pandemic on Small C&I usage.

- The Delayed Bill variable is the month over month (current vs. one month prior) variance in the Small C&I's estimated usage (GWh) of bills that are delayed beginning in October 2009. This variable is used to inform the model about an increase in delayed bill activity primarily in 2010.

ComEd Street Light Model

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

- Monthly binary variables and a shift variable are similar in concept to the Monthly Zone Model.

- The Delayed Bill Per Day variable is the current month's estimated Streetlight usage (GWh) of bills that are delayed beginning in January 2008 on a per day basis.

- The Delayed Bill Per Day Lag variable is the previous month's estimated Streetlight usage (GWh) of bills that are delayed beginning in January 2008 on a per day basis.

- See EE_Savings.Total variable in the Zone Model section above for description. The SL_EEPerDay variable is a measure of gross energy efficiency savings on a per day basis for the Streetlight customer class

- The Year 2019 Plus variable is a binary variable designed to capture the most recent usage activity within the model. It is a binary variable with the unit one for all months beginning with January 2019 and thereafter. By forcing all the residuals to sum to zero for the months January 2019 to present, this variable is useful for forecasting purposes as it ensures that the forecasted usage is closely aligned with the most recent usage pattern.

Appendix B-1

ComEd Procurement Period Load Forecast (Expected Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Weather Normal, Line Loss and DSM Adjusted)					
Year	Month	Total Load (MWh)		Average Load (MW)	
		On-Peak	Off-Peak	On-Peak	Off-Peak
2022	6	1,229,280	1,047,826	3,492	2,847
2022	7	1,342,794	1,465,754	4,196	3,457
2022	8	1,448,756	1,194,230	3,937	3,176
2022	9	969,580	972,213	2,886	2,532
2022	10	827,109	890,031	2,462	2,181
2022	11	925,135	955,541	2,753	2,482
2022	12	1,075,367	1,189,082	3,200	2,914
2023	1	1,112,463	1,240,488	3,311	3,040
2023	2	987,075	1,005,805	3,085	2,857
2023	3	1,001,470	950,986	2,721	2,536
2023	4	759,940	872,659	2,375	2,182
2023	5	867,200	863,263	2,464	2,202
2023	6	1,226,506	1,039,238	3,484	2,824
2023	7	1,338,765	1,460,059	4,184	3,444
2023	8	1,440,038	1,194,792	3,913	3,178
2023	9	916,127	1,006,308	2,863	2,516
2023	10	873,366	857,719	2,481	2,188
2023	11	930,109	955,003	2,768	2,481
2023	12	1,019,640	1,238,400	3,186	2,921
2024	1	1,175,286	1,197,827	3,339	3,056
2024	2	1,032,270	1,029,662	3,072	2,860
2024	3	910,710	1,026,379	2,710	2,522
2024	4	851,630	809,664	2,419	2,200
2024	5	872,597	855,010	2,479	2,181
2024	6	1,096,173	1,143,792	3,426	2,859
2024	7	1,479,586	1,346,046	4,203	3,434
2024	8	1,371,026	1,251,228	3,895	3,192
2024	9	920,024	1,002,109	2,875	2,505
2024	10	922,051	830,452	2,506	2,209
2024	11	884,409	1,000,113	2,764	2,494
2024	12	1,083,356	1,199,890	3,224	2,941
2025	1	1,179,595	1,208,056	3,351	3,082
2025	2	992,407	1,020,112	3,101	2,898
2025	3	914,628	1,034,377	2,722	2,541
2025	4	854,406	817,713	2,427	2,222
2025	5	823,659	893,507	2,451	2,190

ComEd Procurement Period Load Forecast (Expected Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Weather Normal, Line Loss and DSM Adjusted)					
Year	**Month**	**Total Load (MWh)**		**Average Load (MW)**	
		On-Peak	**Off-Peak**	**On-Peak**	**Off-Peak**
2025	6	1,152,946	1,100,712	3,431	2,866
2025	7	1,481,504	1,346,144	4,209	3,434
2025	8	1,304,896	1,306,171	3,884	3,201
2025	9	975,877	958,159	2,904	2,495
2025	10	926,888	835,508	2,519	2,222
2025	11	836,643	1,046,661	2,752	2,510
2025	12	1,145,155	1,162,907	3,253	2,967
2026	1	1,126,810	1,261,846	3,354	3,093
2026	2	1,000,534	1,023,953	3,127	2,909
2026	3	968,437	1,003,123	2,751	2,566
2026	4	857,424	824,447	2,436	2,240
2026	5	778,246	936,360	2,432	2,208
2026	6	1,213,965	1,061,718	3,449	2,885
2026	7	1,548,844	1,289,783	4,209	3,430
2026	8	1,304,741	1,317,189	3,883	3,228
2026	9	978,923	965,553	2,913	2,514
2026	10	887,360	875,822	2,521	2,234
2026	11	891,442	1,016,055	2,786	2,534
2026	12	1,152,832	1,168,371	3,275	2,981
2027	1	1,073,928	1,315,389	3,356	3,102
2027	2	1,007,771	1,028,524	3,149	2,922
2027	3	1,022,075	971,222	2,777	2,590
2027	4	858,121	832,245	2,438	2,262
2027	5	780,194	940,671	2,438	2,219
Totals		**62,930,089**	**63,653,867**		

Appendix B-2

ComEd Procurement Period Load Forecast (Low Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)					
Year	Month	Total Load (MWh)		Average Load (MW)	
		On-Peak	Off-Peak	On-Peak	Off-Peak
2022	6	1,115,608	880,653	3,169	2,393
2022	7	1,148,406	1,183,887	3,589	2,792
2022	8	1,172,421	918,357	3,186	2,442
2022	9	929,696	932,539	2,767	2,428
2022	10	776,860	832,431	2,312	2,040
2022	11	856,039	872,800	2,548	2,267
2022	12	1,023,862	1,133,372	3,047	2,778
2023	1	1,095,434	1,215,485	3,260	2,979
2023	2	937,193	952,318	2,929	2,705
2023	3	918,488	853,855	2,496	2,277
2023	4	717,935	805,637	2,244	2,014
2023	5	802,310	803,920	2,279	2,051
2023	6	1,047,228	835,838	2,975	2,271
2023	7	1,057,579	1,146,616	3,305	2,704
2023	8	1,086,953	888,861	2,954	2,364
2023	9	840,088	906,963	2,625	2,267
2023	10	777,935	758,982	2,210	1,936
2023	11	813,904	828,067	2,422	2,151
2023	12	924,489	1,114,474	2,889	2,628
2024	1	1,095,472	1,120,616	3,112	2,859
2024	2	926,495	930,254	2,757	2,584
2024	3	793,092	885,574	2,360	2,176
2024	4	772,437	713,142	2,194	1,938
2024	5	791,050	749,170	2,247	1,911
2024	6	836,936	956,741	2,615	2,392
2024	7	1,079,427	1,071,501	3,067	2,733
2024	8	971,328	933,646	2,759	2,382
2024	9	814,637	882,649	2,546	2,207
2024	10	805,567	711,309	2,189	1,892
2024	11	760,930	842,815	2,378	2,102
2024	12	954,112	1,067,309	2,840	2,616
2025	1	1,097,170	1,087,782	3,117	2,775
2025	2	875,315	907,254	2,735	2,577
2025	3	780,663	875,818	2,323	2,152
2025	4	754,159	711,820	2,142	1,934
2025	5	735,319	764,996	2,188	1,875

ComEd Procurement Period Load Forecast (Low Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)					
Year	**Month**	**Total Load (MWh)**		**Average Load (MW)**	
		On-Peak	**Off-Peak**	**On-Peak**	**Off-Peak**
2025	6	882,816	885,997	2,627	2,307
2025	7	1,073,405	1,035,841	3,049	2,642
2025	8	884,630	974,494	2,633	2,388
2025	9	849,080	824,882	2,527	2,148
2025	10	791,581	703,831	2,151	1,872
2025	11	702,174	868,692	2,310	2,083
2025	12	988,770	1,014,419	2,809	2,588
2026	1	1,028,230	1,114,118	3,060	2,731
2026	2	870,482	887,150	2,720	2,520
2026	3	813,372	829,153	2,311	2,121
2026	4	737,948	707,179	2,096	1,922
2026	5	679,358	788,825	2,123	1,860
2026	6	932,328	818,062	2,649	2,223
2026	7	1,139,489	935,420	3,096	2,488
2026	8	893,691	935,628	2,660	2,293
2026	9	833,043	816,618	2,479	2,127
2026	10	741,407	724,959	2,106	1,849
2026	11	728,895	830,997	2,278	2,072
2026	12	969,762	1,005,141	2,755	2,564
2027	1	956,288	1,144,276	2,988	2,699
2027	2	870,848	861,636	2,721	2,448
2027	3	847,744	779,870	2,304	2,080
2027	4	729,012	694,579	2,071	1,887
2027	5	681,950	762,315	2,131	1,798
Totals		**53,512,840**	**54,021,533**		

Appendix B-3

ComEd Procurement Period Load Forecast (High Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)					
Year	Month	Total Load (MWh)		Load (MW)	
		On-Peak	Off-Peak	On-Peak	Off-Peak
2022	6	1,263,270	1,153,602	3,589	3,135
2022	7	1,627,283	1,684,725	5,085	3,973
2022	8	1,759,356	1,431,975	4,781	3,808
2022	9	1,028,846	913,967	3,062	2,380
2022	10	858,116	911,586	2,554	2,234
2022	11	956,865	1,000,227	2,848	2,598
2022	12	1,223,322	1,314,117	3,641	3,221
2023	1	1,202,896	1,342,738	3,580	3,291
2023	2	1,057,947	1,073,481	3,306	3,050
2023	3	1,036,132	957,222	2,816	2,553
2023	4	783,508	898,649	2,448	2,247
2023	5	1,031,692	925,552	2,931	2,361
2023	6	1,357,932	1,171,417	3,858	3,183
2023	7	1,688,512	1,780,851	5,277	4,200
2023	8	1,848,623	1,495,999	5,023	3,979
2023	9	970,606	1,053,340	3,033	2,633
2023	10	954,557	922,773	2,712	2,354
2023	11	1,016,847	1,046,218	3,026	2,717
2023	12	1,223,731	1,436,164	3,824	3,387
2024	1	1,337,426	1,354,513	3,800	3,455
2024	2	1,157,085	1,146,657	3,444	3,185
2024	3	988,460	1,075,586	2,942	2,643
2024	4	928,938	853,441	2,639	2,319
2024	5	1,023,437	1,005,667	2,907	2,565
2024	6	1,292,362	1,297,225	4,039	3,243
2024	7	1,851,321	1,765,352	5,259	4,503
2024	8	1,812,764	1,616,322	5,150	4,123
2024	9	954,614	1,125,021	2,983	2,813
2024	10	1,039,867	907,461	2,826	2,413
2024	11	994,360	1,114,317	3,107	2,779
2024	12	1,289,939	1,453,892	3,839	3,563
2025	1	1,368,541	1,393,732	3,888	3,555
2025	2	1,138,814	1,157,168	3,559	3,287
2025	3	1,001,734	1,116,270	2,981	2,743
2025	4	956,097	872,958	2,716	2,372
2025	5	946,137	1,111,351	2,816	2,724

ComEd Procurement Period Load Forecast (High Load) Projected Energy Usage and Average Demand For Eligible Retail Customers (Line Loss and DSM Adjusted)					
Year	**Month**	**Total Load (MWh)**		**Load (MW)**	
		On-Peak	**Off-Peak**	**On-Peak**	**Off-Peak**
2025	6	1,398,978	1,258,056	4,164	3,276
2025	7	1,954,197	1,737,430	5,552	4,432
2025	8	1,747,774	1,735,089	5,202	4,253
2025	9	1,034,897	1,098,864	3,080	2,862
2025	10	1,062,110	934,776	2,886	2,486
2025	11	965,760	1,183,152	3,177	2,837
2025	12	1,384,396	1,444,450	3,933	3,685
2026	1	1,327,277	1,491,600	3,950	3,656
2026	2	1,170,498	1,185,107	3,658	3,367
2026	3	1,078,873	1,105,921	3,065	2,828
2026	4	979,459	896,353	2,783	2,436
2026	5	894,808	1,200,647	2,796	2,832
2026	6	1,500,965	1,235,254	4,264	3,357
2026	7	2,101,024	1,679,058	5,709	4,466
2026	8	1,801,721	1,765,679	5,362	4,328
2026	9	1,123,365	1,064,308	3,343	2,772
2026	10	1,030,460	1,006,919	2,927	2,569
2026	11	1,048,794	1,170,384	3,277	2,919
2026	12	1,429,118	1,472,561	4,060	3,757
2027	1	1,286,632	1,589,430	4,021	3,749
2027	2	1,206,388	1,209,796	3,770	3,437
2027	3	1,161,765	1,090,606	3,157	2,908
2027	4	1,001,691	920,795	2,846	2,502
2027	5	981,466	1,163,525	3,067	2,744
Totals		**73,644,353**	**73,521,296**		